

National Air Toxics Trends Stations Proficiency Testing Program

2004 Data Report (Studies 200401 and 200402)

Prepared by:

Kenneth J. Caviston

Alion Science and Technology
Research Triangle Park, North Carolina

For

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Office of Air Quality Planning and Standards
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Forward

This report is being submitted in compliance with the requirements of Work Assignment 3.01 of Contract 68-D-03-006 and summarizes the data compiled during the Proficiency Tests conducted during 2004. This data should be used only after verifying its applicability,

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Acronym List

EPA	U.S. Environmental Protection Agency
DNPH	Dinitrophenylhydrazine
ERG	Eastern Research Group
NATTS	National Air Toxics Trends Stations
OAQPS	Office of Air Quality Planning and Standards
PE	Performance Evaluation
PT	Proficiency Test
RTP	Research Triangle Park, North Carolina
VOC	Volatile Organic Compound(s)

Executive Summary

The Environmental Protection Agency has established a long-term goal of eliminating unacceptable health risks from exposure to the emission of air toxics and to substantially reduce or eliminate adverse effects of air toxics on the environment.

As an aid in attaining this goal, EPA has established a National Air Toxics Trends Network in the contiguous 48 states. The network consists of 22 sampling stations, operated by 20 state and/or local agencies. In order to provide an estimate of the quality of data collected in NATTS, EPA has undertaken a Proficiency Testing Program for those laboratories that perform the analysis on the collected samples.

Alion Science and Technology (formerly ManTech Environmental Technology, Inc.) was given the task of preparing and distributing the PT Samples to the NATTS Laboratories. Three separate types of PT Sample were requested, namely Carbonyl, VOC and Metals.

The initial step was to develop a system to track the results and simplify any correlation of PT data with the actual sampling data from the NATTS stations. Each sampling agency has been given a unique number indicating the EPA Region where the site is located and the agency operating it.

Lab Code	NATTS Site	Lab Code	NATTS Site
01-01	Providence, RI	05-03	Mayville, WI
01-02	Chittenden, VT	06-01	Houston & Harrison, TX
01-03	Roxbury, MA	07-01	St Louis, MO
01-04*	EPA Region 1 Laboratory	08-01	Bountiful, UT
02-01	Rochester and Queens, NY	08-02	Grand Junction, CO
03-01	Washington, DC	09-01	San Jose, CA
04-01	Tampa, FL	09-02	Phoenix, AZ
04-02	Chesterfield, SC	10-01	Seattle, WA
04-03	Hazard, KY	10-02	La Grande, OR
04-04	Atlanta, GA	11-01**	ERG –RTP, NC
05-01	Detroit, MI		
05-02	Chicago, IL		

- **The Region 1 Laboratory does not operate a NATTS Site**
- ** **ERG serves as the analytical laboratory for several agencies**

Since the various agencies may utilize a different laboratory to analyze each of the three types of PT Samples, a dash and a letter has been added to the end of the lab code to identify the analytical laboratory.

- C signifies a Carbonyl Study analytical laboratory
- V identifies a laboratory used to analyze VOC samples
- M is a metals laboratory.

The Carbonyl samples consist of one sampling cartridge, spiked with a known amount of the target compounds. Participants in the study are asked to analyze this cartridge in their “normal” manner and report results as ug/cartridge. Two Carbonyl Studies were conducted.

Each laboratory supplies Alion with a cleaned VOC canister which is then filled with a mixture of the target VOC compounds. It is assumed that errors in the canister cleaning process will show up as contamination in the overall laboratory results. Two VOC studies were also conducted.

The Metals Samples consisted of Teflon filters impregnated with known amounts of the eight metals of interest. Since many of the participating laboratories do not use Teflon filters when sampling, initial participation in the Metals PT Study did not meet expectations and only one Study was conducted.

Participating laboratories sent their results to Alion and a PE Report was generated for each lab showing the percent difference between the submitted results and the “True Value”. EPA established a “Warning Limit” of +/- 20% for all studies. The upper limit was set at +/- 25%.

A graph was also generated which shows the laboratories compared to each other as well as compared to the “True Value” These reports were emailed to personnel at the sampling agency, the analytical laboratory and to the appropriate EPA personnel. The Work Assignment Manager in RTP was also given a report which showed in a graph how the laboratories’ results compared to the Study Mean. Copies of these reports can be found in the Appendices. The report formats were improved from study to study, so the reports in the appendices will also vary.

The original studies were designed to include NIST analysis of two samples from each individual study. However, appropriate arrangements could not be made in time for them to analyze any samples in a timely manner. It was therefore decided to begin the program without NIST participation.

Carbonyl Study Results

There were two Carbonyl PT Studies conducted during 2004. The first study (200401-C) was conducted during the September – October time period and the second study (200402-C) took place during November – December.

Study 200401-C

The cartridges used during this study were spiked with formaldehyde, acetaldehyde and acrolein. One cartridge was shipped via FedEx Air to each of the participating laboratories. Seventeen laboratories returned results, but only five reported finding any acrolein.

Formaldehyde

Lab Code	Reported	% Difference	Evaluation
01-01-C	1.52	1.0	
01-02-C	1.52	1.0	
01-03-C	1.28	-15.0	
02-01-C	1.60	6.5	
03-01-C	1.32	-12.0	
04-02-C	1.34	-11.0	
04-03-C	1.82	21.3	WARNING
04-04-C	1.54	2.5	
05-01-C	1.57	4.5	
05-02-C	1.22	-19.0	
05-03-C	1.40	-7.0	
06-01-C	1.50	0.0	
09-01-C	1.42	-5.5	
09-02-C	1.46	-3.0	
10-01-C	1.41	-6.0	
10-02-C	1.72	14.5	
11-01-C	1.49	-1.0	

Assigned Value = 1.5 ug/cartridge

Acetaldehyde

Lab Code	Reported	% Difference	Evaluation
01-01-C	1.61	7.0	
01-02-C	1.56	4.0	
01-03-C	1.51	0.5	
02-01-C	1.87	24.7	WARNING
03-01-C	1.43	-5.0	
04-02-C	1.54	2.5	
04-03-C	2.16	44.0	> 25%
04-04-C	1.43	-5.0	
05-01-C	1.77	18.0	
05-02-C	1.24	-17.5	
05-03-C	1.60	6.5	
06-01-C	1.67	11.0	
09-01-C	1.70	13.0	
09-02-C	1.52	1.0	
10-01-C	1.72	14.5	
10-02-C	1.54	2.5	
11-01-C	1.62	8.0	

Assigned Value = 1.5 ug/cartridge

Acrolein

Lab Code	Reported	% Difference	Evaluation
01-01-C			
01-02-C			
01-03-C	0.03	-98	Not evaluated
02-01-C			
03-01-C	1.18	-21.3	Not evaluated
04-02-C			
04-03-C			
04-04-C	<0.2	-86.7	Not evaluated
05-01-C			
05-02-C	<0.15	-90.0	Not evaluated
05-03-C			
06-01-C	1.13	-24.7	Not evaluated
09-01-C			
09-02-C			
10-01-C			
10-02-C			
11-01-C			

Assigned Value = 1.5 ug/cartridge

Study 200402-C

Due to the lack of response for the acrolein portion of the first Carbonyl Study, it was decided to spike the cartridges to be used in 200402-C with acetone, instead of acrolein, as well as formaldehyde and acetaldehyde.

It was brought to our attention during the initial study that two different types, (manufacturers), of sampling cartridges were being used by participants. We identified which laboratories used Waters cartridges and which used those manufactured by Supelco. Samples were prepared using both and the appropriate type was sent to the analytical laboratories.

This study closed on December 10, 2004 and seventeen laboratories returned results. Reports were generated and distributed at that time.

Formaldehyde

Lab Code	Reported	% Difference	Evaluation
01-01-C	15.10	16.2	
01-02-C	12.12	-6.8	
01-03-C	14.10	8.5	
02-01-C	5.85	-55.0	> 25%
03-01-C	13.54	4.2	
04-02-C	15.30	17.7	
04-03-C	15.25	17.3	
04-04-C	13.80	6.2	
05-01-C	15.36	18.2	
05-02-C	12.60	-3.1	
05-03-C	14.00	7.7	
06-01-C	14.70	13.1	
09-01-C	13.83	6.4	
09-02-C	14.60	12.3	
10-01-C	14.60	12.3	
10-02-C	16.98	30.6	>25%
11-01-C	12.85	-1.2	

Assigned Value = 13.0 ug/cartridge

Acetaldehyde

Lab Code	Reported	% Difference	Evaluation
01-01-C	15.30	2.0	
01-02-C	13.56	-9.6	
01-03-C	15.80	5.3	
02-01-C	4.55	-69.7	> 25%
03-01-C	15.05	0.3	
04-02-C	16.70	11.3	
04-03-C	16.90	12.7	
04-04-C	12.80	-14.7	
05-01-C	16.49	9.9	
05-02-C	13.00	-13.3	
05-03-C	16.00	6.7	
06-01-C	15.90	6.0	
09-01-C	15.77	5.1	
09-02-C	16.00	6.7	
10-01-C	16.90	12.7	
10-02-C	16.04	6.9	
11-01-C	14.11	-5.9	

Assigned Value = 15.0 ug/cartridge

Acetone

Lab Code	Reported	% Difference	Evaluation
01-01-C	15.90	-11.7	
01-02-C	16.23	-9.8	
01-03-C	18.40	2.2	
02-01-C	3.95	-78.1	> 25%
03-01-C	17.78	-1.2	
04-02-C	19.30	-7.2	
04-03-C	Not reported		
04-04-C	14.70	-18.3	
05-01-C	18.98	5.5	
05-02-C	Not reported		
05-03-C	19.00	5.6	
06-01-C	16.00	-11.1	
09-01-C	18.84	4.7	
09-02-C	18.80	4.4	
10-01-C	20.90	16.1	
10-02-C	18.80	4.4	
11-01-C	18.28	1.6	

Assigned Value = 18.0 ug/cartridge

Metals Study Results

200401-M

The first metals PT study was scheduled to close on October 29, 2004, with a second study scheduled for December. However, of the eighteen laboratories that were sent samples, only five returned results on or before that date. Extra time was requested by several laboratories and the closing date was extended. When the study was finally closed on December 10, results had been received from only two additional laboratories. The second study in 2004 was canceled due to the approaching holidays.

The samples used in 200401-M were prepared by exposing Teflon filters to an air stream containing aerosolized solutions of salts of the target compounds. (no Mercury was deposited) The manufacturer (sub-contract) had the filter concentrations verified by an independent laboratory.

The fact that these samples were prepared using Teflon filters caused some laboratories to modify their “normal” analytical and probably contributed heavily to the low response. Laboratory 11-01 received a filter from a different lot.

Arsenic

Lab Code	Reported	% Difference	Evaluation
04-02-M	15.20	-15.4	
04-03-M	35.20	95.9	> 25%
04-04-M	19.10	6.3	
05-01-M	13.50	-24.9	WARNING
05-03-M	18.00	0.2	
08-02-M	18.67	3.9	
11-01-M	21.20	-11.3	(T = 23.91)

Assigned Value = 17.97 ug/filter

Beryllium

Lab Code	Reported	% Difference	Evaluation
04-02-M	7.60	-11.4	
04-03-M	12.20	42.2	> 25%
04-04-M	12.10	41.0	> 25%
05-01-M	5.75	-33.0	> 25%
05-03-M	8.40	-2.1	
08-02-M	8.31	-3.1	
11-01-M	10.30	20	(T = 8.58) Warning

Assigned Value = 8.58 ug/filter

Cadmium

Lab Code	Reported	% Difference	Evaluation
04-02-M	11.00	-0.5	
04-03-M	11.80	6.8	
04-04-M	11.70	5.9	
05-01-M	8.42	-23.8	WARNING
05-03-M	11.00	-0.5	
08-02-M	11.17	1.1	
Assigned Value = 11.05 ug/filter			

Chromium

Lab Code	Reported	% Difference	Evaluation
04-02-M	30.80	6.2	
04-03-M	47.80	64.8	> 25%
04-04-M	35.30	21.7	WARNING
05-01-M	23.60	-18.6	
05-03-M	35.00	20.7	WARNING
08-02-M	30.89	6.5	
11-01-M	28.14	-3.0	(T = 29.0)
Assigned Value = 29.00 ug/filter			

Lead

Lab Code	Reported	% Difference	Evaluation
04-02-M	10.70	6.5	
04-03-M	11.60	15.4	
04-04-M	9.12	-9.3	
05-01-M	8.25	-17.9	
05-03-M	9.44	-6.1	
08-02-M	9.97	-0.8	
Assigned Value = 10.05 ug/filter			

Manganese

Lab Code	Reported	% Difference	Evaluation
04-02-M	11.40	11.1	
04-03-M	12.40	20.9	WARNING
04-04-M	9.83	-4.2	
05-01-M	8.64	-15.8	
05-03-M	11.00	7.2	
08-02-M	11.19	9.1	
	Assigned Value =10.26 ug/filter		

Nickel

Lab Code	Reported	% Difference	Evaluation
04-02-M	11.10	3.6	
04-03-M	11.50	17.9	
04-04-M	11.20	14.9	
05-01-M	8.14	-16.5	
05-03-M	12.00	23.1	WARNING
08-02-M	9.97	2.3	
	Assigned Value =9.75 ug/filter		

VOC Study Results

There were two VOC PT Studies conducted during 2004. The first study (200401-V) was conducted during the September – October time period and the second study (200402-V) took place during November – December.

Study 200401-V

Each participating laboratory was asked to supply Alion with a cleaned Summa canister for use in this study. Fourteen laboratories responded and sent canisters in time to be filled. Due to a communication problem, two different sets of samples were prepared. Each set only contained half of the target compounds,

There was some initial concern regarding the presence or absence of humidity in the canisters. This became a non-issue when we pointed out that all of the canisters were humidified at the Alion filling facility.

One Alion canister was filled as each of the two groups of samples. These canisters were analyzed initially and then again after a period of two weeks. The following table summarizes the average analytical results as well as the per cent difference between the two analyses.

Compound	Initial Analysis *	Second Analysis *	% Difference
1,3-Butadiene	12.31	12.30	-0.11
Dichloromethane	12.90	12.98	0.61
1,2-Dichloroethane	12.76	12.86	0.76
Carbon Tetrachloride	11.80	11.71	-0.78
Trichloroethene	12.33	12.41	0.63
1,2-Dibromoethane	11.87	11.93	0.53
1,1,2,2-Tetrachloroethane	12.29	12.46	1.35
Vinyl Chloride	12.43	12.44	0.08
Trichloromethane	10.47	10.64	1.65
Benzene	10.39	10.60	1.99
1,2-Dichloropropane	10.39	10.62	2.23
cis-1,3-Dichloropropene	9.94	10.08	1.43
Trans-1,3-Dichloropropene	10.66	10.83	1.61
Tetrachloroethene	10.80	10.95	1.42

* ppbv

The following tables contain the individual results submitted and the percent difference from the assigned value for each of the participants

Lot VOC-01

Benzene

Lab Code	Reported	% Difference	Evaluation
01-01-V	10.40	0.1	
01-02-V	10.00	-3.8	
02-01-V	10.67	2.7	
03-01-V	12.76	22.8	WARNING
04-01-V	10.23	-1.5	
04-02-V	7.10	-31.7	< 25%

Assigned Value = 10.39 ppbv

Chloroform

Lab Code	Reported	% Difference	Evaluation
01-01-V	10.50	0.3	
01-02-V	11.30	7.9	
02-01-V	10.92	4.3	
03-01-V	12.48	19.2	
04-01-V	8.92	-14.8	
04-02-V	7.50	-28.4	< 25%

Assigned Value = 10.47 ppbv

1,2, dichloropropane

Lab Code	Reported	% Difference	Evaluation
01-01-V	11.00	5.9	
01-02-V	7.75	-25.4	< 25%
02-01-V	10.55	1.5	
03-01-V	12.28	18.2	
04-01-V	9.57	-7.9	
04-02-V	7.90	-24.0	WARNING

Assigned Value = 10.39 ppbv

Tetrachloroethelyne (PERC)

Lab Code	Reported	% Difference	Evaluation
01-01-V	10.20	-5.6	
01-02-V	9.75	-9.7	
02-01-V	10.81	0.1	
03-01-V	12.29	13.8	
04-01-V	9.15	-15.3	
04-02-V	8.30	-23.1	WARNING

Assigned Value = 10.80 ppbv

Vinyl Chloride

Lab Code	Reported	% Difference	Evaluation
01-01-V	10.30	-17.1	
01-02-V	10.30	-17.1	
02-01-V	10.35	-16.7	
03-01-V	11.46	-7.8	
04-01-V	9.63	-22.5	WARNING
04-02-V	6.90	-44.5	< 25%

Assigned Value = 12.43 ppbv

Cis-1,3-Dichloropropene

Lab Code	Reported	% Difference	Evaluation
01-01-V	9.80	-1.4	
01-02-V	9.30	-6.4	
02-01-V	10.84	9.1	
03-01-V	11.09	11.6	
04-01-V	10.36	4.2	
04-02-V	9.60	-3.4	

Assigned Value = 9.94 ppbv

Trans-1,3-Dichloropropene

Lab Code	Reported	% Difference	Evaluation
01-01-V	11.50	7.9	
01-02-V	9.30	-12.8	
02-01-V	11.49	7.8	
03-01-V	12.04	12.9	
04-01-V	13.77	29.2	< 25%
04-02-V	9.60	-9.9	

Assigned Value = 10.66 ppbv

Lot VOC-02

1,3, butadiene

Lab Code	Reported	% Difference	Evaluation
04-03-V	9.17	-25.5	< 25%
04-04-V	13.00	5.6	
05-03-V	10.08	-18.1	
06-01-V	11.62	-5.6	
09-01-V	14.80	20.2	WARNING
10-01-V	7.20	-41.5	< 25%
10-02-V	9.53	-22.6	WARNING
11-01-V	15.50	25.9	< 25%

Assigned Value = 12.31 ppbv

Carbon tetrachloride

Lab Code	Reported	% Difference	Evaluation
04-03-V	14.00	18.6	
04-04-V	13.30	12.7	
05-03-V	10.43	-11.6	
06-01-V	12.99	10.1	
09-01-V	17.90	51.7	< 25%
10-01-V	16.20	37.3	< 25%
10-02-V	12.70	7.6	
11-01-V	18.00	52.5	< 25%

Assigned Value = 11.80 ppbv

1,2 dibromoethane

Lab Code	Reported	% Difference	Evaluation
04-03-V	13.00	9.5	
04-04-V	13.10	10.4	
05-03-V	Not reported		
06-01-V	9.73	-18.0	
09-01-V	13.60	14.6	
10-01-V	16.80	41.5	< 25%
10-02-V	12.40	4.5	
11-01-V	15.50	30.6	< 25%

Assigned Value = 11.87 ppbv

1,2 dichloroethane

Lab Code	Reported	% Difference	Evaluation
04-03-V	12.40	-2.8	
04-04-V	11.90	-6.7	
05-03-V	9.94	-22.1	WARNING
06-01-V	9.84	-22.9	WARNING
09-01-V	13.30	4.2	
10-01-V	13.70	7.4	
10-02-V	13.70	7.4	
11-01-V	18.00	41.1	< 25%

Assigned Value = 12.76 ppbv

Dichloromethane

Lab Code	Reported	% Difference	Evaluation
04-03-V	13.20	2.3	
04-04-V	12.00	-7.0	
05-03-V	10.34	-19.8	WARNING
06-01-V	9.28	-28.1	< 25%
09-01-V	13.30	3.1	
10-01-V	9.60	-25.6	< 25%
10-02-V	13.70	6.2	
11-01-V	15.10	17.1	

Assigned Value = 12.90 ppbv

1,1,2,2tetrachloroethane

Lab Code	Reported	% Difference	Evaluation
04-03-V	15.00	22.1	WARNING
04-04-V	10.50	-14.6	
05-03-V	8.62	-29.9	< 25%
06-01-V	11.61	-5.6	
09-01-V			
10-01-V	15.30	24.5	WARNING
10-02-V	11.00	-10.5	
11-01-V	15.70	27.7	< 25%

Assigned Value = 12.29 ppbv

trichloroethylene

Lab Code	Reported	% Difference	Evaluation
04-03-V	11.30	-8.4	
04-04-V	13.10	6.2	
05-03-V	9.89	-19.8	
06-01-V	10.02	-18.7	
09-01-V	13.60	10.3	
10-01-V	11.60	-5.9	
10-02-V	12.00	-2.7	
11-01-V	14.80	20.0	

Assigned Value = 12.33 ppbv

Study 200402-V

Participants once again were asked to provide Alion with a cleaned Summa Canister for use in this study. Eleven laboratories participated in this study.

Two Alion canisters were also filled. They were analyzed on the same day they were filled and again two weeks later. The following table summarizes the average results of these analyses.

Compound	Initial Analysis *	Second Analysis *	% Difference
1,3-Butadiene	2.14	2.16	1.07
Dichloromethane	2.26	2.20	-2.84
1,2-Dichloroethane	2.22	2.25	1.26
Carbon Tetrachloride	2.10	2.11	0.28
Trichloroethene	2.16	2.09	-2.25
1,2-Dibromoethane	2.08	2.00	-3.80
1,1,2,2-Tetrachloroethane	2.15	2.06	-4.34
Vinyl Chloride	2.57	2.60	1.17
Trichloromethane	2.51	2.51	1.33
Benzene	2.51	2.57	-2.21
1,2-Dichloropropane	2.51	2.52	0.44
cis-1,3-Dichloropropene	2.39	2.39	0.00
Trans-1,3-Dichloropropene	2.56	2.49	-2.58
Tetrachloroethene	2.15	2.13	-0.83

* ppbv

The following tables contain the results submitted by participating laboratories for each of the target compounds, as well as the percentage they differ from the assigned value.

Only eleven laboratories participated in this study. The decrease (fourteen participated in 200401-V) was due to the increase in the number of agencies contracting out their VOC analyses to ERG or to a neighboring state lab.

Benzene

Lab Code	Reported	% Difference	Evaluation
01-01-V	2.81	12.0	
01-02-V	2.54	1.2	
03-01-V	2.05	-18.3	
04-01-V	2.04	-18.7	
04-02-V	2.10	-16.3	
04-03-V	2.89	15.1	
04-04-V	2.20	-12.4	
05-03-V	2.88	14.7	
10-01-V	2.17	-13.5	
10-02-V	2.59	3.2	
11-01-V	2.37	-5.6	

Assigned Value = 2.51 ppbv

1,3 butadiene

Lab Code	Reported	% Difference	Evaluation
01-01-V	2.60	21.5	WARNING
01-02-V	1.82	-15.0	
03-01-V	1.92	-10.3	
04-01-V	1.42	-33.6	> 25%
04-02-V	17.20	703.7	> 25%
04-03-V	Not reported		
04-04-V	1.84	-14.0	
05-03-V	2.54	18.7	
10-01-V	1.31	-38.8	> 25%
10-02-V	1.91	-10.7	
11-01-V	2.03	-5.1	

Assigned Value = 2.14 ppbv

Carbon Tetrachloride

Lab Code	Reported	% Difference	Evaluation
01-01-V	2.79	32.9	> 25%
01-02-V	2.38	13.3	
03-01-V	1.94	-7.6	
04-01-V	2.00	-4.8	
04-02-V	2.10	0.0	
04-03-V	2.91	38.6	> 25%
04-04-V	1.85	-11.9	
05-03-V	2.52	20.0	
10-01-V	1.97	-6.2	
10-02-V	2.02	-3.8	
11-01-V	2.35	11.9	

Assigned Value = 2.10 ppbv

Chloroform

Lab Code	Reported	% Difference	Evaluation
01-01-V	2.87	14.3	
01-02-V	2.62	4.4	
03-01-V	2.19	-12.7	
04-01-V	2.14	-14.7	
04-02-V	2.50	-0.4	
04-03-V	2.94	17.1	
04-04-V	2.31	-8.0	
05-03-V	2.80	11.6	
10-01-V	2.13	-15.1	
10-02-V	2.62	4.4	
11-01-V	2.35	-6.4	

Assigned Value = 2.51 ppbv

1,2 dibromoethane

Lab Code	Reported	% Difference	Evaluation
01-01-V	2.55	22.6	WARNING
01-02-V	1.70	-18.3	
03-01-V	1.78	-14.4	
04-01-V	1.98	-4.8	
04-02-V	Not reported		
04-03-V	2.81	35.1	> 25%
04-04-V	1.82	-12.5	
05-03-V	Not reported		
10-01-V	1.91	-8.2	
10-02-V	2.03	-2.4	
11-01-V	2.13	2.4	

Assigned Value = 2.08 ppbv

1,2 dichloropropane

Lab Code	Reported	% Difference	Evaluation
01-01-V	2.96	17.9	
01-02-V	2.30	-8.4	
03-01-V	2.18	-13.1	
04-01-V	1.98	-21.1	WARNING
04-02-V	1.50	-40.2	> 25%
04-03-V	2.78	10.8	
04-04-V	1.99	-20.7	WARNING
05-03-V	2.89	15.1	
10-01-V	1.85	-26.3	> 25%
10-02-V	2.63	4.8	
11-01-V	2.43	-3.2	

Assigned Value = 2.51 ppbv

1,2 dichloroethane

Lab Code	Reported	% Difference	Evaluation
01-01-V	2.52	13.5	
01-02-V	2.30	3.6	
03-01-V	1.90	-14.4	
04-01-V	1.88	-15.3	
04-02-V	2.10	5.4	
04-03-V	2.71	22.1	WARNING
04-04-V	2.04	-8.1	
05-03-V	2.46	10.8	
10-01-V	2.23	0.5	
10-02-V	2.47	11.3	
11-01-V	1.87	-15.8	

Assigned Value = 2.22 ppbv

Dichloromethane

Lab Code	Reported	% Difference	Evaluation
01-01-V	2.72	20.4	WARNING
01-02-V	1.84	-18.6	
03-01-V	2.01	-11.1	
04-01-V	1.40	-38.1	> 25%
04-02-V	2.40	6.2	
04-03-V	2.57	13.7	
04-04-V	2.07	-8.4	
05-03-V	2.53	11.9	
10-01-V	2.48	9.7	
10-02-V	2.51	11.1	
11-01-V	1.86	-17.7	

Assigned Value = 2.26 ppbv

1,1,2,2 tetrachloroethane

Lab Code	Reported	% Difference	Evaluation
01-01-V	2.48	15.3	
01-02-V	2.07	-3.7	
03-01-V	1.65	-23.3	WARNING
04-01-V	1.80	-16.3	
04-02-V	Not Reported		
04-03-V	2.73	27.0	> 25%
04-04-V	1.78	-17.2	
05-03-V	2.45	10.0	
10-01-V	2.05	-4.7	
10-02-V	1.69	-21.4	WARNING
11-01-V	1.90	-16.6	

Assigned Value = 2.15 ppbv

Tetrachloroethylene (PERC)

Lab Code	Reported	% Difference	Evaluation
01-01-V	2.74	13.7	
01-02-V	2.32	-3.7	
03-01-V	2.03	-15.8	
04-01-V	2.30	-4.6	
04-02-V	Not Reported		
04-03-V	4.74	96.7	> 25%
04-04-V	2.05	-14.9	
05-03-V	2.95	22.4	WARNING
10-01-V	225	-6.6	
10-02-V	2.00	-17.0	
11-01-V	2.36	-2.1	

Assigned Value = 2.41 ppbv

trichloroethylene

Lab Code	Reported	% Difference	Evaluation
01-01-V	2.41	11.6	
01-02-V	2.06	-4.6	
03-01-V	1.91	-11.6	
04-01-V	2.00	-7.4	
04-02-V	Not Reported		
04-03-V	2.48	14.8	
04-04-V	1.81	-16.2	
05-03-V	2.60	20.4	WARNING
10-01-V	1.80	-16.7	
10-02-V	2.10	-2.8	
11-01-V	2.19	1.4	

Assigned Value = 2.16 ppbv

Vinyl Chloride

Lab Code	Reported	% Difference	Evaluation
01-01-V	2.83	10.1	
01-02-V	2.40	-6.6	
03-01-V	2.11	-17.9	
04-01-V	1.94	-24.5	WARNING
04-02-V	9.00	250.2	> 25%
04-03-V	Not Reported		
04-04-V	2.08	-19.1	
05-03-V	2.93	14.0	
10-01-V	2.04	-20.6	WARNING
10-02-V	2.98	16.0	
11-01-V	2.43	-5.4	

Assigned Value = 2.57 ppbv

Cis-1,3-Dichloropropene

Lab Code	Reported	% Difference	Evaluation
01-01-V	2.61	9.2	
01-02-V	2.32	-2.9	
03-01-V	1.97	-17.6	
04-01-V	1.92	-19.7	
04-02-V	Not Reported		
04-03-V	2.99	25.1	> 25%
04-04-V	1.80	-24.7	WARNING
05-03-V	2.58	7.9	
10-01-V	2.00	-16.3	
10-02-V	2.52	5.4	
11-01-V	2.23	-6.7	

Assigned Value = 2.39 ppbv

Trans-1,3-dichloropropene

Lab Code	Reported	% Difference	Evaluation
01-01-V	2.97	16.0	
01-02-V	2.62	2.3	
03-01-V	2.17	-15.2	
04-01-V	2.40	-6.3	
04-02-V	Not Reported		
04-03-V	2.62	2.3	
04-04-V	1.84	-28.1	> 25%
05-03-V	2.98	16.4	
10-01-V	2.60	1.6	
10-02-V	3.35	30.9	> 25%
11-01-V	2.68	4.7	

Assigned Value = 2.56 ppbv

Appendix A

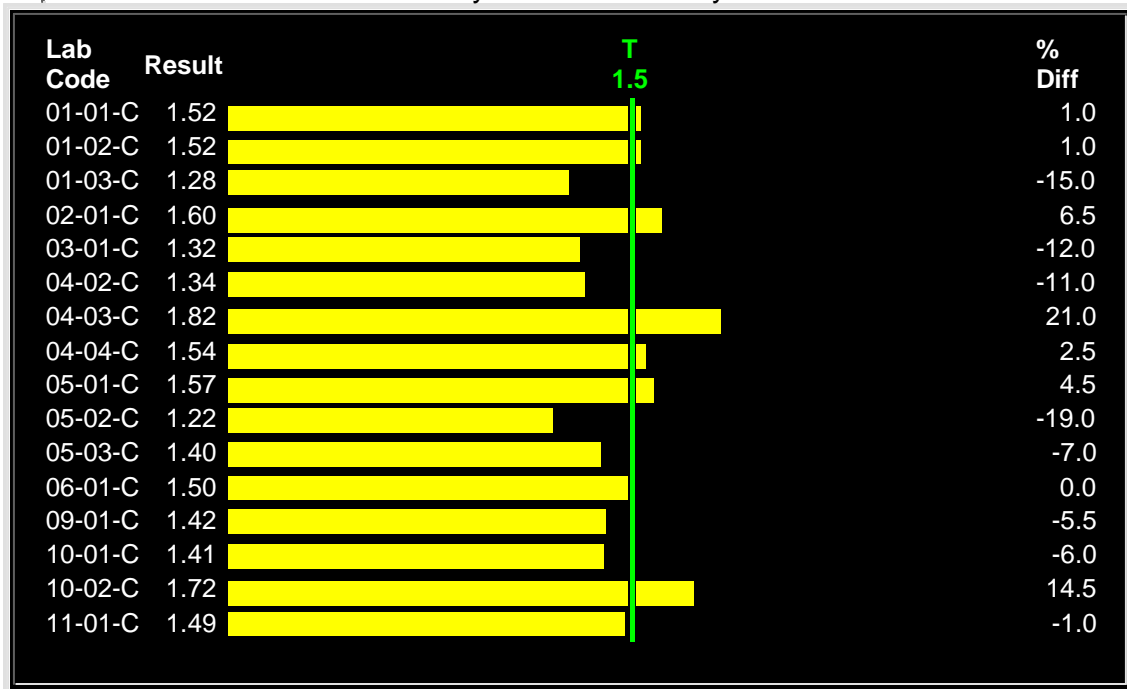
Study 200401-C (Initially called 0401-C)

Analyte Results for a Specific Study

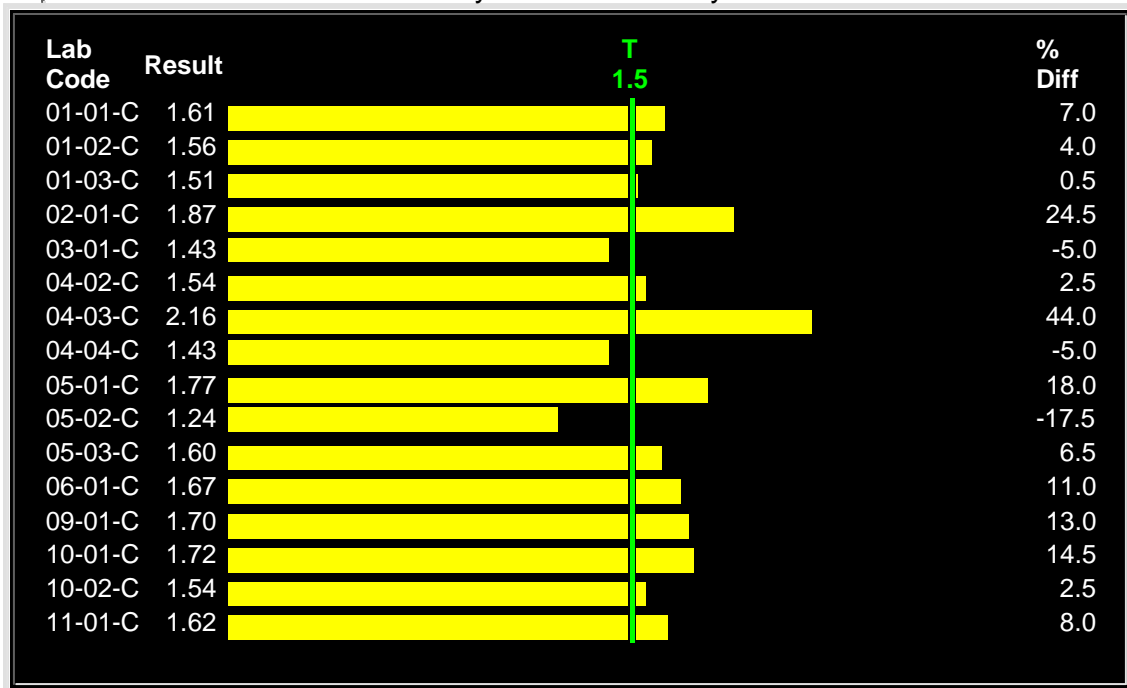
10/07/2004

Study Number: 0401-C

Carbonyls-01 - formaldehyde



Carbonyls-01 - acetaldehyde



Carbonyls-01 - acrolein

Lab Code	Result	T 1.5	% Diff
01-03-C	0.03		-98.0
03-01-C	1.18		-21.5
04-04-C	0.20		-87.0
05-02-C	0.15		-90.0
06-01-C	1.13		-25.0

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 01-01-C

This evaluation report is being submitted for:

Providence, RI
Attention: Barbara Morin
RI Dept. of Health Lab.
50 Orms Street
Providence, RI, 02904

401-222-5550

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Providence, RI - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	HPLC	Zbarcera	ppbv	1.52	1.50	1.3	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	HPLC	Zbarcera	ppbv	1.61	1.50	7.3	1.20 to 1.80	1.13 to 1.88	
103 acrolein				NR	1.50		1.35 to 1.65	1.27 to 1.73	

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 01-02-C

This evaluation report is being submitted for:

Chittenden, VT
Attention: George Apgar
Vermont DEC Environmental Lab
103 South Main Street
Waterbury, VT, 05671-0409

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Chittenden, VT - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	TO-11	Walter Z.	ppbv	1.52	1.50	1.3	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	TO-11	Walter Z.	ppbv	1.56	1.50	4.0	1.20 to 1.80	1.13 to 1.88	
103 acrolein				NR	1.50		1.35 to 1.65	1.27 to 1.73	

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 01-03-C

This evaluation report is being submitted for:

Roxbury, MA
Attention: Thomas McGrath
DEP, Air Quality, WES
37 Shatteck Street
Lawrence, MA, 01843

978-975-1138 x318

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Roxbury, MA - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	TO-11	MBebiriam	ppbv	1.28	1.50	-14.7	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	TO-11	MBebiriam	ppbv	1.51	1.50	0.7	1.20 to 1.80	1.13 to 1.88	
103 acrolein	TO-11	MBebiriam	ppbv	0.03	1.50	-98.0	1.35 to 1.65	1.27 to 1.73	NO EVAL.

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 02-01-C

This evaluation report is being submitted for:

Rochester & Queens, NY
Attention: Gary Boynton
1 University Place
Room D112
Rensselaer, NY, 12144

518-525-2733

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Rochester & Queens, NY - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	TO-11A	Malone	ppbv	1.6	1.50	6.7	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	TO-11A	Malone	ppbv	1.87	1.50	24.7	1.20 to 1.80	1.13 to 1.88	WARNING
103 acrolein				NR	1.50		1.35 to 1.65	1.27 to 1.73	

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 03-01-C

This evaluation report is being submitted for:

Washington, DC
Attention: Robert Day
Air Management Services Laboratory
1501 Lycoming Street
Philadelphia, PA, 19124

202-535-2986

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Washington, DC - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	TO-11A	H Smith	ppbv	1.32	1.50	-12.0	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	TO-11A	H Smith	ppbv	1.43	1.50	-4.7	1.20 to 1.80	1.13 to 1.88	
103 acrolein	TO-11A	H Smith	ppbv	1.18	1.50	-21.3	1.35 to 1.65	1.27 to 1.73	NO EVAL.

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 04-02-C

This evaluation report is being submitted for:

Chesterfield, SC
Attention: Scott Reynolds
SC Dept of HEC, Div. of AQ Analysis
8231 Parklane Road
Columbia, SC, 29223

803-896-0902

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Chesterfield, SC - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	Hitachi HPLC	Nameia	ppbv	1.34	1.50	-10.7	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	Hitachi HPLC	Nameia	ppbv	1.54	1.50	2.7	1.20 to 1.80	1.13 to 1.88	
103 acrolein				NR	1.50		1.35 to 1.65	1.27 to 1.73	

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 04-03-C

This evaluation report is being submitted for:

Hazard, KY
Attention: Larry Garrison
Div of Environmental Services
100 Sower Blvd. Suite 104
Frankfurt, KY, 40601-8272

502-573-3382

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Hazard, KY - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	TO-11	Ewing	ppbv	1.82	1.50	21.3	1.20 to 1.80	1.13 to 1.88	WARNING
102 acetaldehyde	TO-11	Ewing	ppbv	2.16	1.50	44.0	1.20 to 1.80	1.13 to 1.88	FAIL
103 acrolein				NR	1.50		1.35 to 1.65	1.27 to 1.73	

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 04-04-C

This evaluation report is being submitted for:

Atlanta, GA
Attention: Susan Zimmer-Dauphinee
GA DNR EPD Laboratory
455 14th Street
Atlanta, GA, 30318-7900

404-363-7004

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Atlanta, GA - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	TO-11	JB	ppbv	1.54	1.50	2.7	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	TO-11	JB	ppbv	1.43	1.50	-4.7	1.20 to 1.80	1.13 to 1.88	
103 acrolein	TO-11	JB	ppbv	< 0.2	1.50	-86.7	1.35 to 1.65	1.27 to 1.73	NO EVAL.

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 05-01-C

This evaluation report is being submitted for:

Detroit, MI

Attention: Mary Ann Heindorf

DEQ Lab

3350 N MLK Bldg.44 3rd Floor

Lansing, MI, 48906

517-373-2151

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Detroit, MI - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	Waters 996 PDA	S.Tait	ppbv	1.57	1.50	4.7	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	Waters 996 PDA	S.Tait	ppbv	1.77	1.50	18.0	1.20 to 1.80	1.13 to 1.88	
103 acrolein				NR	1.50		1.35 to 1.65	1.27 to 1.73	

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 05-02-C

This evaluation report is being submitted for:

Illinois EPA
Attention: Terry Sweitzer
1021 N. Grand Ave.
Springfield, IL, 62702

(217) 782-9281

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Chichago - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	TO-11A	M.Neely	ppbv	1.22	1.50	-18.7	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	TO-11A	M.Neely	ppbv	1.24	1.50	-17.3	1.20 to 1.80	1.13 to 1.88	
103 acrolein	TO-11A	M.Neely	ppbv	< 0.15	1.50	-90.0	1.35 to 1.65	1.27 to 1.73	NO EVAL.

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 05-03-C

This evaluation report is being submitted for:

Madison, WI
Attention: Mark Allen
Wisconsin DNR
101 S Wester St
Madison, WI, WI, 53707

608-266-8049

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Madison, WI - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	TO-11	Allen	ppbv	1.4	1.50	-6.7	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	TO-11	Allen	ppbv	1.6	1.50	6.7	1.20 to 1.80	1.13 to 1.88	
103 acrolein				NR	1.50		1.35 to 1.65	1.27 to 1.73	

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 06-01-C

This evaluation report is being submitted for:

Huston & Harrison TX
Attention: David Brymer
Texas CEQ
1200 Park 35 Circle
Austin, TX, 78753

512-239-1725

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Houston & Harrison TX - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	Modified TO-11	J. Mayer	ppbv	1.5	1.50	0.0	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	Modified TO-11	J. Mayer	ppbv	1.67	1.50	11.3	1.20 to 1.80	1.13 to 1.88	
103 acrolein	Modified TO-11	J. Mayer	ppbv	1.13	1.50	-24.7	1.35 to 1.65	1.27 to 1.73	NO EVAL.

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 09-01-C

This evaluation report is being submitted for:

San Jose, CA
Attention: Eric Stevenson
CA Air Resources Board
1927 13th Street
Sacramento, CA, 95814

415-749-4695

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - San Jose, CA - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	HPLC-UV	Chima	ppbv	1.42	1.50	-5.3	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	HPLC-UV	Chima	ppbv	1.7	1.50	13.3	1.20 to 1.80	1.13 to 1.88	
103 acrolein				NR	1.50		1.35 to 1.65	1.27 to 1.73	

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 09-02-C

This evaluation report is being submitted for:

Phoenix, AZ
Attention: David Shina
San Diego Air Pollution Control District
9186 Chesapaeke Drive
San Diego, CA, 92123

858-650-4651

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Phoenix, AZ - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	202	DNS	ppbv	1.46	1.50	-2.7	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	202	DNS	ppbv	1.52	1.50	1.3	1.20 to 1.80	1.13 to 1.88	
103 acrolein				NR	1.50		1.35 to 1.65	1.27 to 1.73	

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 10-01-C

This evaluation report is being submitted for:

Seattle, Wa
Attention: John Williamson
CEE Department Sloan Hall, Room 101
Washington State University
Pullman, WA, 99164-2910

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Seattle, Wa - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	TO-11A	Lee B	ppbv	1.41	1.50	-6.0	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	TO-11A	Lee B.	ppbv	1.72	1.50	14.7	1.20 to 1.80	1.13 to 1.88	
103 acrolein				NR	1.50		1.35 to 1.65	1.27 to 1.73	

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 10-02-C

This evaluation report is being submitted for:

LaGrande, Or
Attention: Gregg Lande
Oregon DEQ Lab
1712 SW 11th Ave.
Portland, OR, 97201

503-229-6411

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - LaGrande, Or - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	TO-11A	R Rother	ppbv	1.72	1.50	14.7	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	TO-11A	R Rother	ppbv	1.54	1.50	2.7	1.20 to 1.80	1.13 to 1.88	
103 acrolein				NR	1.50		1.35 to 1.65	1.27 to 1.73	

PTNATTS PE Report

10/15/2004



Study: 0401-C Close Date: 10/01/2004 Lab Code: 11-01-C

This evaluation report is being submitted for:

Tampa, St Louis, Grand Junct., Bountiful

Attention: Julie Swift

ERG

900 Perimeter Park

Morrisville, NC, 27560

919-468-7924

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Tampa, St Louis, Grand Junct.ion, Bountiful - 0401-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warning Limits	Acceptance Limits	Evaluation
101 formaldehyde	TO-11A	Laura V.	ppbv	1.49	1.50	-0.7	1.20 to 1.80	1.13 to 1.88	
102 acetaldehyde	TO-11A	Laura V	ppbv	1.62	1.50	8.0	1.20 to 1.80	1.13 to 1.88	
103 acrolein				NR	1.50		1.35 to 1.65	1.27 to 1.73	

Appendix B

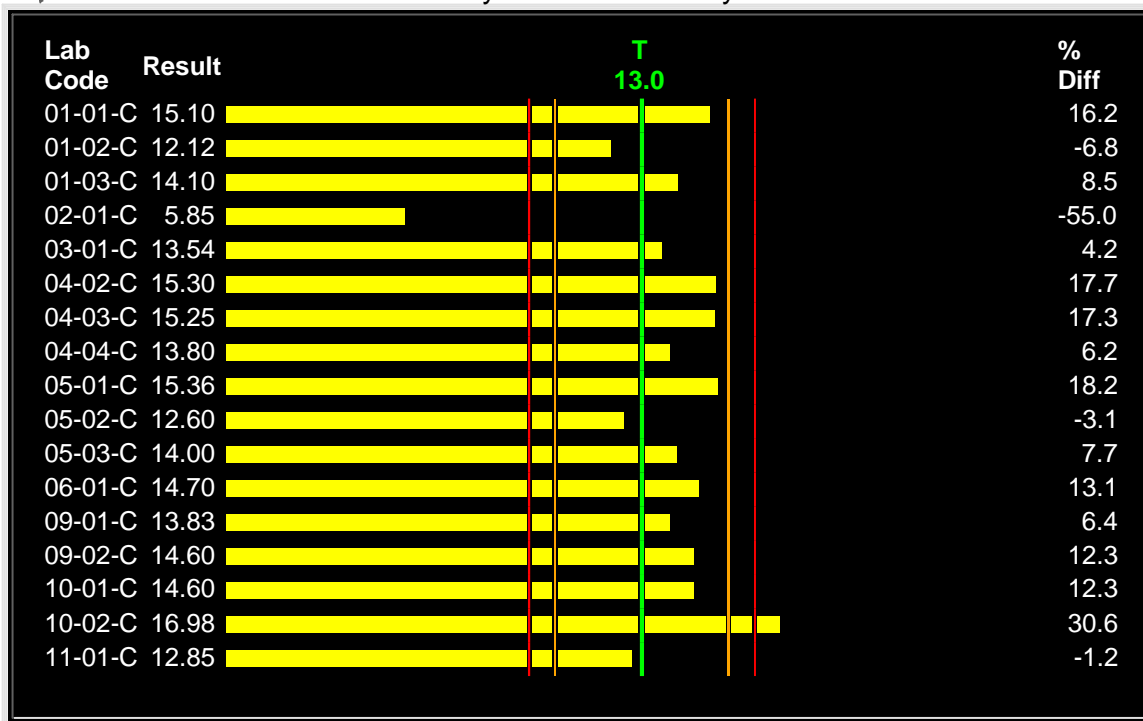
Study 200402-C (Initially called 0402-C)

Analyte Results for a Specific Study

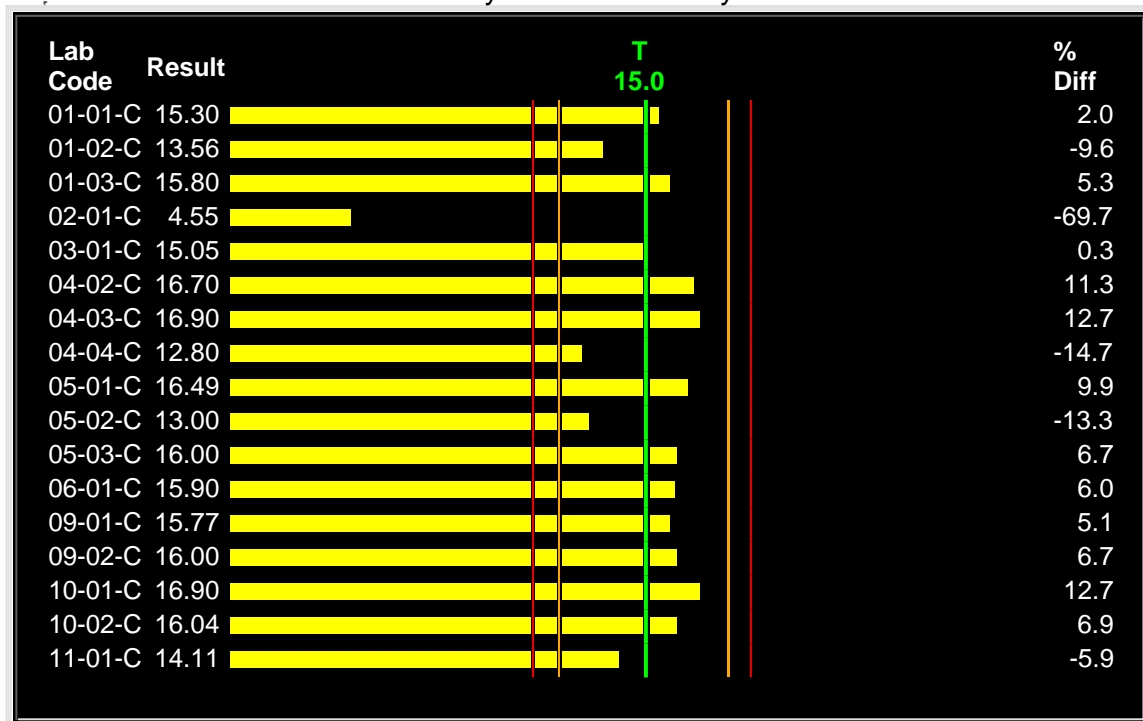
12/22/2004

Study Number: 0402-C

Carbonyls-01 - formaldehyde



Carbonyls-01 - acetaldehyde



Carbonyls-01 - Acetone

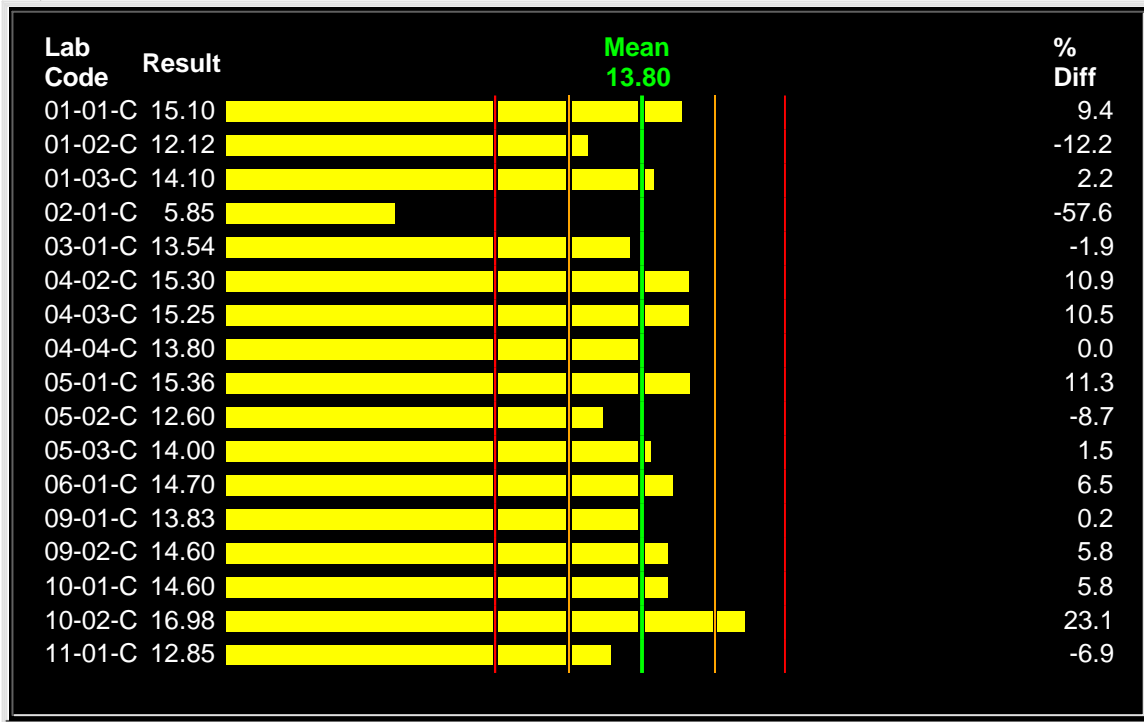
Lab Code	Result	T 18.0	% Diff
01-01-C	15.90		-11.7
01-02-C	16.23		-9.8
01-03-C	18.40		2.2
02-01-C	3.95		-78.1
03-01-C	17.78		-1.2
04-02-C	19.30		7.2
04-04-C	14.70		-18.3
05-01-C	18.98		5.5
05-03-C	19.00		5.6
06-01-C	16.00		-11.1
09-01-C	18.84		4.7
09-02-C	18.80		4.4
10-01-C	20.90		16.1
10-02-C	18.80		4.4
11-01-C	18.28		1.6

Analyte Results Versus the Study Mean

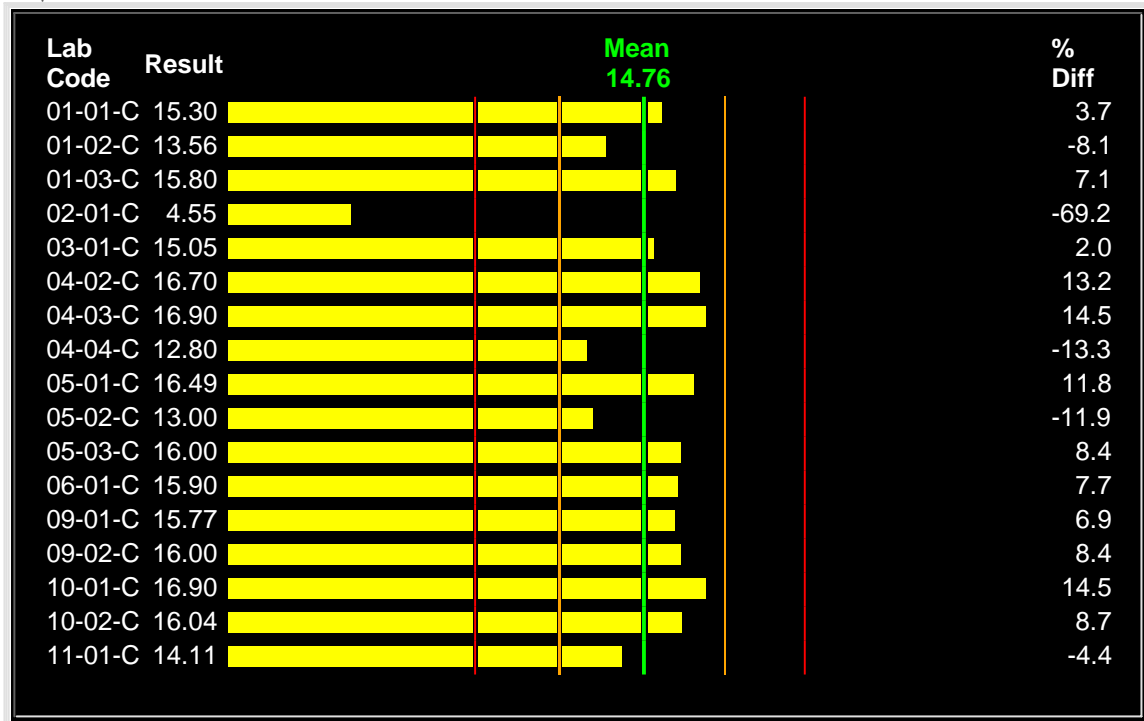
12/22/2004

Study Number: 0402-C

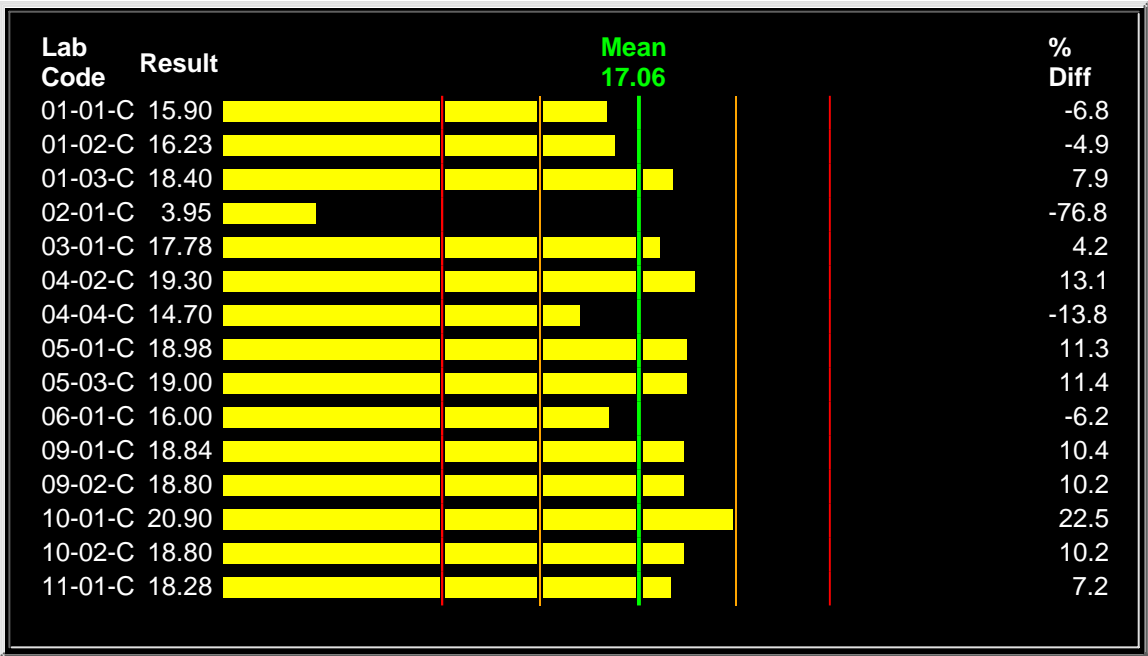
Carbonyls-01 - formaldehyde
T=13.0 S1= 2.36 S2= 4.72



Carbonyls-01 - acetaldehyde
T=15.0 S1= 2.93 S2= 5.86



Carbonyls-01 - Acetone
T=18.0 S1= 3.97 S2= 7.94



PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 01-01-C

This evaluation report is being submitted for:

Providence, RI
Attention: Jeannine Dougherty
RI Dept. of Health Lab.
50 Orms Street
Providence, RI, 02904

401-222-5550

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Providence, RI - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
101 formaldehyde	HPLC	L.Zbarcea	ug/crtge	15.1	13.0	16.2	20 10.4 to 15.6	25 9.75 to 16.3	
102 acetaldehyde	HPLC	L.Zbarcea	ug/crtge	15.3	15.0	2.0	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone	HPLC	L.Zbarcea	ug/crtg	15.9	18.0	-11.7	20 14.4 to 21.6	25 13.5 to 22.5	

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 01-02-C

This evaluation report is being submitted for:

Chittenden, VT
Attention: George Apgar
Vermont DEC Environmental Lab
103 South Main Street
Waterbury, VT, 05671-0409

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Chittenden, VT - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
101 formaldehyde	TO-11A	WAZ	ug/crtge	12.115	13.0	-6.8	20 10.4 to 15.6	25 9.75 to 16.3	
102 acetaldehyde	TO-11A	WAZ	ug/crtge	13.556	15.0	-9.6	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone	TO-11A	WAZ	ug/crtg	16.23	18.0	-9.8	20 14.4 to 21.6	25 13.5 to 22.5	

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 01-03-C

This evaluation report is being submitted for:

Roxbury, MA
Attention: Thomas McGrath
DEP, Air Quality, WES
37 Shatteck Street
Lawrence, MA, 01843

978-975-1138 x318

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Roxbury, MA - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
101 formaldehyde	TO-11	M.bebirian	ug/crtge	14.1	13.0	8.5	20 10.4 to 15.6	25 9.75 to 16.3	
102 acetaldehyde	TO-11	M.bebirian	ug/crtge	15.8	15.0	5.3	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone	TO-11	M.bebirian	ug/crtg	18.4	18.0	2.2	20 14.4 to 21.6	25 13.5 to 22.5	

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 02-01-C

This evaluation report is being submitted for:

Rochester & Bronx, NY
Attention: Gary Boynton/ Bart Malone
1 University Place
Room D112
Rensselaer, NY, 12144

518-525-2733

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Rochester & Queens, NY - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
101 formaldehyde	TO-11A	P.B.M.	ug/crtge	5.85	13.0	-55.0	20 10.4 to 15.6	25 9.75 to 16.3	< 25%
102 acetaldehyde	TO-11A	P.B.M.	ug/crtge	4.55	15.0	-69.7	20 12.0 to 18.0	25 11.3 to 18.8	< 25%
103 Acetone	TO-11A	P.B.M.	ug/crtg	3.95	18.0	-78.1	20 14.4 to 21.6	25 13.5 to 22.5	< 25%

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 03-01-C

This evaluation report is being submitted for:

Washington, DC
Attention: Robert Day
Air Management Services Laboratory
1501 Lycoming Street
Philadelphia, PA, 19124

202-535-2986

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Washington, DC - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/--% Range	Accept Limits +/--% Range	Evaluation
101 formaldehyde	TO11-A	Howard Smi	ug/crtge	13.54	13.0	4.2	20 10.4 to 15.6	25 9.75 to 16.3	
102 acetaldehyde	TO11-A	Howard Smi	ug/crtge	15.05	15.0	0.3	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone	TO11-A	Howard Smi	ug/crtg	17.78	18.0	-1.2	20 14.4 to 21.6	25 13.5 to 22.5	

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 04-02-C

This evaluation report is being submitted for:

Chesterfield, SC
Attention: Scott Reynolds
SC Dept of HEC, Div. of AQ Analysis
8231 Parklane Road
Columbia, SC, 29223

803-896-0902

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Chesterfield, SC - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
101 formaldehyde	unk	M.N.	ug/crtge	15.3	13.0	17.7	20 10.4 to 15.6	25 9.75 to 16.3	
102 acetaldehyde	unk	M.N.	ug/crtge	16.7	15.0	11.3	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone	unk	M.N.	ug/crtg	19.3	18.0	7.2	20 14.4 to 21.6	25 13.5 to 22.5	

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 04-03-C

This evaluation report is being submitted for:

Hazard, KY
Attention: Larry Garrison
Div of Environmental Services
100 Sower Blvd. Suite 104
Frankfort, KY, 40601-8272

502-573-3382

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Hazard, KY - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
101 formaldehyde	TO-11A	JoEllen Ba	ug/crtge	15.25	13.0	17.3	20 10.4 to 15.6	25 9.75 to 16.3	
102 acetaldehyde	TO-11A	JoEllen Ba	ug/crtge	16.9	15.0	12.7	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone				NR	18.0		14.4 to 21.6	13.5 to 22.5	

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 04-04-C

This evaluation report is being submitted for:

Atlanta, GA
Attention: Susan Zimmer-Dauphinee
GA DNR EPD Laboratory
455 14th Street
Atlanta, GA, 30318-7900

404-363-7004

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Atlanta, GA - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/--% Range	Accept Limits +/--% Range	Evaluation
101 formaldehyde	TO-11C	J. Bingham	ug/crtge	13.8	13.0	6.2	20 10.4 to 15.6	25 9.75 to 16.3	
102 acetaldehyde	TO-11C	J. Bingham	ug/crtge	12.8	15.0	-14.7	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone	TO-11C	J. Bingham	ug/crtg	14.7	18.0	-18.3	20 14.4 to 21.6	25 13.5 to 22.5	

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 05-01-C

This evaluation report is being submitted for:

Detroit, MI
Attention: Carol Smith
DEQ Lab
3350 N MLK Bldg.44 3rd Floor
Lansing, MI, 48906

517-373-2151

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Detroit, MI - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
101 formaldehyde	unk	J.B.	ug/crtge	15.363	13.0	18.2	20 10.4 to 15.6	25 9.75 to 16.3	
102 acetaldehyde	unk	J.B.	ug/crtge	16.491	15.0	9.9	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone	unk	J.B.	ug/crtg	18.983	18.0	5.5	20 14.4 to 21.6	25 13.5 to 22.5	

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 05-02-C

This evaluation report is being submitted for:

Chichago
Attention: Terry Sweitzer
1021 N. Grand Ave.
Springfield, IL, 62702

(217) 782-9281

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Chichago - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
101 formaldehyde	TO11-A	MON	ug/crtge	12.6	13.0	-3.1	20 10.4 to 15.6	25 9.75 to 16.3	
102 acetaldehyde	TO11-A	MON	ug/crtge	13.0	15.0	-13.3	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone				NR	18.0		14.4 to 21.6	13.5 to 22.5	

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 05-03-C

This evaluation report is being submitted for:

Madison, WI
Attention: Mark Allen
Wisconsin DNR
101 S Webster St
Madison, WI, , 53707

608-266-8049

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Madison, WI - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
101 formaldehyde	202	G.L	ug/crtge	14.0	13.0	7.7	20 10.4 to 15.6	25 9.75 to 16.3	
102 acetaldehyde	202	G.L	ug/crtge	16.0	15.0	6.7	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone	202	G.L	ug/crtg	19.0	18.0	5.6	20 14.4 to 21.6	25 13.5 to 22.5	

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 06-01-C

This evaluation report is being submitted for:

Houston & Harrison TX
Attention: David Brymer
Texas CEQ
1200 Park 35 Circle
Austin, TX, 78753

512-239-1725

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Houston & Harrison TX - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
101 formaldehyde	Modified TO-11	J.M.	ug/crtge	14.7	13.0	13.1	20 10.4 to 15.6	25 9.75 to 16.3	
102 acetaldehyde	Modified TO-11	J.M.	ug/crtge	15.9	15.0	6.0	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone	Modified TO-11	J.M.	ug/crtg	16.0	18.0	-11.1	20 14.4 to 21.6	25 13.5 to 22.5	

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 09-01-C

This evaluation report is being submitted for:

San Jose, CA
Attention: Eric Stevenson
CA Air Resources Board
1927 13th Street
Sacramento, CA, 95814

415-749-4695

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - San Jose, CA - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
101 formaldehyde	unknown	CHIMA	ug/crtge	13.83	13.0	6.4	20 10.4 to 15.6	25 9.75 to 16.3	
102 acetaldehyde	unknown	CHIMA	ug/crtge	15.77	15.0	5.1	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone	unknown	CHIMA	ug/crtg	18.84	18.0	4.7	20 14.4 to 21.6	25 13.5 to 22.5	

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 09-02-C

This evaluation report is being submitted for:

Phoenix, AZ
Attention: David Shina
San Diego Air Pollution Control District
9186 Chesapaeke Drive
San Diego, CA, 92123

858-650-4637

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Phoenix, AZ - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
101 formaldehyde	202	DNS	ug/crtge	14.6	13.0	12.3	20 10.4 to 15.6	25 9.75 to 16.3	
102 acetaldehyde	202	DNS	ug/crtge	16.0	15.0	6.7	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone	202	DNS	ug/crtg	18.8	18.0	4.4	20 14.4 to 21.6	25 13.5 to 22.5	

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 10-01-C

This evaluation report is being submitted for:

Seattle, Wa
Attention: Hal Westberg
CEE Department Sloan Hall, Room 101
Washington State University
Pullman, WA, 99164-2910

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Seattle, Wa - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
101 formaldehyde	TO-11A	Lee Bamesb	ug/crtge	14.6	13.0	12.3	20 10.4 to 15.6	25 9.75 to 16.3	
102 acetaldehyde	TO-11A	Lee Bamesb	ug/crtge	16.9	15.0	12.7	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone	TO-11A	Lee Bamesb	ug/crtg	20.9	18.0	16.1	20 14.4 to 21.6	25 13.5 to 22.5	

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 10-02-C

This evaluation report is being submitted for:

LaGrande, Or
Attention: Gregg Lande
Oregon DEQ Lab
1712 SW 11th Ave.
Portland, OR, 97201

503-229-6411

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - LaGrande, Or - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
101 formaldehyde	TO-11A	R.R	ug/crtge	16.98	13.0	30.6	20 10.4 to 15.6	25 9.75 to 16.3	> 25%
102 acetaldehyde	TO-11A	R.R	ug/crtge	16.04	15.0	6.9	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone	TO-11A	R.R	ug/crtg	18.8	18.0	4.4	20 14.4 to 21.6	25 13.5 to 22.5	

PTNATTS PE Report

12/22/2004



Study: 0402-C Close Date: 12/10/2004 Lab Code: 11-01-C

This evaluation report is being submitted for:

Tampa, St Louis, Grand Junction, Bountiful

Attention: Julie Swift

ERG

900 Perimeter Park

Morrisville, NC, 27560

919-468-7924

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Carbonyls-01 - Carbonyls - Tampa, St Louis, Grand Junction, Bountiful - 0402-C

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/--% Range	Accept Limits +/--% Range	Evaluation
101 formaldehyde	TO-11A	LVE	ug/crtge	12.85	13.0	-1.2	20 10.4 to 15.6	25 9.75 to 16.3	
102 acetaldehyde	TO-11A	LVE	ug/crtge	14.11	15.0	-5.9	20 12.0 to 18.0	25 11.3 to 18.8	
103 Acetone	TO-11A	LVE	ug/crtg	18.28	18.0	1.6	20 14.4 to 21.6	25 13.5 to 22.5	

Appendix C

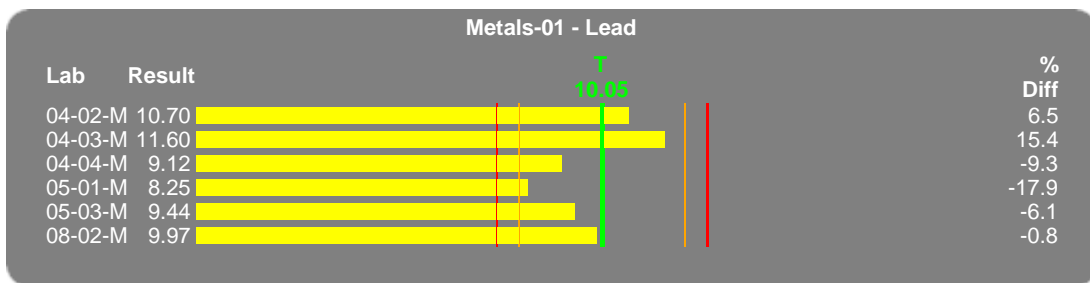
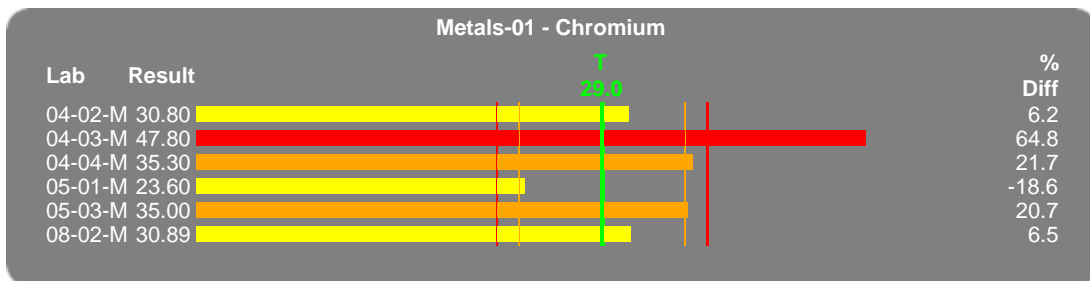
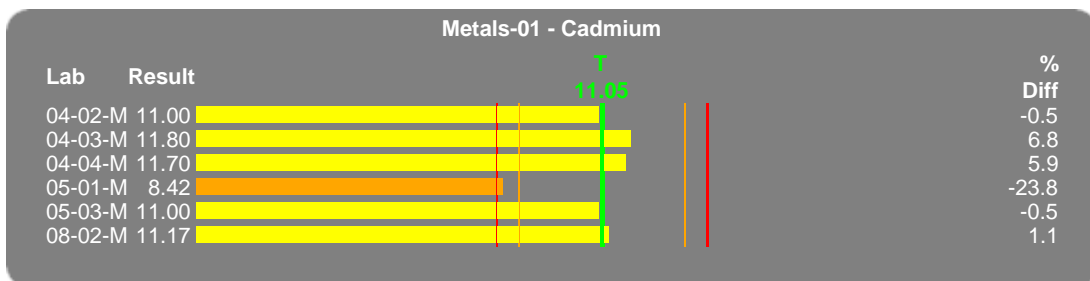
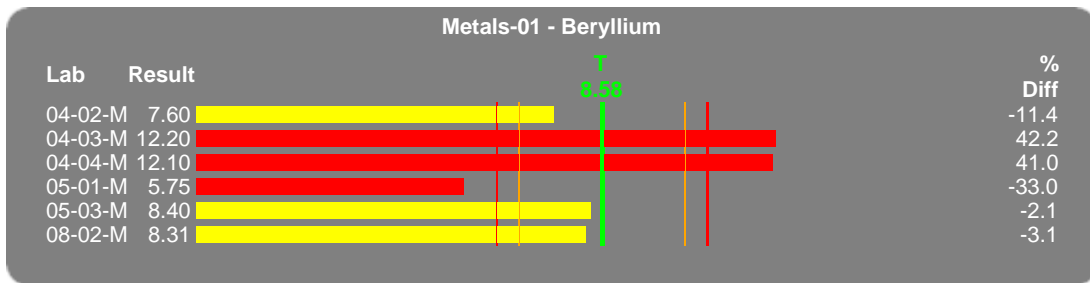
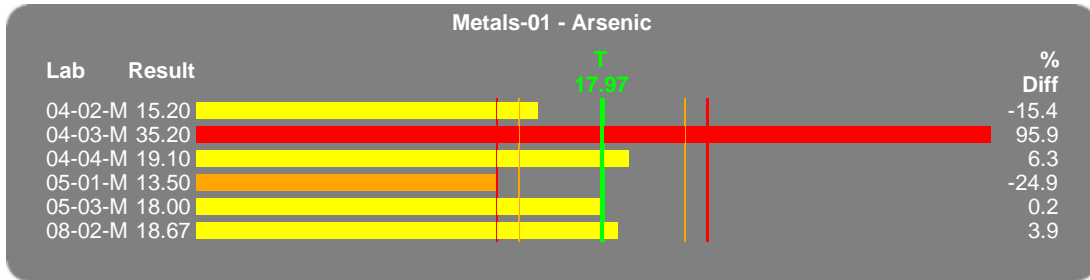
Study 200401-M (Initially called 0401-M)

Analyte Results for a Specific Study

01/25/2005

Study Number: 200401-M

Accepted Warning Outside Outlier NE Not Evaluated NR Not Reported



Metals-01 - Manganese

Lab	Result	T	% Diff
		10.26	
04-02-M	11.40		11.1
04-03-M	12.40		20.9
04-04-M	9.83		-4.2
05-01-M	8.64		-15.8
05-03-M	11.00		7.2
08-02-M	11.19		9.1

Metals-01 - Mercury

Lab	Result	T	% Diff
		0.0	
04-02-M	NE		
04-03-M	NR		
04-04-M	NR		
05-01-M	NR		
05-03-M	NR		
08-02-M	NR		

Metals-01 - Nickel

Lab	Result	T	% Diff
		9.75	
04-02-M	10.10		3.6
04-03-M	11.50		17.9
04-04-M	11.20		14.9
05-01-M	8.14		-16.5
05-03-M	12.00		23.1
08-02-M	9.97		2.3

Metals-02 - Arsenic

Lab	Result	T	% Diff
		23.91	
11-01-M	21.20		-11.3

Metals-02 - Beryllium

Lab	Result	T	% Diff
		3.53	
11-01-M	10.30		20.0

Metals-02 - Cadmium

Lab	Result	T	% Diff
		0.0	
11-01-M	NE		

Metals-02 - Chromium

Lab	Result	T	% Diff
		29.0	
11-01-M	28.14		-3.0

Metals-02 - Lead

Lab	Result	T	% Diff
		0.0	
11-01-M	NE		

Metals-02 - Manganese

Lab	Result		T		%
11-01-M	NE		0.0		Diff

Metals-02 - Mercury

Lab	Result		T		%
11-01-M	NE		0.0		Diff

Metals-02 - Nickel

Lab	Result		T		%
11-01-M	NE		0.0		Diff

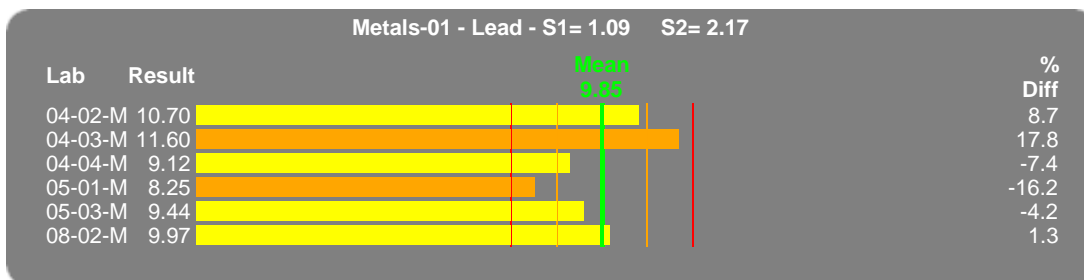
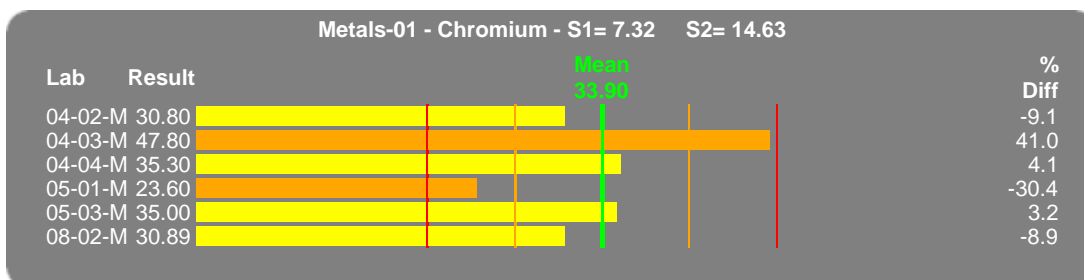
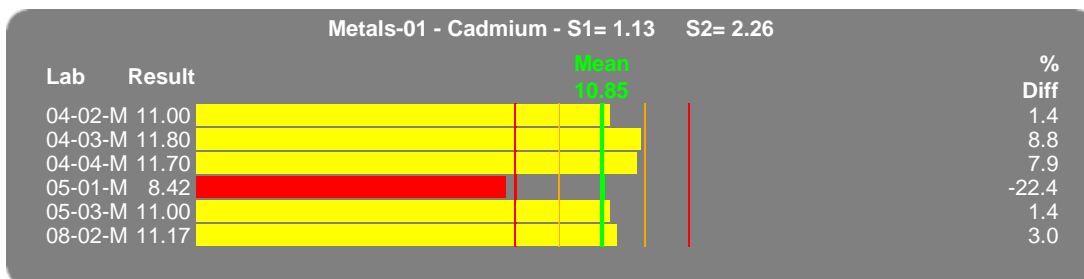
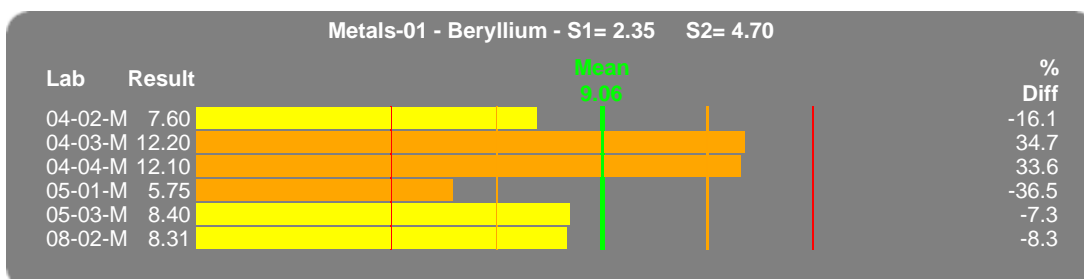
Analyte Results Versus the Study Mean

01/25/2005



Study Number: 200401-M

Accepted Warning Outside Outlier NE Not Evaluated NR Not Reported



Metals-01 - Manganese - S1= 1.20 S2= 2.41

Lab	Result	Mean	% Diff
04-02-M	11.40	10.74	6.1
04-03-M	12.40	10.74	15.4
04-04-M	9.83	10.74	-8.5
05-01-M	8.64	10.74	-19.6
05-03-M	11.00	10.74	2.4
08-02-M	11.19	10.74	4.2

Metals-01 - Mercury - S1= 0.00 S2= 0.00

Lab	Result	Mean	% Diff
04-02-M	NE	0.01	
04-03-M	NR	0.01	
04-04-M	NR	0.01	
05-01-M	NR	0.01	
05-03-M	NR	0.01	
08-02-M	NR	0.01	

Metals-01 - Nickel - S1= 1.27 S2= 2.55

Lab	Result	Mean	% Diff
04-02-M	10.10	10.49	-3.7
04-03-M	11.50	10.49	9.7
04-04-M	11.20	10.49	6.8
05-01-M	8.14	10.49	-22.4
05-03-M	12.00	10.49	14.4
08-02-M	9.97	10.49	-4.9

Metals-02 - Arsenic - S1= 0.00 S2= 0.00

Lab	Result	Mean	% Diff
11-01-M	21.20	21.20	0.0

Metals-02 - Beryllium - S1= 0.00 S2= 0.00

Lab	Result	Mean	% Diff
11-01-M	10.30	10.30	0.0

Metals-02 - Cadmium - S1= 0.00 S2= 0.00

Lab	Result	Mean	% Diff
11-01-M	NE	1.00	

Metals-02 - Chromium - S1= 0.00 S2= 0.00

Lab	Result	Mean	% Diff
11-01-M	28.14	28.14	0.0

Metals-02 - Lead - S1= 0.00 S2= 0.00

Lab	Result	Mean	% Diff
11-01-M	NE	1.00	

Metals-02 - Manganese - S1= 0.00 S2= 0.00

Lab	Result	Mean	% Diff
11-01-M	NE	1.00 	

Metals-02 - Mercury - S1= 0.00 S2= 0.00

Lab	Result	Mean	% Diff
11-01-M	NE	1.00 	

Metals-02 - Nickel - S1= 0.00 S2= 0.00

Lab	Result	Mean	% Diff
11-01-M	NE	1.00 	

PTNATTS PE Report

12/20/2004



Study: 0401-M Close Date: 12/10/2004 Lab Code: 04-02-M

This evaluation report is being submitted for:

Chesterfield, SC
Attention: Scott Reynolds
SC Dept of HEC, Div. of AQ Analysis
8231 Parklane Road
Columbia, SC, 29223

803-896-0902

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Metals-01 - Metal Compounds - Chesterfield, SC - 0401-M

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
201 Arsenic	ICP/MS	JCD	ug/filter	15.2	18.0	-15.4	20 14.4 to 21.6	25 13.5 to 22.5	
202 Beryllium	ICP/MS	JCD	ug/filter	7.6	8.58	-11.4	20 6.86 to 10.3	25 6.44 to 10.7	
203 Cadmium	ICP/MS	JCD	ug/filter	11.0	11.1	-0.5	20 8.84 to 13.3	25 8.29 to 13.8	
204 Chromium	ICP/MS	JCD	ug/filter	30.8	29.0	6.2	20 23.2 to 34.8	25 21.8 to 36.3	
205 Lead	ICP/MS	JCD	ug/filter	10.7	10.1	6.5	20 8.04 to 12.1	25 7.54 to 12.6	
206 Manganese	ICP/MS	JCD	ug/filter	11.4	10.3	11.1	20 8.21 to 12.3	25 7.70 to 12.8	
207 Mercury	ICP/MS	JCD	ug/filter	0.02	0.00	0.0	20 0.00 to 0.00	25 0.00 to 0.00	NO EVAL.
208 Nickel	ICP/MS	JCD	ug/filter	10.1	9.75	3.6	20 7.80 to 11.7	25 7.31 to 12.2	

PTNATTS PE Report

12/20/2004



Study: 0401-M Close Date: 12/10/2004 Lab Code: 04-03-M

This evaluation report is being submitted for:

Hazard, KY
Attention: Michael Goss
Div of Environmental Services
100 Sower Blvd. Suite 104
Frankfort, KY, 40601-8272

502-573-3382

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Metals-01 - Metal Compounds - Hazard, KY - 0401-M

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
201 Arsenic	IO-305	S.masters	ug/filter	35.2	18.0	95.9	20 14.4 to 21.6	25 13.5 to 22.5	> 25%
202 Beryllium	IO-305	S.masters	ug/filter	12.2	8.58	42.2	20 6.86 to 10.3	25 6.44 to 10.7	> 25%
203 Cadmium	IO-305	S.masters	ug/filter	11.8	11.1	6.8	20 8.84 to 13.3	25 8.29 to 13.8	
204 Chromium	IO-305	S.masters	ug/filter	47.8	29.0	64.8	20 23.2 to 34.8	25 21.8 to 36.3	> 25%
205 Lead	IO-305	S.masters	ug/filter	11.6	10.1	15.4	20 8.04 to 12.1	25 7.54 to 12.6	
206 Manganese	IO-305	S.masters	ug/filter	12.4	10.3	20.9	20 8.21 to 12.3	25 7.70 to 12.8	WARNING
207 Mercury				NR	0.00		0.00 to 0.00	0.00 to 0.00	
208 Nickel	IO-305	S.masters	ug/filter	11.5	9.75	17.9	20 7.80 to 11.7	25 7.31 to 12.2	

PTNATTS PE Report

12/20/2004



Study: 0401-M Close Date: 12/10/2004 Lab Code: 04-04-M

This evaluation report is being submitted for:

Atlanta, GA
Attention: Susan Zimmer-Dauphinee
GA DNR EPD Laboratory
455 14th Street
Atlanta, GA, 30318

404-363-7004

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Metals-01 - Metal Compounds - Atlanta, GA - 0401-M

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
201 Arsenic	IO 3.5	NT	ug/filter	19.1	18.0	6.3	20 14.4 to 21.6	25 13.5 to 22.5	
202 Beryllium	IO 3.5	NT	ug/filter	12.1	8.58	41.0	20 6.86 to 10.3	25 6.44 to 10.7	> 25%
203 Cadmium	IO 3.5	NT	ug/filter	11.7	11.1	5.9	20 8.84 to 13.3	25 8.29 to 13.8	
204 Chromium	IO 3.5	NT	ug/filter	35.3	29.0	21.7	20 23.2 to 34.8	25 21.8 to 36.3	WARNING
205 Lead	IO 3.5	NT	ug/filter	9.12	10.1	-9.3	20 8.04 to 12.1	25 7.54 to 12.6	
206 Manganese	IO 3.5	NT	ug/filter	9.83	10.3	-4.2	20 8.21 to 12.3	25 7.70 to 12.8	
207 Mercury				NR	0.00		0.00 to 0.00	0.00 to 0.00	
208 Nickel	IO 3.5	NT	ug/filter	11.2	9.75	14.9	20 7.80 to 11.7	25 7.31 to 12.2	

PTNATTS PE Report

12/20/2004



Study: 0401-M Close Date: 12/10/2004 Lab Code: 05-01-M

This evaluation report is being submitted for:

Detroit, MI
Attention: Mary Ann Heindorf
DEQ Lab
3350 N MLK Bldg.44 3rd Floor
Lansing, MI, 48906

517-373-2151

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Metals-01 - Metal Compounds - Detroit, MI - 0401-M

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
201 Arsenic	200.8	KS	ug/filter	13.5	18.0	-24.9	20 14.4 to 21.6	25 13.5 to 22.5	WARNING
202 Beryllium	200.7	MJ	ug/filter	5.75	8.58	-33.0	20 6.86 to 10.3	25 6.44 to 10.7	< 25%
203 Cadmium	200.8	KS	ug/filter	8.42	11.1	-23.8	20 8.84 to 13.3	25 8.29 to 13.8	WARNING
204 Chromium	2008	KS	ug/filter	23.6	29.0	-18.6	20 23.2 to 34.8	25 21.8 to 36.3	
205 Lead	200.8	KS	ug/filter	8.25	10.1	-17.9	20 8.04 to 12.1	25 7.54 to 12.6	
206 Manganese	200.7	MJ	ug/filter	8.64	10.3	-15.8	20 8.21 to 12.3	25 7.70 to 12.8	
207 Mercury				NR	0.00		0.00 to 0.00	0.00 to 0.00	
208 Nickel	200.8	KS	ug/filter	8.14	9.75	-16.5	20 7.80 to 11.7	25 7.31 to 12.2	

PTNATTS PE Report

12/20/2004



Study: 0401-M Close Date: 12/10/2004 Lab Code: 05-03-M

This evaluation report is being submitted for:

Mayville, WI
Attention: Mark Allen
Wisconsin DNR
101 S Wester St
Madison, WI, 53707

608-266-8049

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Metals-01 - Metal Compounds - Mayville, WI - 0401-M

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
201 Arsenic	92	Strauss	ug/filter	18.0	18.0	0.2	20 14.4 to 21.6	25 13.5 to 22.5	
202 Beryllium	92	Strauss	ug/filter	8.4	8.58	-2.1	20 6.86 to 10.3	25 6.44 to 10.7	
203 Cadmium	92	Strauss	ug/filter	11.0	11.1	-0.5	20 8.84 to 13.3	25 8.29 to 13.8	
204 Chromium	92	Strauss	ug/filter	35.0	29.0	20.7	20 23.2 to 34.8	25 21.8 to 36.3	WARNING
205 Lead	92	Strauss	ug/filter	9.436	10.1	-6.1	20 8.04 to 12.1	25 7.54 to 12.6	
206 Manganese	92	Strauss	ug/filter	11.0	10.3	7.2	20 8.21 to 12.3	25 7.70 to 12.8	
207 Mercury				NR	0.00		0.00 to 0.00	0.00 to 0.00	
208 Nickel	92	Strauss	ug/filter	12.0	9.75	23.1	20 7.80 to 11.7	25 7.31 to 12.2	WARNING

PTNATTS PE Report

12/20/2004



Study: 0401-M Close Date: 12/10/2004 Lab Code: 08-02-M

This evaluation report is being submitted for:

Grand Junction
Attention: Gordon Pierce
Co DPHE APCD-TS-B1
4300 Cherry Creek Drive South
Denver, CO, 80246

303-692-3238

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Metals-01 - Metal Compounds - Grand Junction - 0401-M

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
201 Arsenic	200.8	BC	ug/filter	18.67	18.0	3.9	20 14.4 to 21.6	25 13.5 to 22.5	
202 Beryllium	200.8	BC	ug/filter	8.31	8.58	-3.1	20 6.86 to 10.3	25 6.44 to 10.7	
203 Cadmium	200.8	BC	ug/filter	11.17	11.1	1.1	20 8.84 to 13.3	25 8.29 to 13.8	
204 Chromium	200.8	BC	ug/filter	30.89	29.0	6.5	20 23.2 to 34.8	25 21.8 to 36.3	
205 Lead	200.8	BC	ug/filter	9.97	10.1	-0.8	20 8.04 to 12.1	25 7.54 to 12.6	
206 Manganese	200.8	BC	ug/filter	11.19	10.3	9.1	20 8.21 to 12.3	25 7.70 to 12.8	
207 Mercury				NR	0.00		0.00 to 0.00	0.00 to 0.00	
208 Nickel	200.8	BC	ug/filter	9.97	9.75	2.3	20 7.80 to 11.7	25 7.31 to 12.2	

PTNATTS PE Report

12/20/2004



Study: 0401-M Close Date: 12/10/2004 Lab Code: 11-01-M

This evaluation report is being submitted for:
Roxbury, MA Providence, RI, St Louis, MO Bountiful
Attention: Julie Swift
ERG
900 Perimeter Park
Morrisville, NC, 27560

919-468-7924

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

Metals-01 - Metal Compounds - Roxbury, MA Providence, RI, St Louis, MO Bountiful - 0401-M

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
201 Arsenic	unk	RTI	ug/filter	21.2	23.91	-11.3	20 19.0 to 28.7	25 17.9 to 29.9	
202 Beryllium	unk	RTI	ug/filter	10.3	8.58	20.0	20 6.86 to 10.3	25 6.44 to 10.7	Warning
203 Cadmi	unk	RTI	ug/filter	0.1	0.0	0.0	20	25	No Eval
204 Chromium	unk	RTI	ug/filter	28.14	29.0	-3.0	20 23.2 to 34.8	25 21.8 to 36.3	
205 Lead	unk	RTI	ug/filter	0.1	0.0	0.0	20	25	No Eval.
206 Manganese	unk	RTI	ug/filter	0.1	0.0	0.0	20	25	No Eval.
207 Mercury	unk	RTI	ug/filter	0.0	0.0	0.0	20	25	No Eval.
208 Nickel	unk	RTI	ug/filter	0.1	0.0	0.0	20	25	No Eval.

Appendix D

Study 200401-V (Initially called 0401-V)

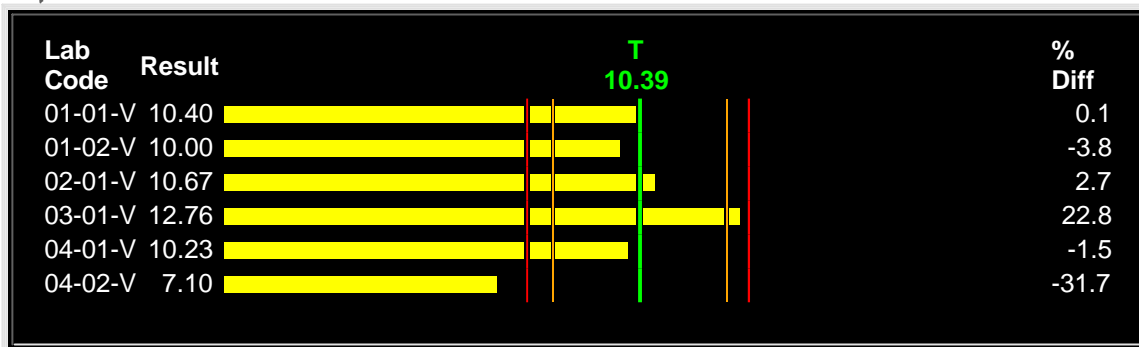
Analyte Results for a Specific Study

11/17/2004

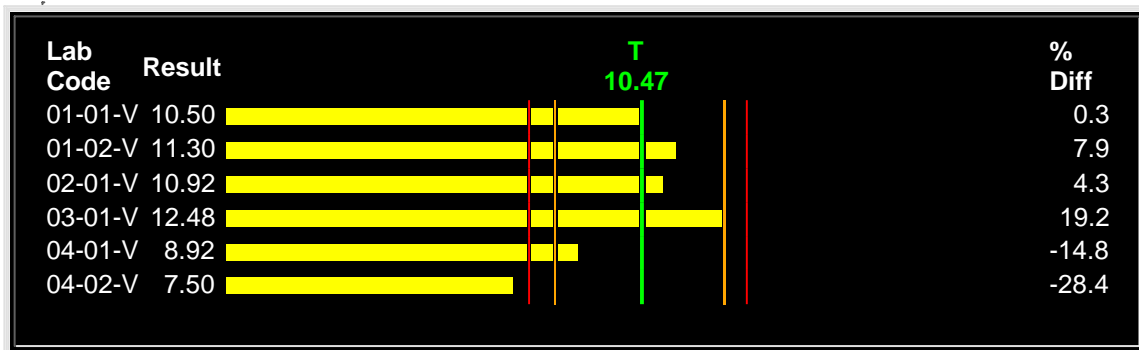


Study Number: 0401-V

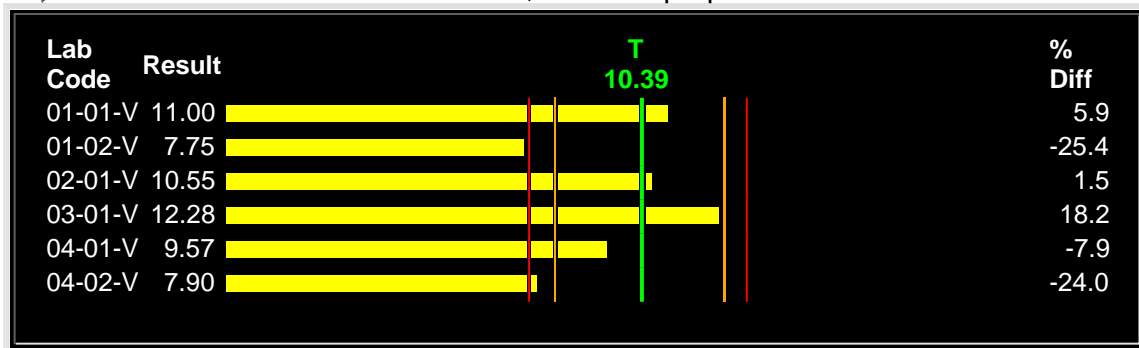
VOC-01 - Benzene



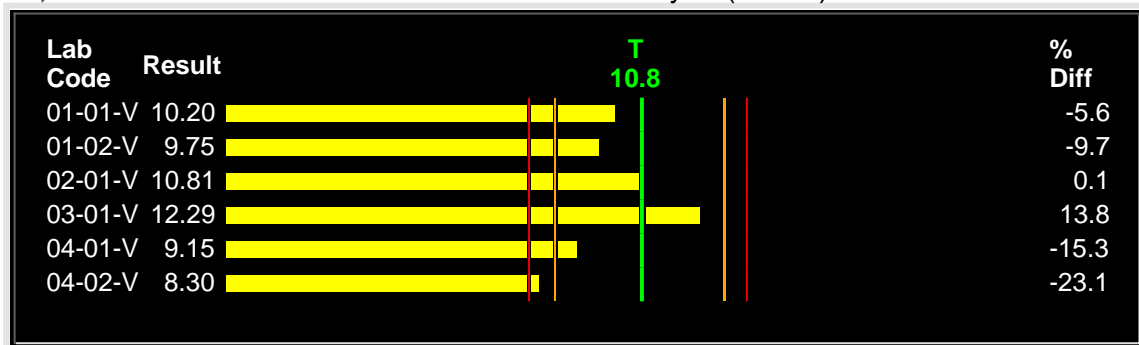
VOC-01 - Chloroform



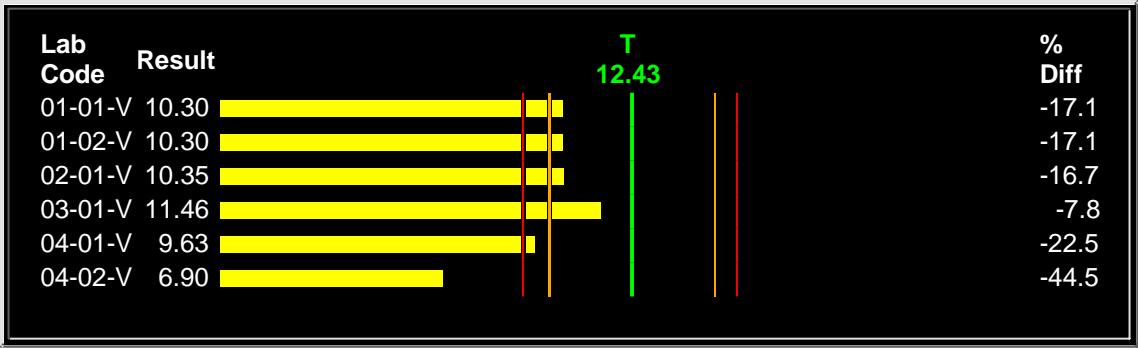
VOC-01 - 1,2 dichloropropane



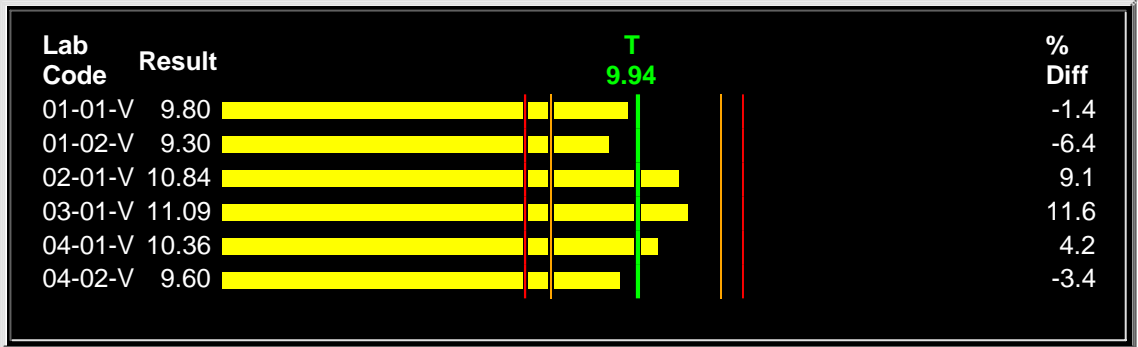
VOC-01 - Tetrachloroethylene (PERC)



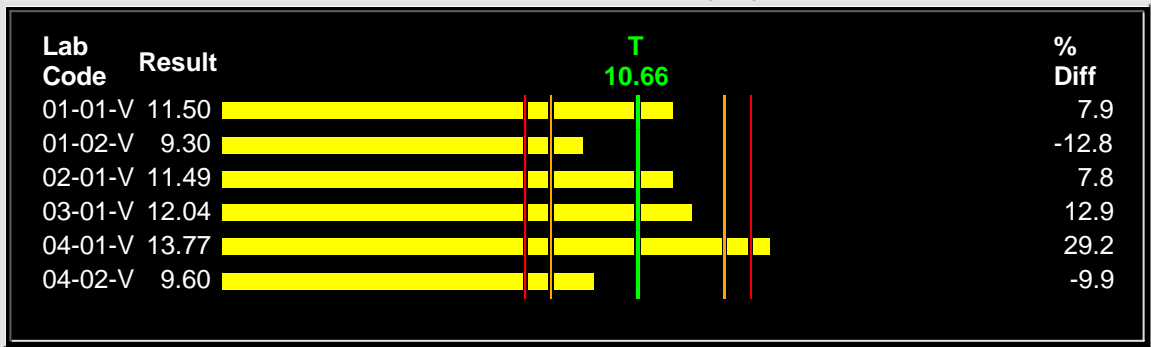
VOC-01 - Vinyl Chloride



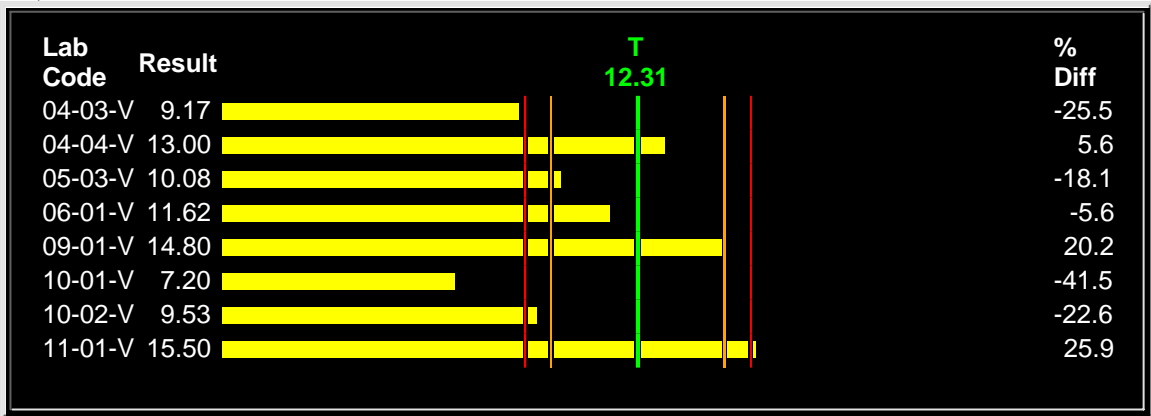
VOC-01 - cis-1,3-Dichloropropene



VOC-01 - Trans-1,3-dichloropropene



VOC-02 - 1,3 butadiene



VOC-02 - Carbon tetrachloride

Lab Code	Result	T 11.8	% Diff
04-03-V	14.00		18.6
04-04-V	13.30		12.7
05-03-V	10.43		-11.6
06-01-V	12.99		10.1
09-01-V	17.90		51.7
10-01-V	16.20		37.3
10-02-V	12.70		7.6
11-01-V	18.00		52.5

VOC-02 - 1,2 dibromoethane

Lab Code	Result	T 11.87	% Diff
04-03-V	13.00		9.5
04-04-V	13.10		10.4
06-01-V	9.73		-18.0
09-01-V	13.60		14.6
10-01-V	16.80		41.5
10-02-V	12.40		4.5
11-01-V	15.50		30.6

VOC-02 - 1,2 dichloroethane

Lab Code	Result	T 12.76	% Diff
04-03-V	12.40		-2.8
04-04-V	11.90		-6.7
05-03-V	9.94		-22.1
06-01-V	9.84		-22.9
09-01-V	13.30		4.2
10-01-V	13.70		7.4
10-02-V	13.70		7.4
11-01-V	18.00		41.1

VOC-02 - Dichloromethane

Lab Code	Result	T 12.9	% Diff
04-03-V	13.20		2.3
04-04-V	12.00		-7.0
05-03-V	10.34		-19.8
06-01-V	9.28		-28.1
09-01-V	13.30		3.1
10-01-V	9.60		-25.6
10-02-V	13.70		6.2
11-01-V	15.10		17.1

VOC-02 - 1,1,2,2 tetrachloroethane

Lab Code	Result	T 12.29	% Diff
04-03-V	15.00		22.1
04-04-V	10.50		-14.6
05-03-V	8.62		-29.9
06-01-V	11.61		-5.5
10-01-V	15.30		24.5
10-02-V	11.00		-10.5
11-01-V	15.70		27.7

VOC-02 - trichloroethylene

Lab Code	Result	T 12.33	% Diff
04-03-V	11.30		-8.4
04-04-V	13.10		6.2
05-03-V	9.89		-19.8
06-01-V	10.02		-18.7
09-01-V	13.60		10.3
10-01-V	11.60		-5.9
10-02-V	12.00		-2.7
11-01-V	14.80		20.0

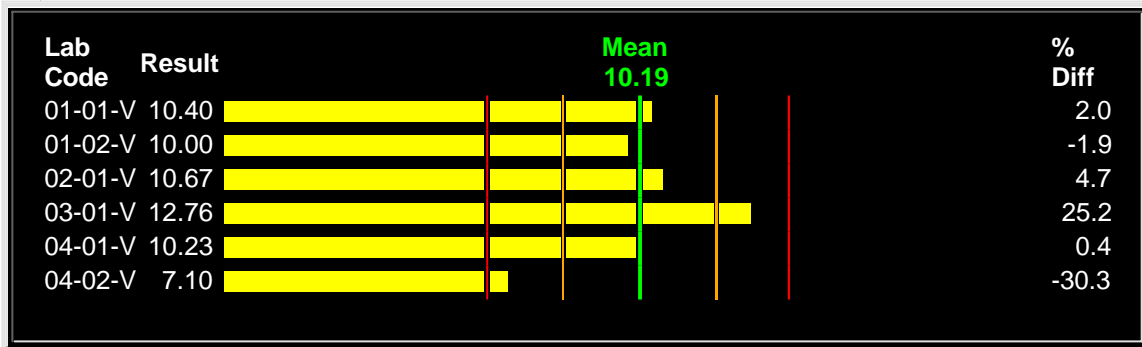
Analyte Results Versus the Study Mean

11/17/2004

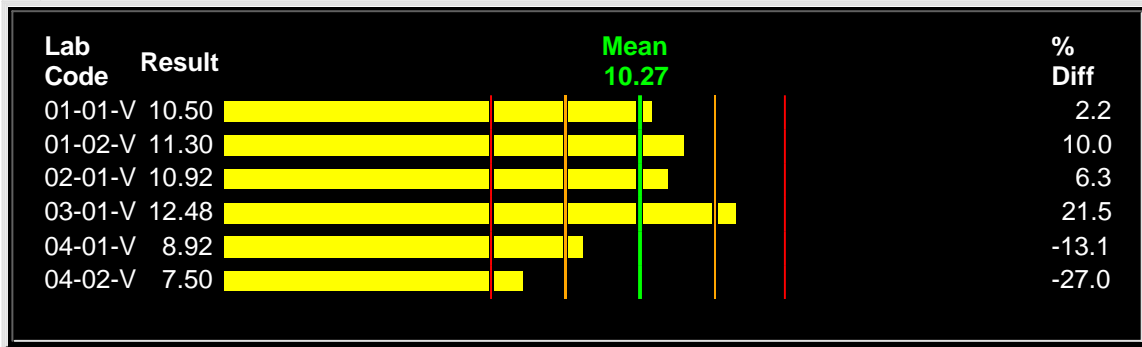


Study Number: 0401-V

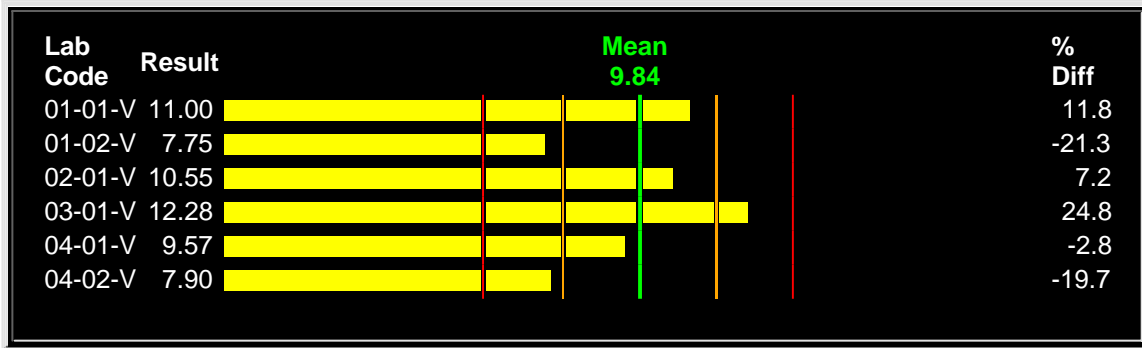
VOC-01 - Benzene
 T=10.39 S1= 1.81 S2= 3.63



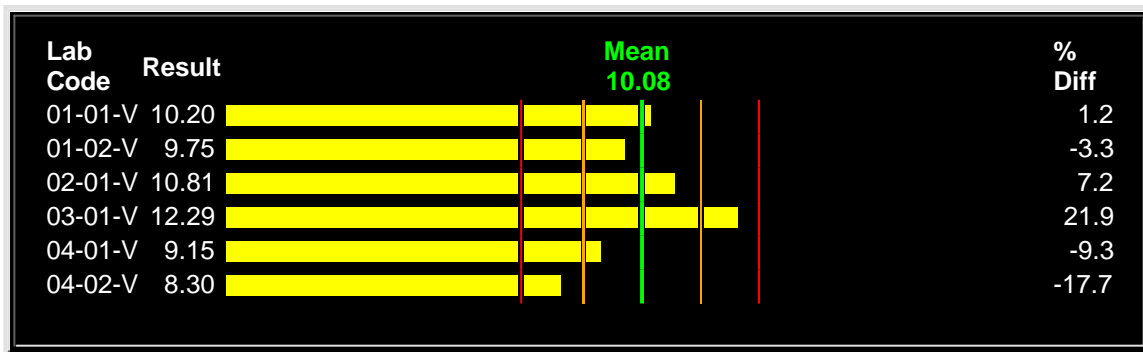
VOC-01 - Chloroform
 T=10.47 S1= 1.78 S2= 3.57



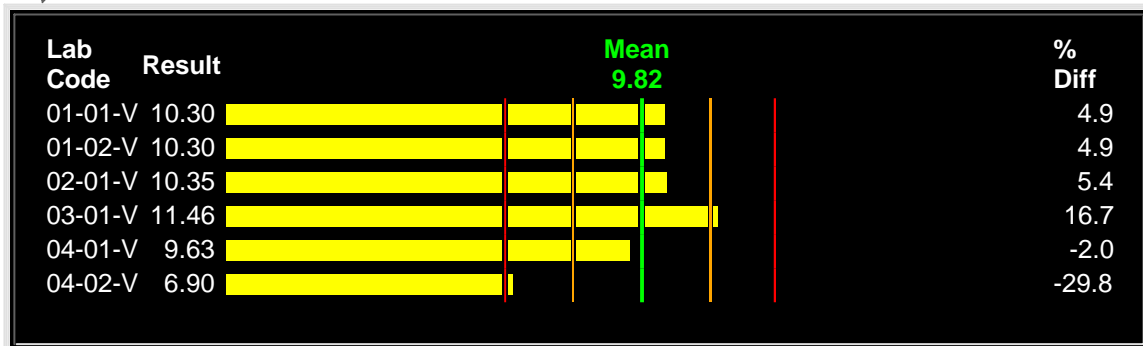
VOC-01 - 1,2 dichloropropane
 T=10.39 S1= 1.79 S2= 3.58



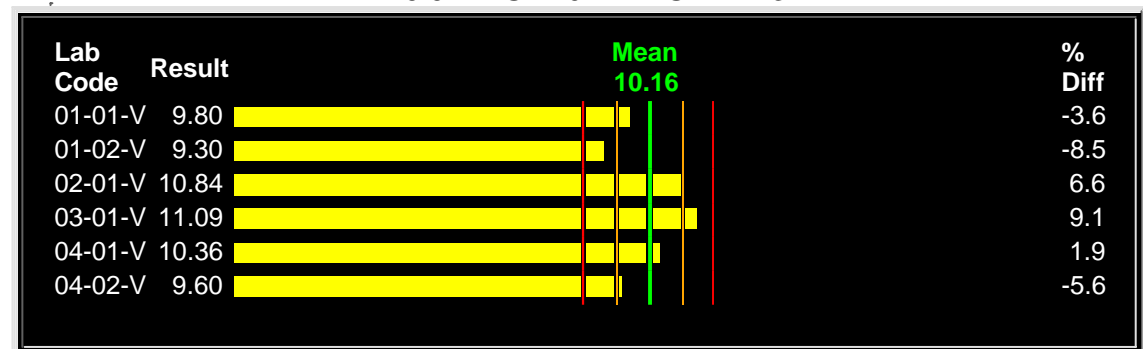
VOC-01 - Tetrachloroethylene (PERC)
 T=10.8 S1= 1.38 S2= 2.77



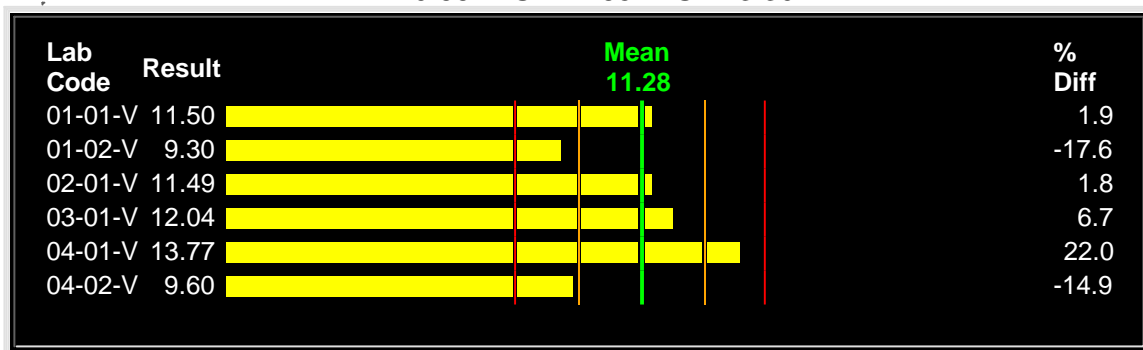
VOC-01 - Vinyl Chloride
 T=12.43 S1= 1.55 S2= 3.10



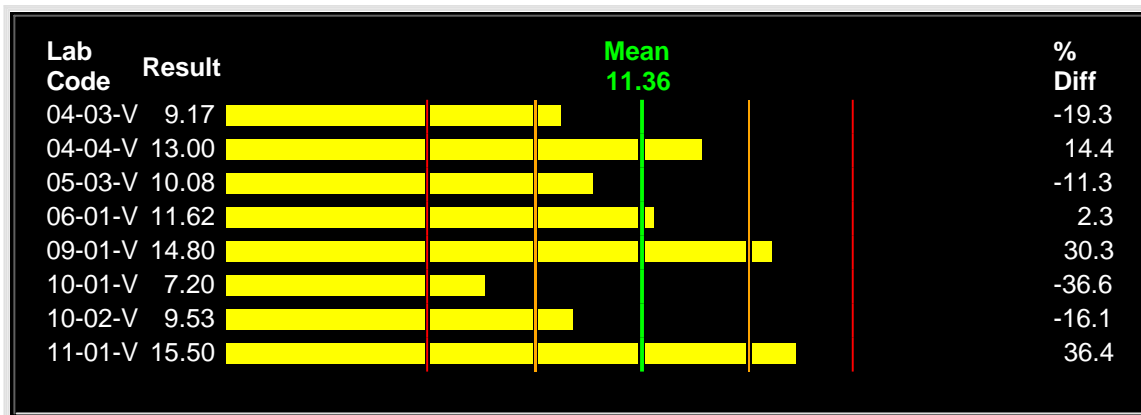
VOC-01 - cis-1,3-Dichloropropene
 T=9.94 S1= 0.71 S2= 1.43



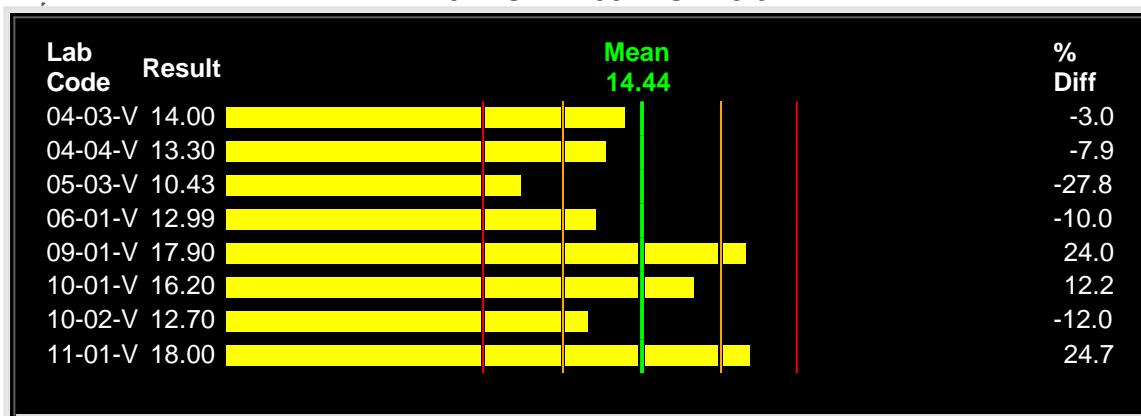
VOC-01 - Trans-1,3-dichloropropene
 T=10.66 S1= 1.65 S2= 3.30



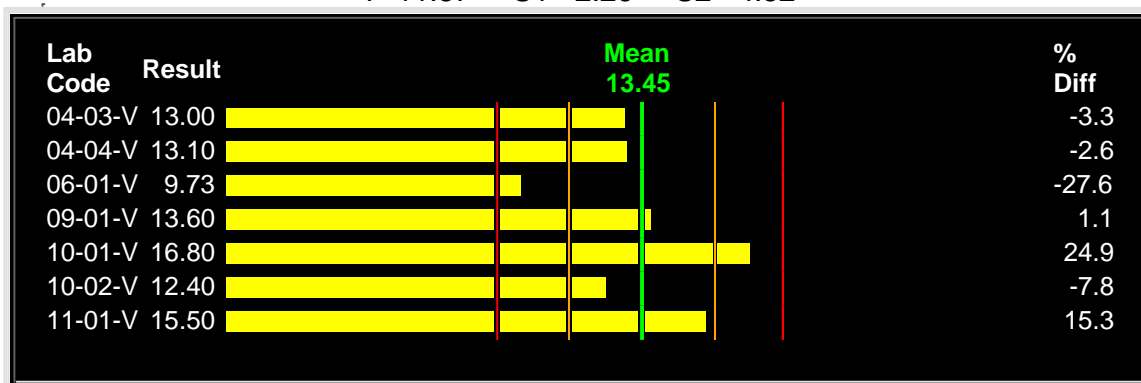
VOC-02 - 1,3 butadiene
 T=12.31 S1= 2.90 S2= 5.80



VOC-02 - Carbon tetrachloride
 T=11.8 S1= 2.68 S2= 5.37



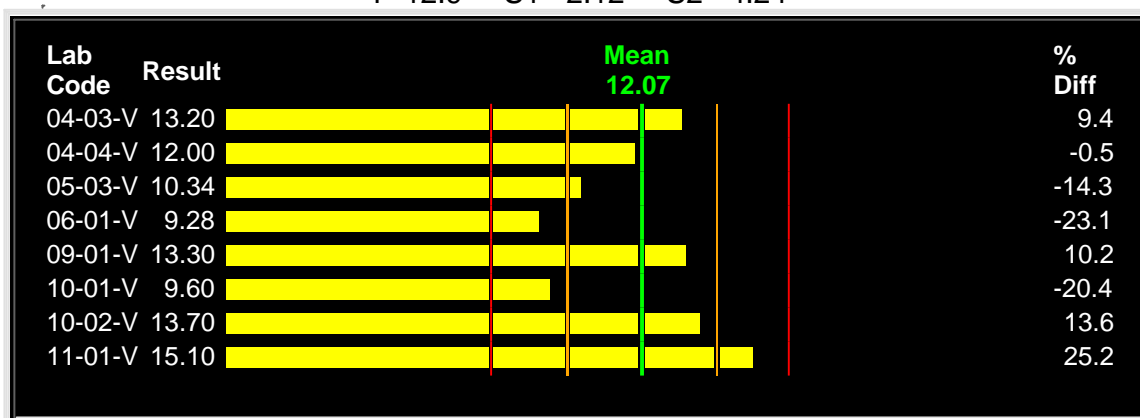
VOC-02 - 1,2 dibromoethane
 T=11.87 S1= 2.26 S2= 4.52



VOC-02 - 1,2 dichloroethane
 T=12.76 S1= 2.59 S2= 5.17



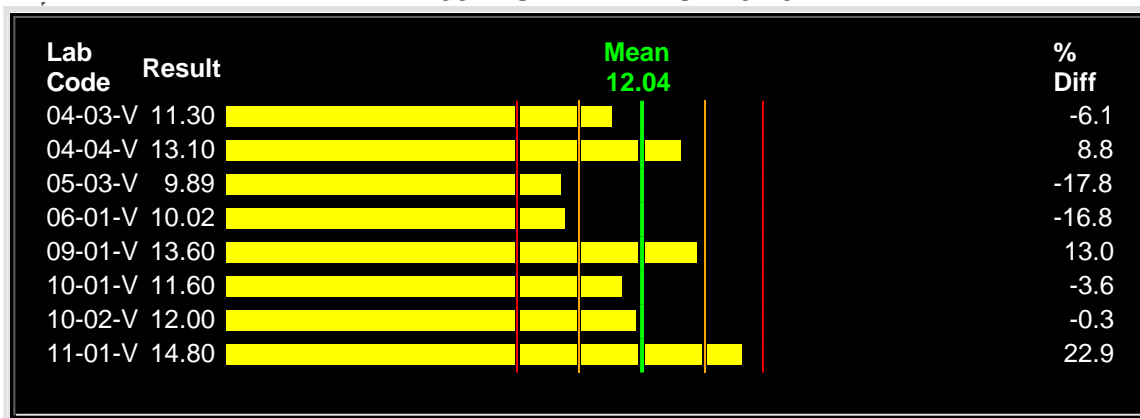
VOC-02 - Dichloromethane
 T=12.9 S1= 2.12 S2= 4.24



VOC-02 - 1,1,2,2 tetrachloroethane
 T=12.29 S1= 2.78 S2= 5.56



VOC-02 - trichloroethylene
 T=12.33 S1= 1.72 S2= 3.43



PTNATTS PE Report

11/17/2004



Study: 0401-V Close Date: 10/10/2004 Lab Code: 01-01-V

This evaluation report is being submitted for:

Providence, RI
Attention: Barbara Morin
RI Dept. of Health Lab.
50 Orms Street
Providence, RI, 02904

401-222-2808

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Providence, RI - 0401-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/--% Range	Accept Limits +/--% Range	Evaluation
1 Benzene	Unk.	R.Heaton	ppbv	10.4	10.4	0.1	20 8.31 to 12.5	25 7.79 to 13.0	
2 1,3 butadiene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
3 Carbon tetrachloride				NR	0.00		0.00 to 0.00	0.00 to 0.00	
4 Chloroform	Unk.	R.Heaton	ppbv	10.5	10.5	0.3	20 8.38 to 12.6	25 7.85 to 13.1	
5 1,2 dibromoethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
6 hexachlorobenzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
8 1,2 dichloropropane	Unk.	R.Heaton	ppbv	11.0	10.4	5.9	20 8.31 to 12.5	25 7.79 to 13.0	
9 1,2 dichloroethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
10 ethylene oxide				NR	0.00		0.00 to 0.00	0.00 to 0.00	
11 Dichloromethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
12 1,1,2,2 tetrachloroethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
13 Tetrachloroethelyne (PERC)	Unk.	R.Heaton	ppbv	10.2	10.8	-5.6	20 8.64 to 13.0	25 8.10 to 13.5	
14 trichloroethylene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
15 Vinyl Chloride	Unk.	R.Heaton	ppbv	10.3	12.4	-17.1	20 9.94 to 14.9	25 9.32 to 15.5	
16 cis-1,3-Dichloropropene	Unk.	R.Heaton	ppbv	9.8	9.94	-1.4	20 7.95 to 11.9	25 7.46 to 12.4	
17 Trans-1,3-dichloropropene	Unk.	R.Heaton	ppbv	11.5	10.7	7.9	20 8.53 to 12.8	25 8.00 to 13.3	

PTNATTS PE Report

11/17/2004



Study: 0401-V Close Date: 10/10/2004 Lab Code: 01-02-V

This evaluation report is being submitted for:

Chittenden, VT
Attention: George Apgar
Vermont DEC Environmental Lab
103 South Main Street
Waterbury, VT, 05671-0409

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Chittenden, VT - 0401-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
1 Benzene	Unk	S.Lewis	ppbv	10.0	10.4	-3.8	20 8.31 to 12.5	25 7.79 to 13.0	
2 1,3 butadiene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
3 Carbon tetrachloride				NR	0.00		0.00 to 0.00	0.00 to 0.00	
4 Chloroform	Unk	S.Lewis	ppbv	11.3	10.5	7.9	20 8.38 to 12.6	25 7.85 to 13.1	
5 1,2 dibromoethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
6 hexachlorobenzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
8 1,2 dichloropropane	Unk	S.Lewis	ppbv	7.75	10.4	-25.4	20 8.31 to 12.5	25 7.79 to 13.0	< 25%
9 1,2 dichloroethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
10 ethylene oxide				NR	0.00		0.00 to 0.00	0.00 to 0.00	
11 Dichloromethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
12 1,1,1,2 tetrachloroethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
13 Tetrachloroethelyne (PERC)	Unk	S.Lewis	ppbv	9.75	10.8	-9.7	20 8.64 to 13.0	25 8.10 to 13.5	
14 trichloroethylene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
15 Vinyl Chloride	Unk	S.Lewis	ppbv	10.3	12.4	-17.1	20 9.94 to 14.9	25 9.32 to 15.5	
16 cis-1,3-Dichloropropene	Unk	S.Lewis	ppbv	9.3	9.94	-6.4	20 7.95 to 11.9	25 7.46 to 12.4	
17 Trans-1,3-dichloropropene	Unk	S.Lewis	ppbv	9.3	10.7	-12.8	20 8.53 to 12.8	25 8.00 to 13.3	

PTNATTS PE Report

11/17/2004



Study: 0401-V Close Date: 10/10/2004 Lab Code: 02-01-V

This evaluation report is being submitted for:

Rochester and Queens
Attention: Gary Boynton
SUNY E. Campus, D Wing, Rm 112
One University Place
Rensselaer, NY, 12144

518-525-2733

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Rochester and Queens - 0401-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
1 Benzene	Unk	J.Perry	ppbv	10.67	10.4	2.7	20 8.31 to 12.5	25 7.79 to 13.0	
2 1,3 butadiene	Unk	J.Perry	ppbv	0.0	0.00	0.0	20 0.00 to 0.00	25 0.00 to 0.00	NO EVAL.
3 Carbon tetrachloride	Unk	J.Perry	ppbv	0.02	0.00	0.0	20 0.00 to 0.00	25 0.00 to 0.00	NO EVAL.
4 Chloroform	Unk	J.Perry	ppbv	10.92	10.5	4.3	20 8.38 to 12.6	25 7.85 to 13.1	
5 1,2 dibromoethane	Unk	J.Perry	ppbv	0.02	0.00	0.0	20 0.00 to 0.00	25 0.00 to 0.00	NO EVAL.
6 hexachlorobenzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
8 1,2 dichloropropane	Unk	J.Perry	ppbv	10.55	10.4	1.5	20 8.31 to 12.5	25 7.79 to 13.0	
9 1,2 dichloroethane	Unk	J.Perry	ppbv	0.03	0.00	0.0	20 0.00 to 0.00	25 0.00 to 0.00	NO EVAL.
10 ethylene oxide				NR	0.00		0.00 to 0.00	0.00 to 0.00	
11 Dichloromethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
12 1,1,2,2 tetrachloroethane	Unk	J.Perry	ppbv	0.02	0.00	0.0	20 0.00 to 0.00	25 0.00 to 0.00	NO EVAL.
13 Tetrachloroethelyne (PERC)	Unk	J.Perry	ppbv	10.81	10.8	0.1	20 8.64 to 13.0	25 8.10 to 13.5	
14 trichloroethylene	Unk	J.Perry	ppbv	0.03	0.00	0.0	20 0.00 to 0.00	25 0.00 to 0.00	NO EVAL.
15 Vinyl Chloride	Unk	J.Perry	ppbv	10.35	12.4	-16.7	20 9.94 to 14.9	25 9.32 to 15.5	
16 cis-1,3-Dichloropropene	Unk	J.Perry	ppbv	10.84	9.94	9.1	20 7.95 to 11.9	25 7.46 to 12.4	
17 Trans-1,3-dichloropropene	Unk	J.Perry	ppbv	11.49	10.7	7.8	20 8.53 to 12.8	25 8.00 to 13.3	

PTNATTS PE Report

11/17/2004



Study: 0401-V Close Date: 10/10/2004 Lab Code: 03-01-V

This evaluation report is being submitted for:

Washington, DC
Attention: Robert Day
MD Dept. of the Environment-ARMA
1800 Washington Blvd. Suite 110
Baltimore, MD, 21230-1721

202-535-2986

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Washington, DC - 0401-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
1 Benzene	Unk	Cooney	ppbv	12.76	10.4	22.8	20 8.31 to 12.5	25 7.79 to 13.0	WARNING
2 1,3 butadiene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
3 Carbon tetrachloride				NR	0.00		0.00 to 0.00	0.00 to 0.00	
4 Chloroform	Unk	Cooney	ppbv	12.48	10.5	19.2	20 8.38 to 12.6	25 7.85 to 13.1	
5 1,2 dibromoethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
6 hexachlorobenzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
8 1,2 dichloropropane	Unk	Cooney	ppbv	12.28	10.4	18.2	20 8.31 to 12.5	25 7.79 to 13.0	
9 1,2 dichloroethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
10 ethylene oxide				NR	0.00		0.00 to 0.00	0.00 to 0.00	
11 Dichloromethane	Unk	Cooney	ppbv	0.13	0.00	0.0	20 0.00 to 0.00	25 0.00 to 0.00	NO EVAL.
12 1,1,2,2 tetrachloroethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
13 Tetrachloroethelyne (PERC)	Unk	Cooney	ppbv	12.29	10.8	13.8	20 8.64 to 13.0	25 8.10 to 13.5	
14 trichloroethylene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
15 Vinyl Chloride	Unk	Cooney	ppbv	11.46	12.4	-7.8	20 9.94 to 14.9	25 9.32 to 15.5	
16 cis-1,3-Dichloropropene	Unk	Cooney	ppbv	11.09	9.94	11.6	20 7.95 to 11.9	25 7.46 to 12.4	
17 Trans-1,3-dichloropropene	Unk	Cooney	ppbv	12.04	10.7	12.9	20 8.53 to 12.8	25 8.00 to 13.3	

PTNATTS PE Report

11/17/2004



Study: 0401-V Close Date: 10/10/2004 Lab Code: 04-01-V

This evaluation report is being submitted for:

Tampa
Attention: Alain Watson
FL DEM AQ
300 S. Garden Avenue
Clearwater, FL, 33756

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Tampa - 0401-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
1 Benzene	Unknown	M.Liadis	ppbv	10.23	10.4	-1.5	20 8.31 to 12.5	25 7.79 to 13.0	
2 1,3 butadiene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
3 Carbon tetrachloride				NR	0.00		0.00 to 0.00	0.00 to 0.00	
4 Chloroform	Unknown	M.Liadis	ppbv	8.92	10.5	-14.8	20 8.38 to 12.6	25 7.85 to 13.1	
5 1,2 dibromoethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
6 hexachlorobenzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
8 1,2 dichloropropane	Unknown	M.Liadis	ppbv	9.57	10.4	-7.9	20 8.31 to 12.5	25 7.79 to 13.0	
9 1,2 dichloroethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
10 ethylene oxide				NR	0.00		0.00 to 0.00	0.00 to 0.00	
11 Dichloromethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
12 1,1,1,2 tetrachloroethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
13 Tetrachloroethylene (PERC)	Unknown	M.Liadis	ppbv	9.15	10.8	-15.3	20 8.64 to 13.0	25 8.10 to 13.5	
14 trichloroethylene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
15 Vinyl Chloride	unknown	M.Liadis	ppbv	9.63	12.4	-22.5	20 9.94 to 14.9	25 9.32 to 15.5	WARNING
16 cis-1,3-Dichloropropene	Unknown	M.Liadis	ppbv	10.36	9.94	4.2	20 7.95 to 11.9	25 7.46 to 12.4	
17 Trans-1,3-dichloropropene	Unknown	M.Liadis	ppbv	13.77	10.7	29.2	20 8.53 to 12.8	25 8.00 to 13.3	> 25%

PTNATTS PE Report

11/17/2004



Study: 0401-V Close Date: 10/10/2004 Lab Code: 04-02-V

This evaluation report is being submitted for:

Chesterfield, SC
Attention: Scott Reynolds
SC Dept of HEC, Div. of AQ Analysis
8231 Parklane Road
Columbia, SC, 29223

803-896-0902

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Chesterfield, SC - 0401-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
1 Benzene	Unk	D.S.B.	ppbv	7.1	10.4	-31.7	20 8.31 to 12.5	25 7.79 to 13.0	< 25%
2 1,3 butadiene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
3 Carbon tetrachloride				NR	0.00		0.00 to 0.00	0.00 to 0.00	
4 Chloroform	Unk	D.S.B.	ppbv	7.5	10.5	-28.4	20 8.38 to 12.6	25 7.85 to 13.1	< 25%
5 1,2 dibromoethane	Unk	D.S.B.	ppbv	0.5	0.00	0.0	20 0.00 to 0.00	25 0.00 to 0.00	NO EVAL.
6 hexachlorobenzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
8 1,2 dichloropropane	Unk	D.S.B.	ppbv	7.9	10.4	-24.0	20 8.31 to 12.5	25 7.79 to 13.0	WARNING
9 1,2 dichloroethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
10 ethylene oxide				NR	0.00		0.00 to 0.00	0.00 to 0.00	
11 Dichloromethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
12 1,1,1,2 tetrachloroethane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
13 Tetrachloroethelyne (PERC)	Unk	D.S.B.	ppbv	8.3	10.8	-23.1	20 8.64 to 13.0	25 8.10 to 13.5	WARNING
14 trichloroethylene	Unk	D.S.B.	ppbv	1.0	0.00	0.0	20 0.00 to 0.00	25 0.00 to 0.00	NO EVAL.
15 Vinyl Chloride	Unk	D.S.B.	ppbv	6.9	12.4	-44.5	20 9.94 to 14.9	25 9.32 to 15.5	< 25%
16 cis-1,3-Dichloropropene	Unk	D.S.B.	ppbv	9.6	9.94	-3.4	20 7.95 to 11.9	25 7.46 to 12.4	
17 Trans-1,3-dichloropropene	Unk	D.S.B.	ppbv	9.6	10.7	-9.9	20 8.53 to 12.8	25 8.00 to 13.3	

PTNATTS PE Report

11/17/2004



Study: 0401-V Close Date: 10/10/2004 Lab Code: 04-03-V

This evaluation report is being submitted for:

Hazard, KY
Attention: Larry Garrison
Div of Environmental Services
100 Sower Blvd. Suite 104
Frankfurt, KY, 40601-8272

502-573-3382

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-02 - Volatile Organics - Hazard, KY - 0401-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
1 Benzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
2 1,3 butadiene	Unk	Chen	ppbv	9.17	12.3	-25.5	20 9.85 to 14.8	25 9.23 to 15.4	< 25%
3 Carbon tetrachloride	Unk	Chen	ppbv	14.0	11.8	18.6	20 9.44 to 14.2	25 8.85 to 14.8	
4 Chloroform				NR	0.00		0.00 to 0.00	0.00 to 0.00	
5 1,2 dibromoethane	Unk	Chen	ppbv	13.0	11.9	9.5	20 9.50 to 14.2	25 8.90 to 14.8	
6 hexachlorobenzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
8 1,2 dichloropropane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
9 1,2 dichloroethane	Unk	Chen	ppbv	12.4	12.8	-2.8	20 10.2 to 15.3	25 9.57 to 16.0	
10 ethylene oxide				NR	0.00		0.00 to 0.00	0.00 to 0.00	
11 Dichloromethane	Unk	Chen	ppbv	13.2	12.9	2.3	20 10.3 to 15.5	25 9.68 to 16.1	
12 1,1,2,2 tetrachloroethane	Unk	Chen	ppbv	15.0	12.3	22.1	20 9.83 to 14.7	25 9.22 to 15.4	WARNING
13 Tetrachloroethelyne (PERC)				NR	0.00		0.00 to 0.00	0.00 to 0.00	
14 trichloroethylene	Unk	Chen	ppbv	11.3	12.3	-8.4	20 9.86 to 14.8	25 9.25 to 15.4	
15 Vinyl Chloride				NR	0.00		0.00 to 0.00	0.00 to 0.00	
16 cis-1,3-Dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
17 Trans-1,3-dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00	

PTNATTS PE Report

11/17/2004



Study: 0401-V Close Date: 10/10/2004 Lab Code: 04-04-V

This evaluation report is being submitted for:

Atlanta, GA
Attention: Susan Zimmer-Dauphinee
GA DNR EPD Laboratory
455 14th Street
Atlanta, GA, 30318-7900

404-363-7004

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-02 - Volatile Organics - Atlanta, GA - 0401-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/--% Range	Accept Limits +/--% Range	Evaluation
1 Benzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
2 1,3 butadiene	Unk	Hui Zheng	ppbv	13.0	12.3	5.6	20 9.85 to 14.8	25 9.23 to 15.4	
3 Carbon tetrachloride	Unk	Hui Zheng	ppbv	13.3	11.8	12.7	20 9.44 to 14.2	25 8.85 to 14.8	
4 Chloroform				NR	0.00		0.00 to 0.00	0.00 to 0.00	
5 1,2 dibromoethane	Unk	Hui Zheng	ppbv	13.1	11.9	10.4	20 9.50 to 14.2	25 8.90 to 14.8	
6 hexachlorobenzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
8 1,2 dichloropropane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
9 1,2 dichloroethane	Unk	Hui Zheng	ppbv	11.9	12.8	-6.7	20 10.2 to 15.3	25 9.57 to 16.0	
10 ethylene oxide				NR	0.00		0.00 to 0.00	0.00 to 0.00	
11 Dichloromethane	Unk	Hui Zheng	ppbv	12.0	12.9	-7.0	20 10.3 to 15.5	25 9.68 to 16.1	
12 1,1,2,2 tetrachloroethane	Unk	Hui Zheng	ppbv	10.5	12.3	-14.6	20 9.83 to 14.7	25 9.22 to 15.4	
13 Tetrachloroethelyne (PERC)				NR	0.00		0.00 to 0.00	0.00 to 0.00	
14 trichloroethylene	Unk	Hui Zheng	ppbv	13.1	12.3	6.2	20 9.86 to 14.8	25 9.25 to 15.4	
15 Vinyl Chloride				NR	0.00		0.00 to 0.00	0.00 to 0.00	
16 cis-1,3-Dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
17 Trans-1,3-dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00	

PTNATTS PE Report

11/17/2004



Study: 0401-V Close Date: 10/10/2004 Lab Code: 05-03-V

This evaluation report is being submitted for:

Mayville, WI
Attention: Mark Allen
Wisconsin DNR
101 S Webster St
Madison, WI, 53707

608-266-8049

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-02 - Volatile Organics - Mayville, WI - 0401-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
1 Benzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
2 1,3 butadiene	Unk	M.Allen	ppbv	10.08	12.3	-18.1	20 9.85 to 14.8	25 9.23 to 15.4	
3 Carbon tetrachloride	Unk	M.Allen	ppbv	10.43	11.8	-11.6	20 9.44 to 14.2	25 8.85 to 14.8	
4 Chloroform				NR	0.00		0.00 to 0.00	0.00 to 0.00	
5 1,2 dibromoethane				NR	11.9		9.50 to 14.2	8.90 to 14.8	
6 hexachlorobenzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
8 1,2 dichloropropane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
9 1,2 dichloroethane	Unk	M.Allen	ppbv	9.94	12.8	-22.1	20 10.2 to 15.3	25 9.57 to 16.0	WARNING
10 ethylene oxide				NR	0.00		0.00 to 0.00	0.00 to 0.00	
11 Dichloromethane	Unk	M.Allen	ppbv	10.34	12.9	-19.8	20 10.3 to 15.5	25 9.68 to 16.1	
12 1,1,1,2 tetrachloroethane	Unk	M.Allen	ppbv	8.62	12.3	-29.9	20 9.83 to 14.7	25 9.22 to 15.4	< 25%
13 Tetrachloroethylene (PERC)				NR	0.00		0.00 to 0.00	0.00 to 0.00	
14 trichloroethylene	Unk	M.Allen	ppbv	9.89	12.3	-19.8	20 9.86 to 14.8	25 9.25 to 15.4	
15 Vinyl Chloride				NR	0.00		0.00 to 0.00	0.00 to 0.00	
16 cis-1,3-Dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
17 Trans-1,3-dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00	

PTNATTS PE Report

11/17/2004



Study: 0401-V Close Date: 10/10/2004 Lab Code: 06-01-V

This evaluation report is being submitted for:

Huston & Harrison TX
Attention: David Brymer
Texas CEQ
12124 Park 35 Circle, MC 165 Bldg B
Austin, TX, 78753

512-239-1725

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-02 - Volatile Organics - Houston & Harrison TX - 0401-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
1 Benzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
2 1,3 butadiene	Unk	Li-Patel	ppbv	11.62	12.3	-5.6	20 9.85 to 14.8	25 9.23 to 15.4	
3 Carbon tetrachloride	Unk	Li-Patel	ppbv	12.99	11.8	10.1	20 9.44 to 14.2	25 8.85 to 14.8	
4 Chloroform				NR	0.00		0.00 to 0.00	0.00 to 0.00	
5 1,2 dibromoethane	Unk	Li-Patel	ppbv	9.73	11.9	-18.0	20 9.50 to 14.2	25 8.90 to 14.8	
6 hexachlorobenzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
8 1,2 dichloropropane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
9 1,2 dichloroethane	Unk	Li-Patel	ppbv	9.84	12.8	-22.9	20 10.2 to 15.3	25 9.57 to 16.0	WARNING
10 ethylene oxide				NR	0.00		0.00 to 0.00	0.00 to 0.00	
11 Dichloromethane	Unk	Li-Patel	ppbv	9.28	12.9	-28.1	20 10.3 to 15.5	25 9.68 to 16.1	< 25%
12 1,1,1,2 tetrachloroethane	Unk	Li-Patel	ppbv	11.61	12.3	-5.5	20 9.83 to 14.7	25 9.22 to 15.4	
13 Tetrachloroethelyne (PERC)				NR	0.00		0.00 to 0.00	0.00 to 0.00	
14 trichloroethylene	Unk	Li-Patel	ppbv	10.02	12.3	-18.7	20 9.86 to 14.8	25 9.25 to 15.4	
15 Vinyl Chloride				NR	0.00		0.00 to 0.00	0.00 to 0.00	
16 cis-1,3-Dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
17 Trans-1,3-dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00	

PTNATTS PE Report

11/17/2004



Study: 0401-V Close Date: 10/10/2004 Lab Code: 09-01-V

This evaluation report is being submitted for:

San Jose, CA
Attention: Eric Stevenson
CA Air Resources Board,
1927 13th Street
Sacramento, CA, 95814

415-749-4695

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-02 - Volatile Organics - San Jose, CA - 0401-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
1 Benzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
2 1,3 butadiene	Unk	Poore	ppbv	14.8	12.3	20.2	20 9.85 to 14.8	25 9.23 to 15.4	
3 Carbon tetrachloride	Unk	Poore	ppbv	17.9	11.8	51.7	20 9.44 to 14.2	25 8.85 to 14.8	> 25%
4 Chloroform				NR	0.00		0.00 to 0.00	0.00 to 0.00	
5 1,2 dibromoethane	Unk	Poore	ppbv	13.6	11.9	14.6	20 9.50 to 14.2	25 8.90 to 14.8	
6 hexachlorobenzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
8 1,2 dichloropropane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
9 1,2 dichloroethane	Unk	Poore	ppbv	13.3	12.8	4.2	20 10.2 to 15.3	25 9.57 to 16.0	
10 ethylene oxide				NR	0.00		0.00 to 0.00	0.00 to 0.00	
11 Dichloromethane	Unk	Poore	ppbv	13.3	12.9	3.1	20 10.3 to 15.5	25 9.68 to 16.1	
12 1,1,2,2 tetrachloroethane				NR	12.3		9.83 to 14.7	9.22 to 15.4	
13 Tetrachloroethelyne (PERC)				NR	0.00		0.00 to 0.00	0.00 to 0.00	
14 trichloroethylene	Unk	Poore	ppbv	13.6	12.3	10.3	20 9.86 to 14.8	25 9.25 to 15.4	
15 Vinyl Chloride				NR	0.00		0.00 to 0.00	0.00 to 0.00	
16 cis-1,3-Dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
17 Trans-1,3-dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00	

PTNATTS PE Report

11/17/2004



Study: 0401-V Close Date: 10/10/2004 Lab Code: 10-01-V

This evaluation report is being submitted for:

Seattle, Wa
Attention: Dr. Hal Westberg
CEE Department Sloan Hall, Room 101
Washington State University
Pullman, WA, 99164-2910

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-02 - Volatile Organics - Seattle, Wa - 0401-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/--% Range	Accept Limits +/--% Range	Evaluation
1 Benzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
2 1,3 butadiene	Unk	Westberg	ppbv	7.2	12.3	-41.5	20 9.85 to 14.8	25 9.23 to 15.4	< 25%
3 Carbon tetrachloride	Unk	Westberg	ppbv	16.2	11.8	37.3	20 9.44 to 14.2	25 8.85 to 14.8	> 25%
4 Chloroform				NR	0.00		0.00 to 0.00	0.00 to 0.00	
5 1,2 dibromoethane	Unk	Westberg	ppbv	16.8	11.9	41.5	20 9.50 to 14.2	25 8.90 to 14.8	> 25%
6 hexachlorobenzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
8 1,2 dichloropropane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
9 1,2 dichloroethane	Unk	Westberg	ppbv	13.7	12.8	7.4	20 10.2 to 15.3	25 9.57 to 16.0	
10 ethylene oxide				NR	0.00		0.00 to 0.00	0.00 to 0.00	
11 Dichloromethane	Unk	Westberg	ppbv	9.6	12.9	-25.6	20 10.3 to 15.5	25 9.68 to 16.1	< 25%
12 1,1,2,2 tetrachloroethane	Unk	Westberg	ppbv	15.3	12.3	24.5	20 9.83 to 14.7	25 9.22 to 15.4	WARNING
13 Tetrachloroethylene (PERC)	Unk	Westberg	ppbv	0.1	0.00	0.0	20 0.00 to 0.00	25 0.00 to 0.00	NO EVAL.
14 trichloroethylene	Unk	Westberg	ppbv	11.6	12.3	-5.9	20 9.86 to 14.8	25 9.25 to 15.4	
15 Vinyl Chloride				NR	0.00		0.00 to 0.00	0.00 to 0.00	
16 cis-1,3-Dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
17 Trans-1,3-dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00	

PTNATTS PE Report

11/17/2004



Study: 0401-V Close Date: 10/10/2004 Lab Code: 10-02-V

This evaluation report is being submitted for:

La Grande, OR
Attention: Gregg Lande
Oregon DEQ Lab
1927 13th Street
Portland, OR, 97201

503-229-6411

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-02 - Volatile Organics - La Grande, OR - 0401-V

Analyte	Method		Units	Reported Value	Assigned Value	% Diff	Warn Limits		Accept Limits		Evaluation
	Description	Analyst					+/-%	Range	+/-%	Range	
1 Benzene				NR	0.00		0.00 to 0.00	0.00 to 0.00			
2 1,3 butadiene	Unk	Schoenlaub	ppbv	9.53	12.3	-22.6	20 9.85 to 14.8	25 9.23 to 15.4	WARNING		
3 Carbon tetrachloride	Unk	Schoenlaub	ppbv	12.7	11.8	7.6	20 9.44 to 14.2	25 8.85 to 14.8			
4 Chloroform				NR	0.00		0.00 to 0.00	0.00 to 0.00			
5 1,2 dibromoethane	Unk	Schoenlaub	ppbv	12.4	11.9	4.5	20 9.50 to 14.2	25 8.90 to 14.8			
6 hexachlorobenzene				NR	0.00		0.00 to 0.00	0.00 to 0.00			
8 1,2 dichloropropane				NR	0.00		0.00 to 0.00	0.00 to 0.00			
9 1,2 dichloroethane	Unk	Schoenlaub	ppbv	13.7	12.8	7.4	20 10.2 to 15.3	25 9.57 to 16.0			
10 ethylene oxide				NR	0.00		0.00 to 0.00	0.00 to 0.00			
11 Dichloromethane	Unk	Schoenlaub	ppbv	13.7	12.9	6.2	20 10.3 to 15.5	25 9.68 to 16.1			
12 1,1,2,2 tetrachloroethane	Unk	Schoenlaub	ppbv	11.0	12.3	-10.5	20 9.83 to 14.7	25 9.22 to 15.4			
13 Tetrachloroethelyne (PERC)				NR	0.00		0.00 to 0.00	0.00 to 0.00			
14 trichloroethylene	Unk	Schoenlaub	ppbv	12.0	12.3	-2.7	20 9.86 to 14.8	25 9.25 to 15.4			
15 Vinyl Chloride				NR	0.00		0.00 to 0.00	0.00 to 0.00			
16 cis-1,3-Dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00			
17 Trans-1,3-dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00			

PTNATTS PE Report

11/17/2004



Study: 0401-V Close Date: 10/10/2004 Lab Code: 11-01-V

This evaluation report is being submitted for:
Chicago, St. Louis, Bountiful, Gr Junction, Phoeni
Attention: Julie Swift
900 Perimeter Park
Morrisville, NC, 27560

919-468-7924

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
(919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-02 - Volatile Organics - Chicago, St. Louis, Bountiful, Gr Junction, Phoeni - 0401-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
1 Benzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
2 1,3 butadiene	Unk	M.Fort	ppbv	15.5	12.3	25.9	20 9.85 to 14.8	25 9.23 to 15.4	> 25%
3 Carbon tetrachloride	Unk	M.Fort	ppbv	18.0	11.8	52.5	20 9.44 to 14.2	25 8.85 to 14.8	> 25%
4 Chloroform				NR	0.00		0.00 to 0.00	0.00 to 0.00	
5 1,2 dibromoethane	Unk	M.Fort	ppbv	15.5	11.9	30.6	20 9.50 to 14.2	25 8.90 to 14.8	> 25%
6 hexachlorobenzene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
8 1,2 dichloropropane				NR	0.00		0.00 to 0.00	0.00 to 0.00	
9 1,2 dichloroethane	Unk	M.Fort	ppbv	18.0	12.8	41.1	20 10.2 to 15.3	25 9.57 to 16.0	> 25%
10 ethylene oxide				NR	0.00		0.00 to 0.00	0.00 to 0.00	
11 Dichloromethane	Unk	M.Fort	ppbv	15.1	12.9	17.1	20 10.3 to 15.5	25 9.68 to 16.1	
12 1,1,2,2 tetrachloroethane	Unk	M.Fort	ppbv	15.7	12.3	27.7	20 9.83 to 14.7	25 9.22 to 15.4	> 25%
13 Tetrachloroethelyne (PERC)				NR	0.00		0.00 to 0.00	0.00 to 0.00	
14 trichloroethylene	Unk	M.Fort	ppbv	14.8	12.3	20.0	20 9.86 to 14.8	25 9.25 to 15.4	
15 Vinyl Chloride				NR	0.00		0.00 to 0.00	0.00 to 0.00	
16 cis-1,3-Dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00	
17 Trans-1,3-dichloropropene				NR	0.00		0.00 to 0.00	0.00 to 0.00	

Appendix E

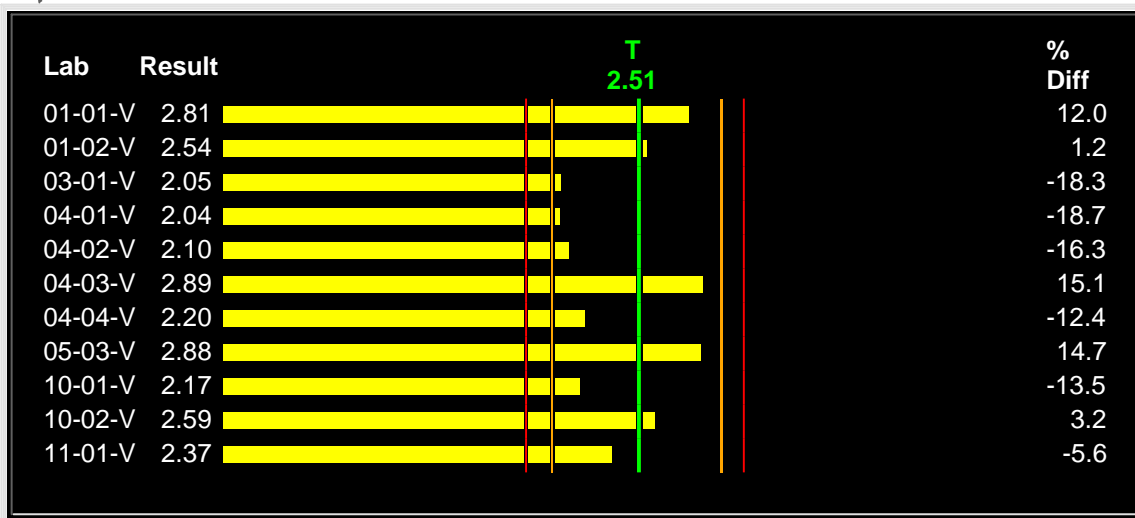
Study 200402-V

Analyte Results for a Specific Study

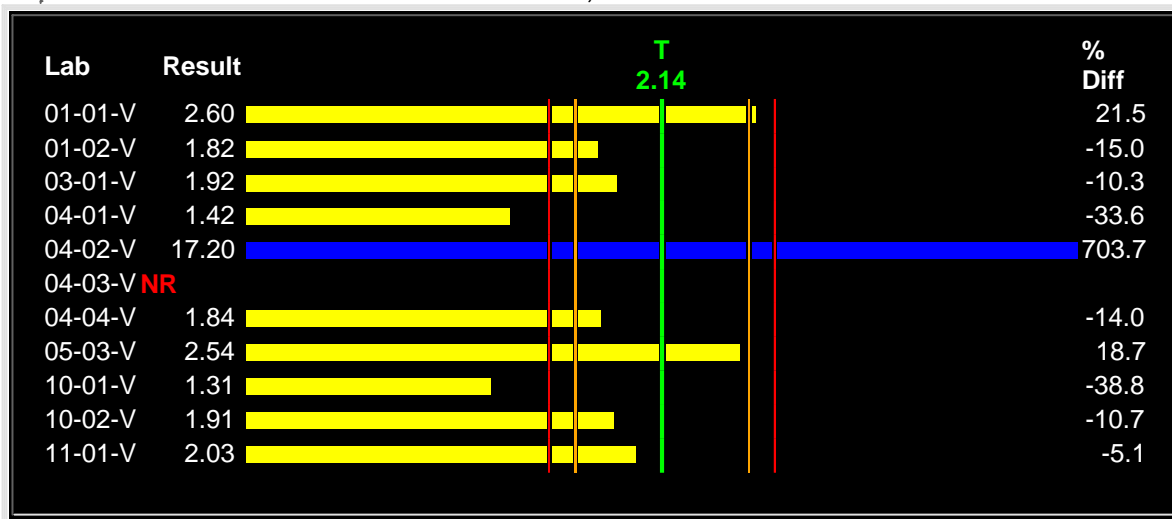
01/11/2005

Study Number: 200402-V

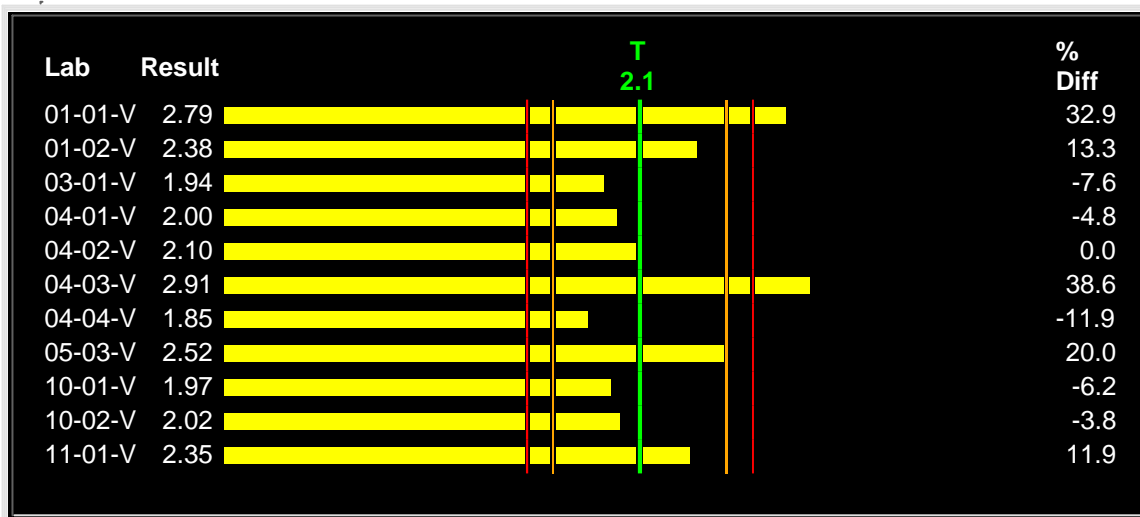
VOC-01 - Benzene



VOC-01 - 1,3 butadiene



VOC-01 - Carbon tetrachloride



VOC-01 - Chloroform

Lab	Result	T 2.51	% Diff
01-01-V	2.87		14.3
01-02-V	2.62		4.4
03-01-V	2.19		-12.7
04-01-V	2.14		-14.7
04-02-V	2.50		-0.4
04-03-V	2.94		17.1
04-04-V	2.31		-8.0
05-03-V	2.80		11.6
10-01-V	2.13		-15.1
10-02-V	2.62		4.4
11-01-V	2.35		-6.4

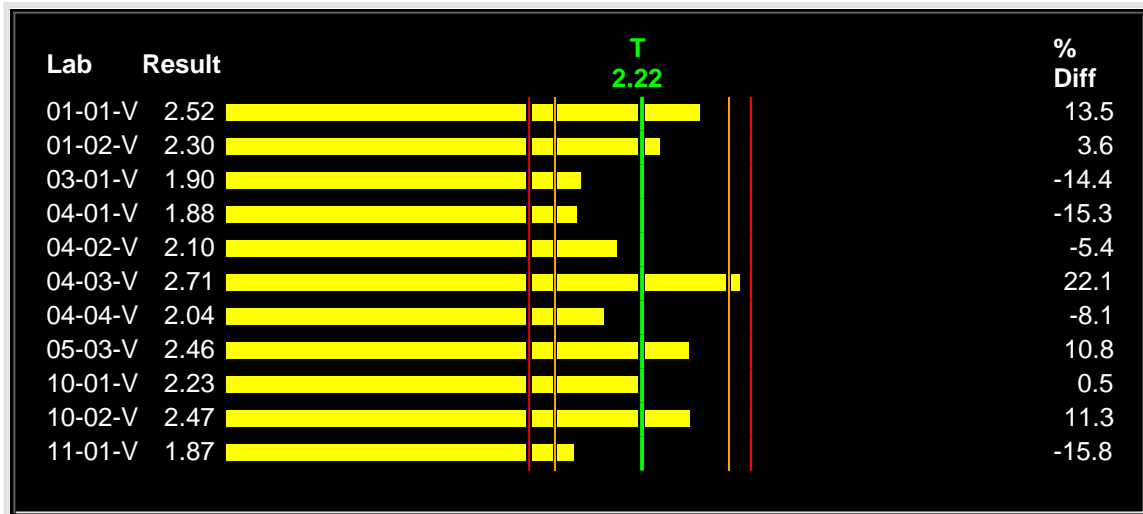
VOC-01 - 1,2 dibromoethane

Lab	Result	T 2.08	% Diff
01-01-V	2.55		22.6
01-02-V	1.70		-18.3
03-01-V	1.78		-14.4
04-01-V	1.98		-4.8
04-02-V	NR		
04-03-V	2.81		35.1
04-04-V	1.82		-12.5
05-03-V	NR		
10-01-V	1.91		-8.2
10-02-V	2.03		-2.4
11-01-V	2.13		2.4

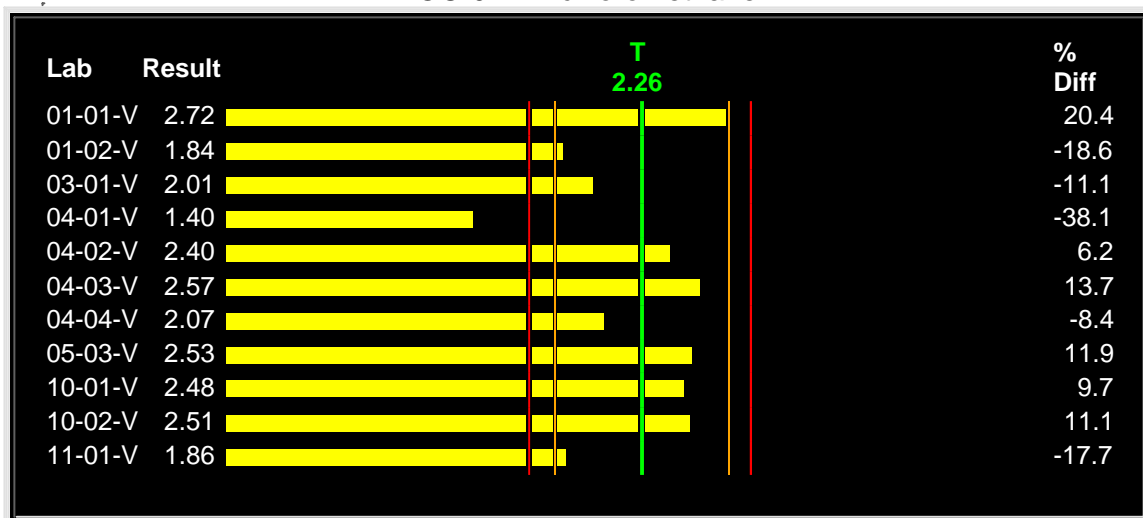
VOC-01 - 1,2 dichloropropane

Lab	Result	T 2.51	% Diff
01-01-V	2.96		17.9
01-02-V	2.30		-8.4
03-01-V	2.18		-13.1
04-01-V	1.98		-21.1
04-02-V	1.50		-40.2
04-03-V	2.78		10.8
04-04-V	1.99		-20.7
05-03-V	2.89		15.1
10-01-V	1.85		-26.3
10-02-V	2.63		4.8
11-01-V	2.43		-3.2

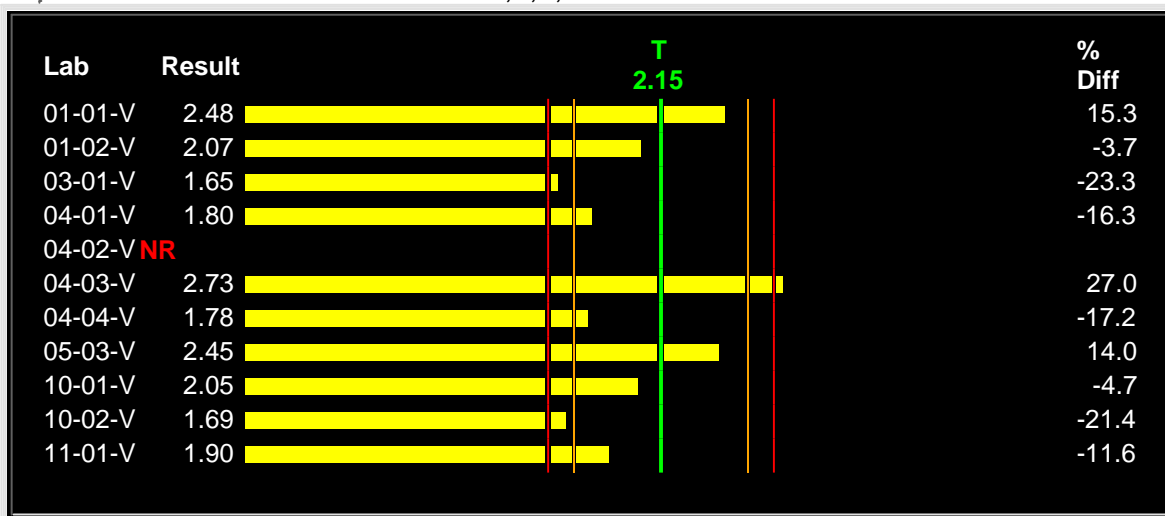
VOC-01 - 1,2 dichloroethane



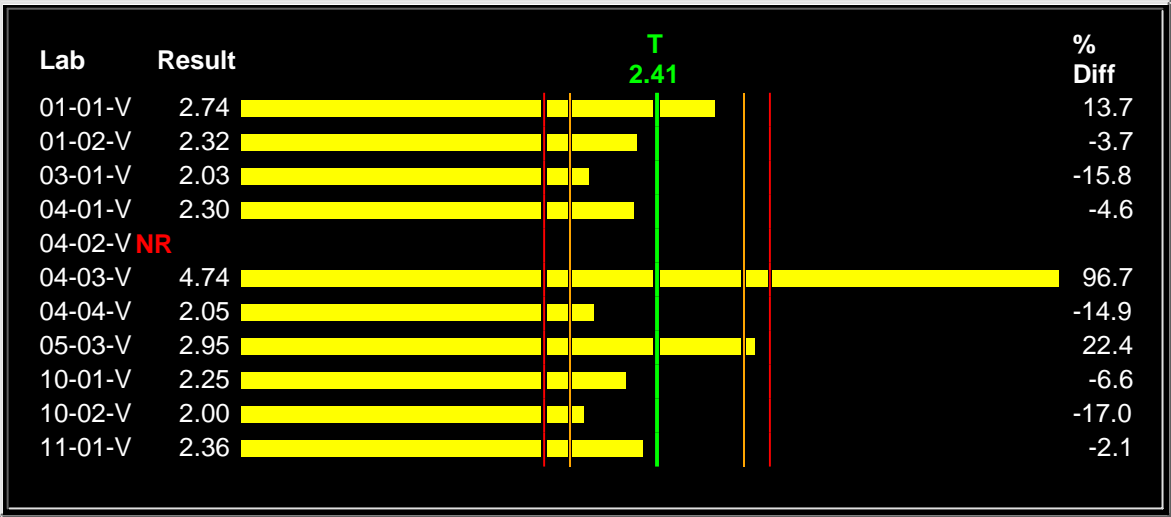
VOC-01 - Dichloromethane



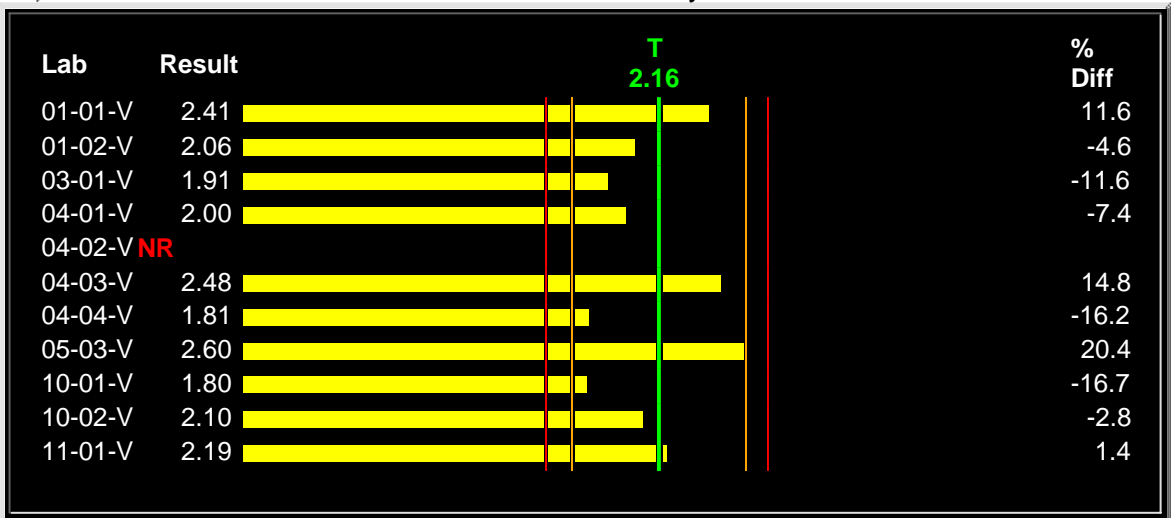
VOC-01 - 1,1,2,2 tetrachloroethane



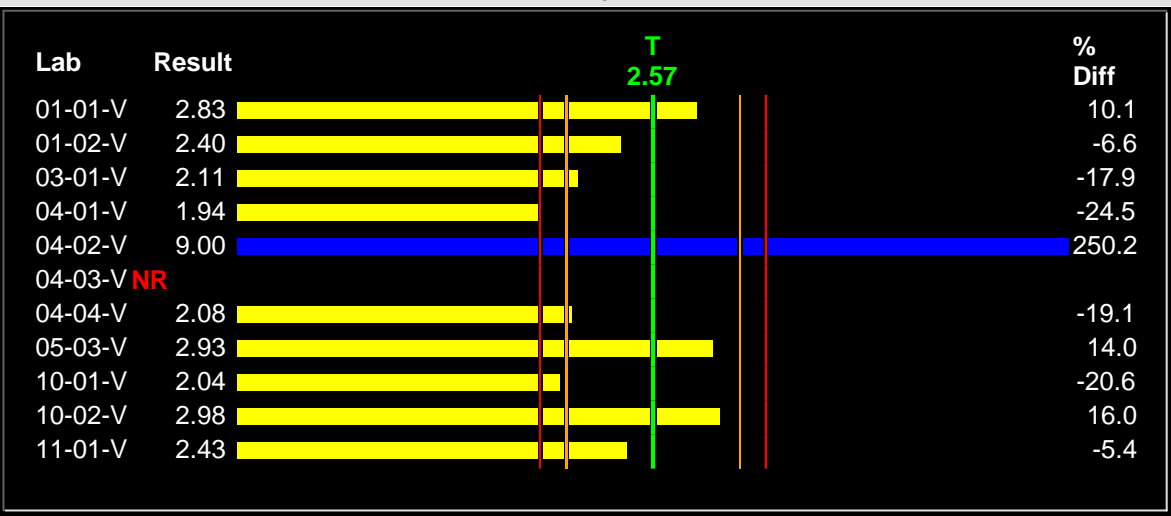
VOC-01 - Tetrachloroethylene (PERC)



VOC-01 - trichloroethylene



VOC-01 - Vinyl Chloride



VOC-01 - cis-1,3-Dichloropropene

Lab	Result	T 2.39	% Diff
01-01-V	2.61		9.2
01-02-V	2.32		-2.9
03-01-V	1.97		-17.6
04-01-V	1.92		-19.7
04-02-V	NR		
04-03-V	2.99		25.1
04-04-V	1.80		-24.7
05-03-V	2.58		7.9
10-01-V	2.00		-16.3
10-02-V	2.52		5.4
11-01-V	2.23		-6.7

VOC-01 - Trans-1,3-dichloropropene

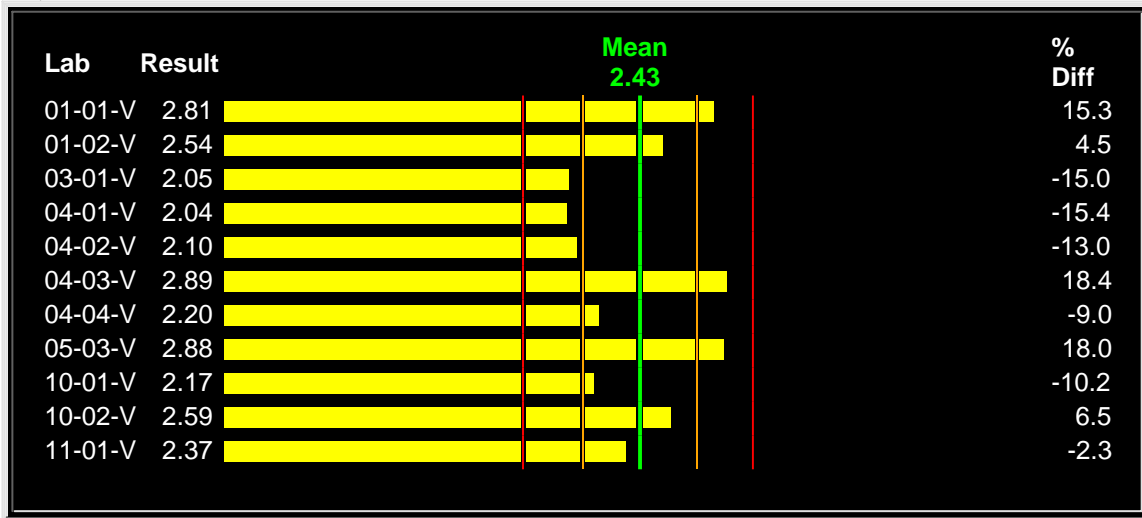
Lab	Result	T 2.56	% Diff
01-01-V	2.97		16.0
01-02-V	2.62		2.3
03-01-V	2.17		-15.2
04-01-V	2.40		-6.3
04-02-V	NR		
04-03-V	2.62		2.3
04-04-V	1.84		-28.1
05-03-V	2.98		16.4
10-01-V	2.60		1.6
10-02-V	3.35		30.9
11-01-V	2.68		4.7

Analyte Results Versus the Study Mean

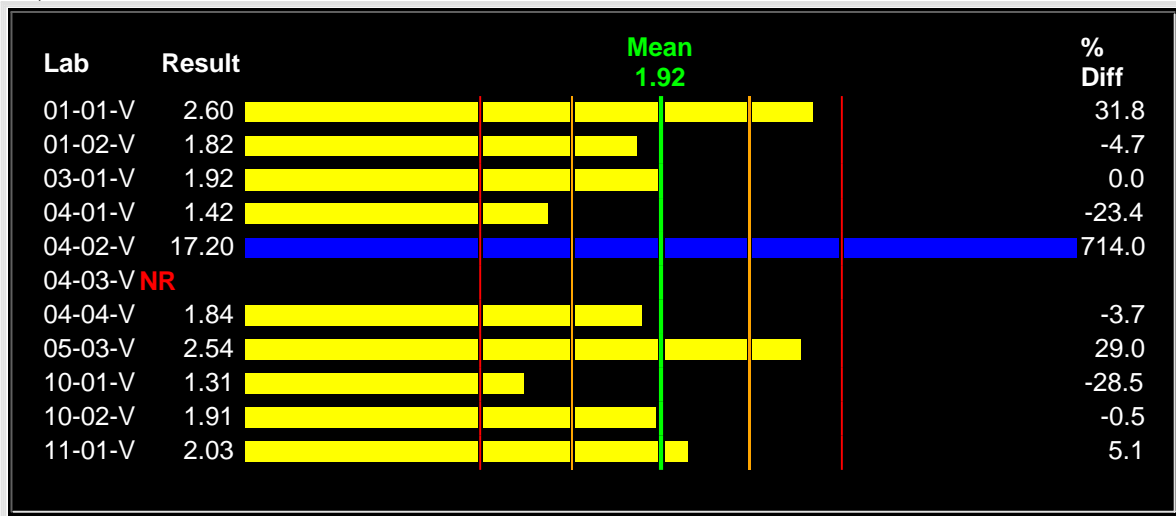
01/11/2005

Study Number: 200402-V

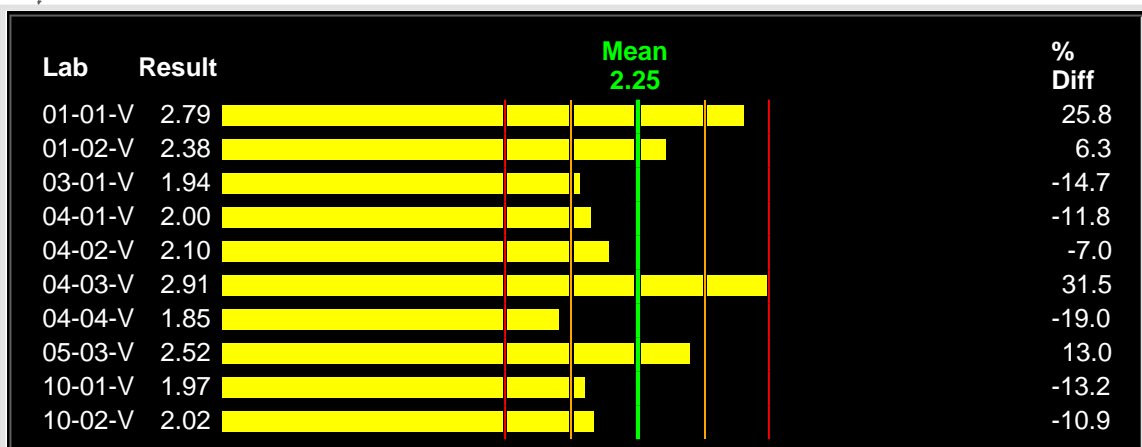
VOC-01 - Benzene
S1= 0.32 S2= 0.64



VOC-01 - 1,3 butadiene
S1= 0.41 S2= 0.82

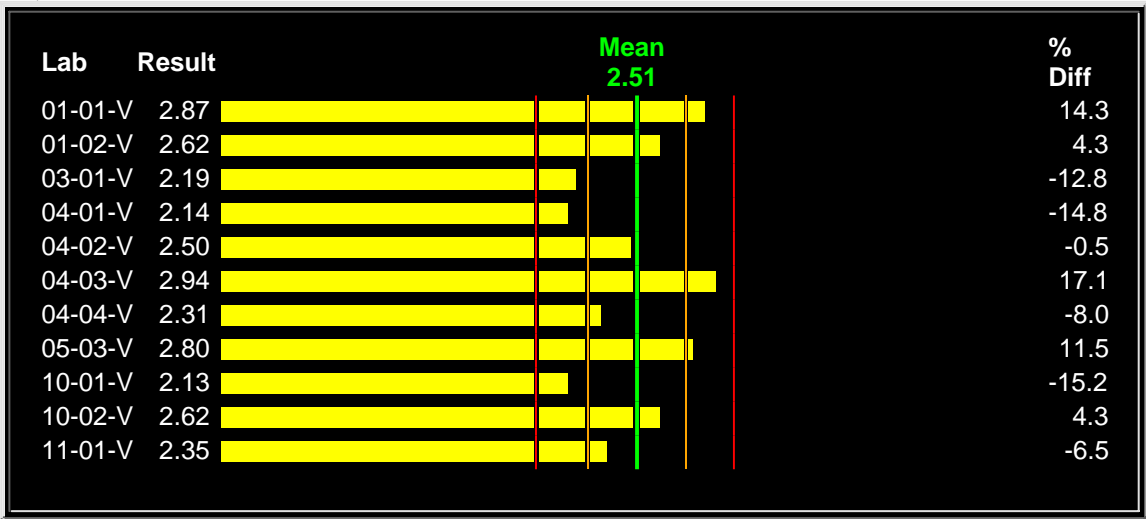


VOC-01 - Carbon tetrachloride
S1= 0.34 S2= 0.69

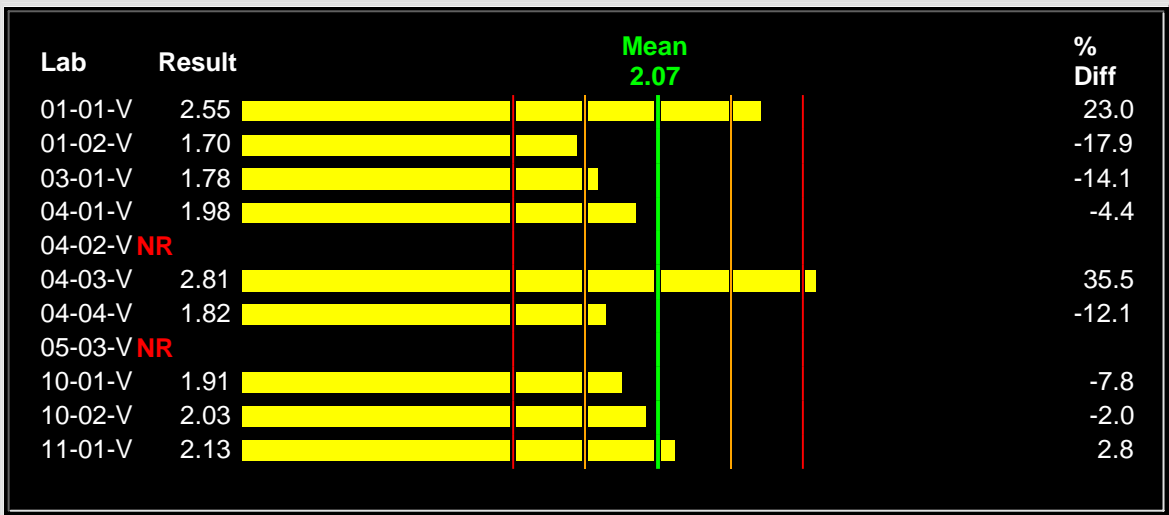




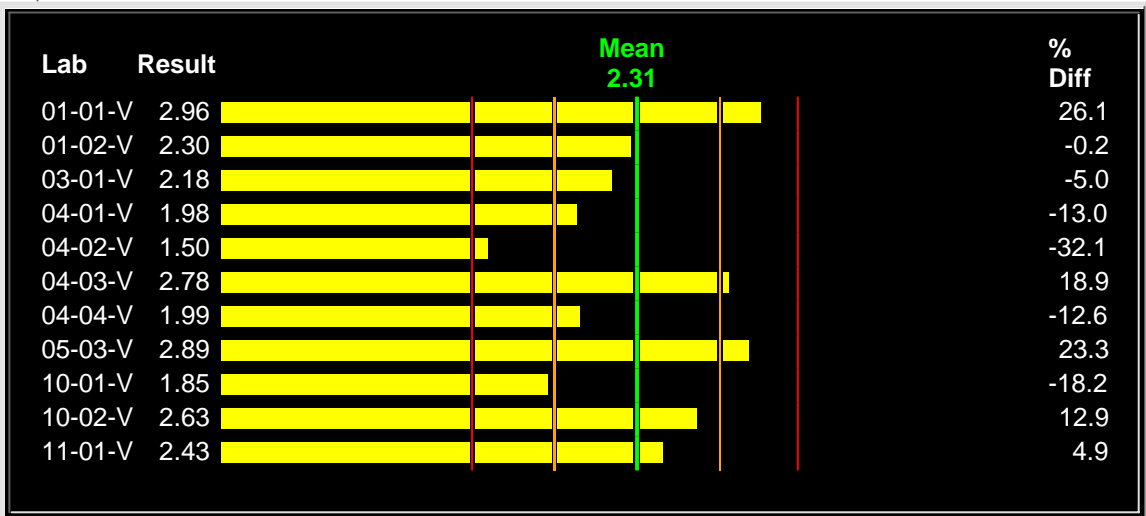
VOC-01 - Chloroform
S1= 0.28 S2= 0.56



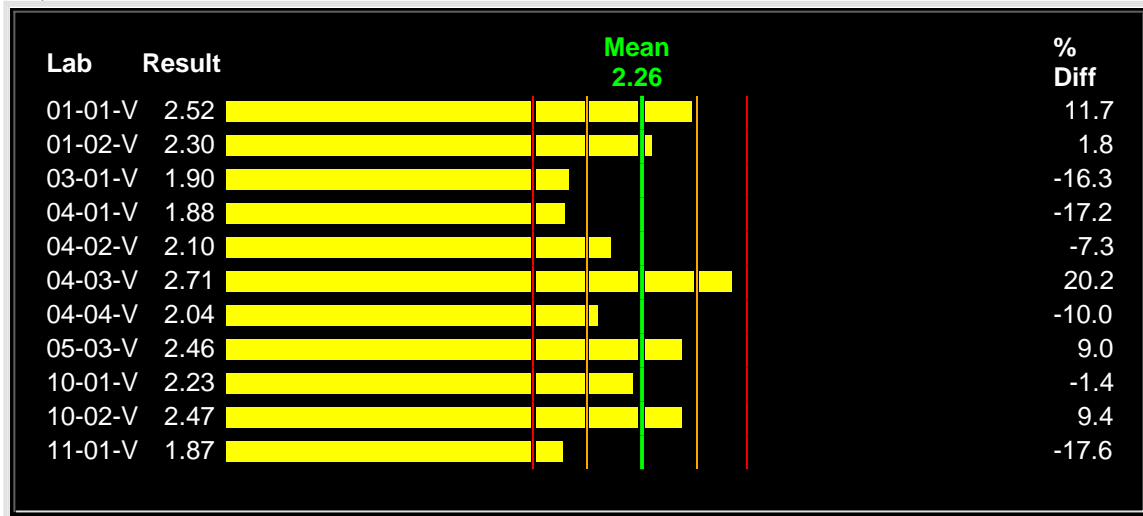
VOC-01 - 1,2 dibromoethane
S1= 0.35 S2= 0.70



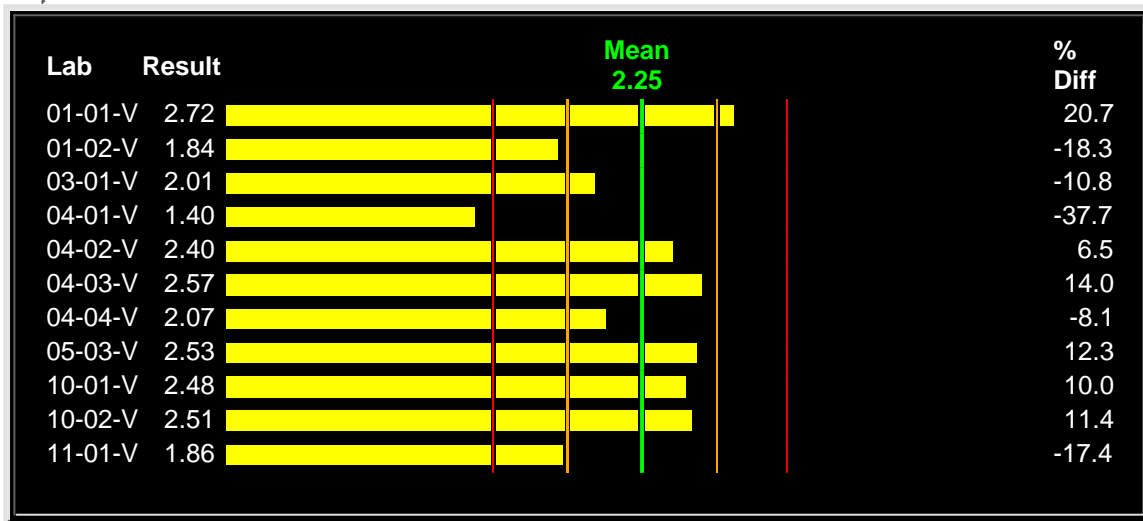
VOC-01 - 1,2 dichloropropane
S1= 0.45 S2= 0.89



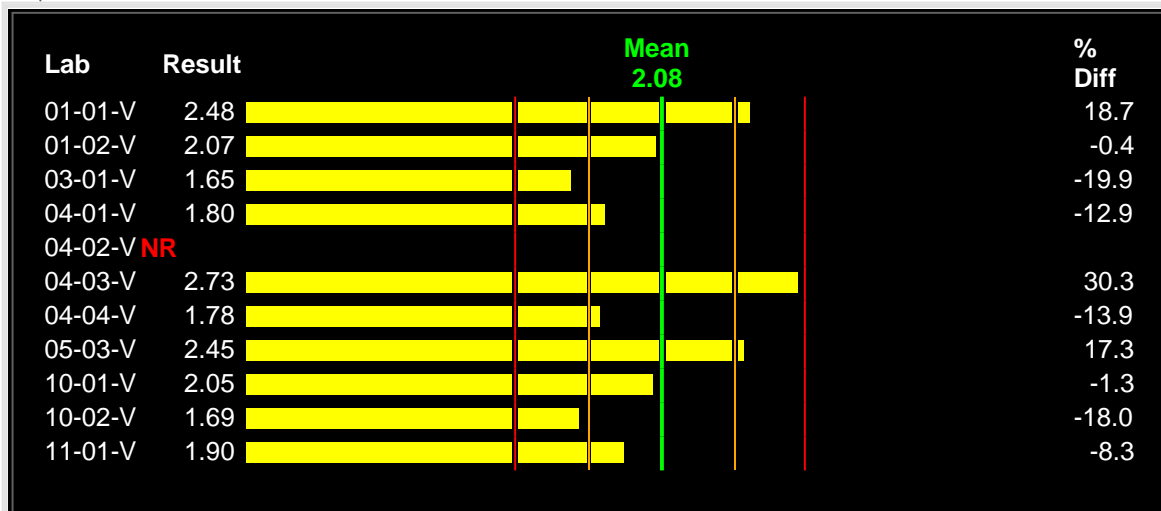
VOC-01 - 1,2 dichloroethane
S1= 0.28 S2= 0.56



VOC-01 - Dichloromethane
S1= 0.39 S2= 0.78

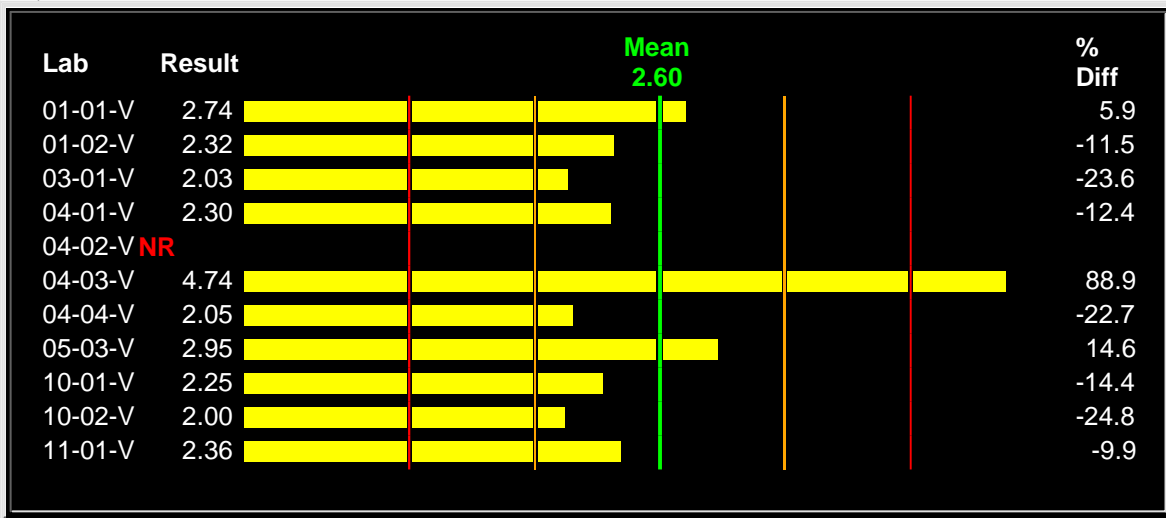


VOC-01 - 1,1,2,2 tetrachloroethane
S1= 0.35 S2= 0.71



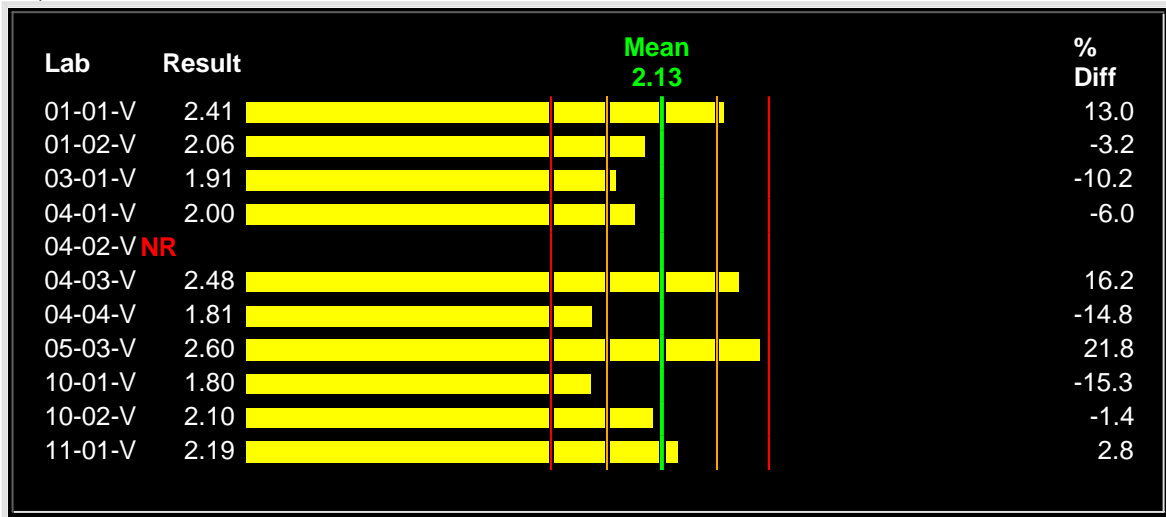
VOC-01 - Tetrachloroethylene (PERC)

S1= 0.78 S2= 1.56



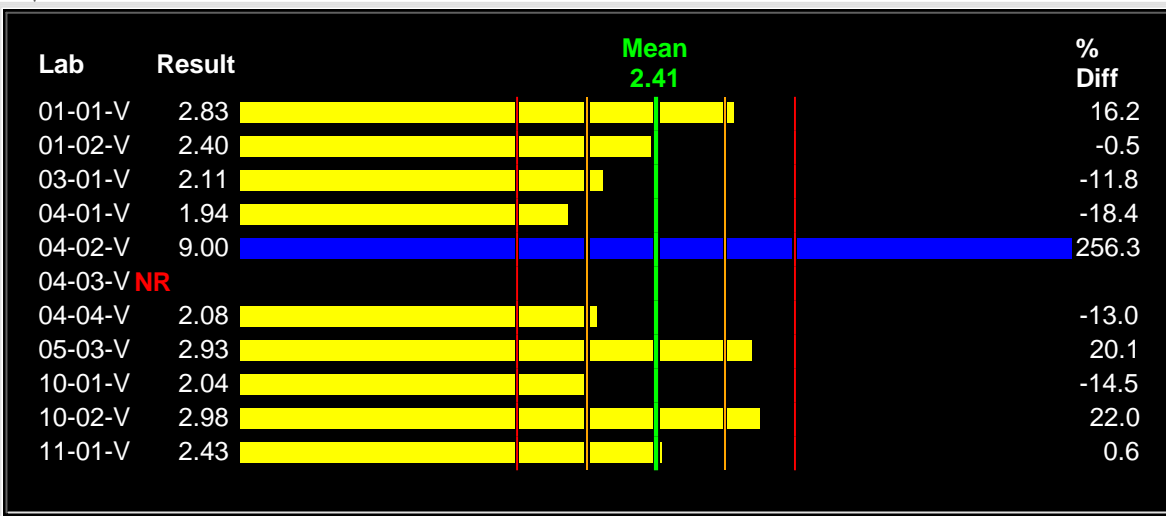
VOC-01 - trichloroethylene

S1= 0.27 S2= 0.53



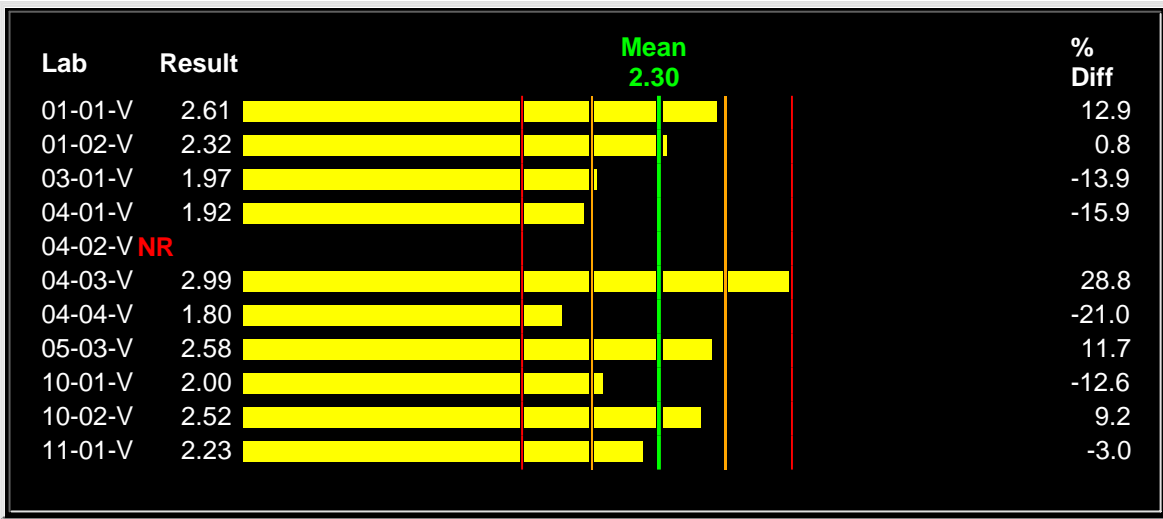
VOC-01 - Vinyl Chloride

S1= 0.38 S2= 0.77

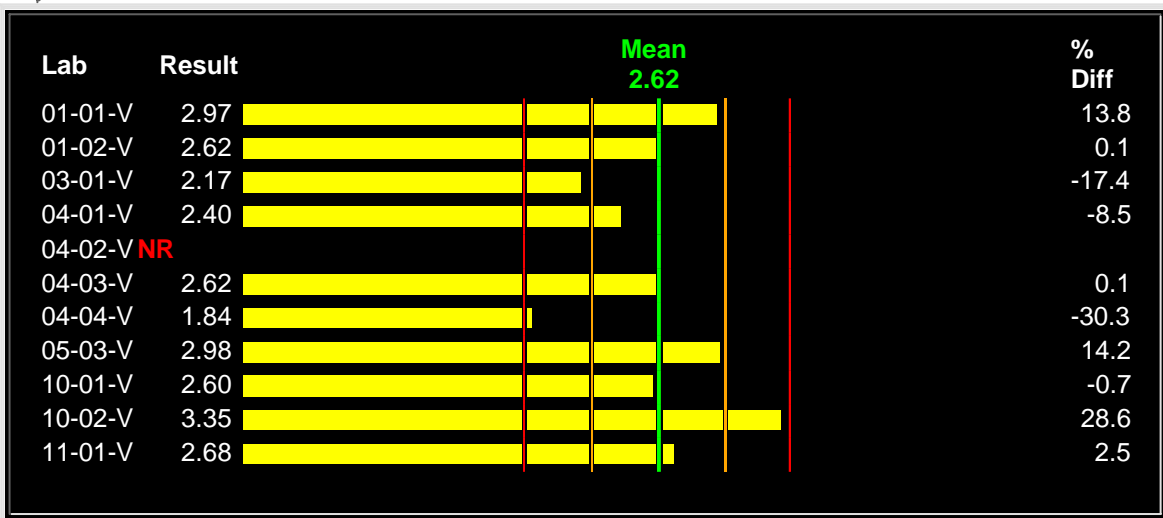


VOC-01 - cis-1,3-Dichloropropene

S1= 0.36 S2= 0.72



VOC-01 - Trans-1,3-dichloropropene
S1= 0.41 S2= 0.81



PTNATTS PE Report

1/17/2005



Study: 200402-V Close Date: 12/30/2004 Lab Code: 01-01-V

This evaluation report is being submitted for:

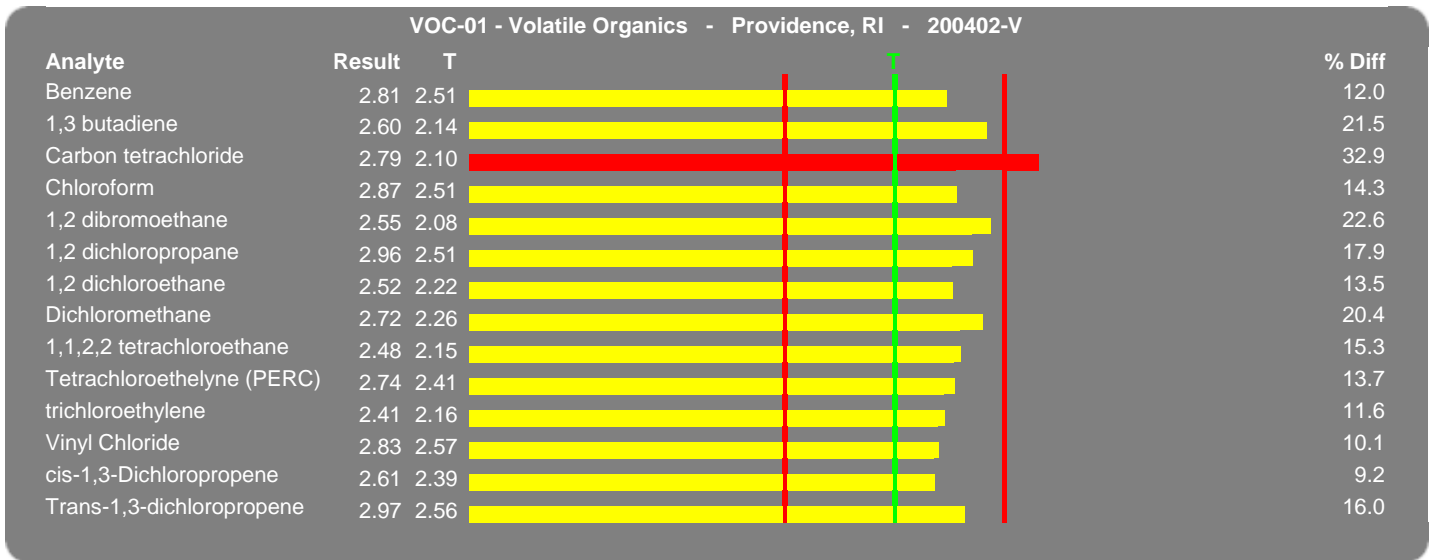
Providence, RI
 Attention: Jeannine Daugherty
 RI Dept. of Health Lab.
 50 Orms Street
 Providence, RI, 02904

401-222-2808

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
 (919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Providence, RI - 200402-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/--% Range	Accept Limits +/--% Range	Evaluation
1 Benzene	136	R.Heaton	ppbv	2.81	2.51	12.0	20 2.01 to 3.01	25 1.88 to 3.14	
2 1,3 butadiene	136	R.Heaton	ppbv	2.6	2.14	21.5	20 1.71 to 2.57	25 1.61 to 2.68	WARNING
3 Carbon tetrachloride	136	R.Heaton	ppbv	2.79	2.10	32.9	20 1.68 to 2.52	25 1.58 to 2.63	> 25%
4 Chloroform	136	R.Heaton	ppbv	2.87	2.51	14.3	20 2.01 to 3.01	25 1.88 to 3.14	
5 1,2 dibromoethane	136	R.Heaton	ppbv	2.55	2.08	22.6	20 1.66 to 2.50	25 1.56 to 2.60	WARNING
8 1,2 dichloropropane	136	R.Heaton	ppbv	2.96	2.51	17.9	20 2.01 to 3.01	25 1.88 to 3.14	
9 1,2 dichloroethane	136	R.Heaton	ppbv	2.52	2.22	13.5	20 1.78 to 2.66	25 1.67 to 2.78	
11 Dichloromethane	136	R.Heaton	ppbv	2.72	2.26	20.4	20 1.81 to 2.71	25 1.69 to 2.83	WARNING
12 1,1,2,2 tetrachloroethane	136	R.Heaton	ppbv	2.48	2.15	15.3	20 1.72 to 2.58	25 1.61 to 2.69	
13 Tetrachloroethelyne (PERC)	136	R.Heaton	ppbv	2.74	2.41	13.7	20 1.93 to 2.89	25 1.81 to 3.01	
14 trichloroethylene	136	R.Heaton	ppbv	2.41	2.16	11.6	20 1.73 to 2.59	25 1.62 to 2.70	
15 Vinyl Chloride	136	R.Heaton	ppbv	2.83	2.57	10.1	20 2.06 to 3.08	25 1.93 to 3.21	
16 cis-1,3-Dichloropropene	136	R.Heaton	ppbv	2.61	2.39	9.2	20 1.91 to 2.87	25 1.79 to 2.99	
17 Trans-1,3-dichloropropene	136	R.Heaton	ppbv	2.97	2.56	16.0	20 2.05 to 3.07	25 1.92 to 3.20	



PTNATTS PE Report

1/17/2005



Study: 200402-V Close Date: 12/30/2004 Lab Code: 01-02-V

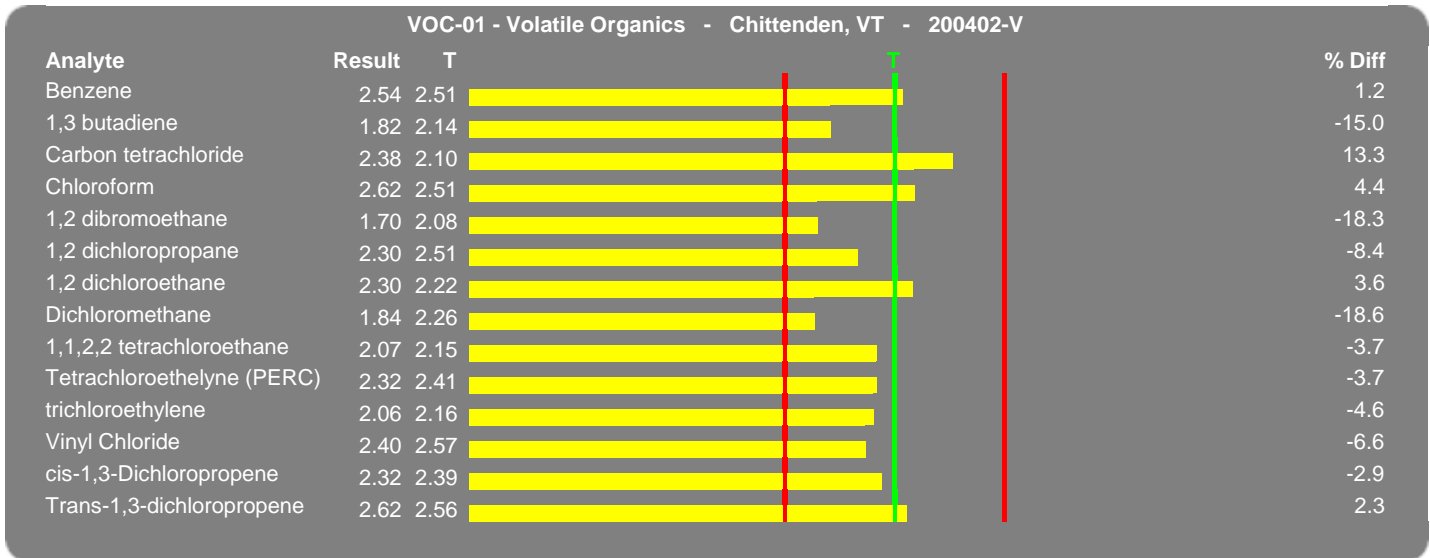
This evaluation report is being submitted for:

Chittenden, VT
 Attention: George Apgar
 Vermont DEC Environmental Lab
 103 South Main Street
 Waterbury, VT, 05671-0409

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
 (919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Chittenden, VT - 200402-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
1 Benzene	TO-15	S.Lewis	ppbv	2.54	2.51	1.2	20 2.01 to 3.01	25 1.88 to 3.14	
2 1,3 butadiene	TO-15	S.Lewis	ppbv	1.82	2.14	-15.0	20 1.71 to 2.57	25 1.61 to 2.68	
3 Carbon tetrachloride	TO-15	S.Lewis	ppbv	2.38	2.10	13.3	20 1.68 to 2.52	25 1.58 to 2.63	
4 Chloroform	TO-15	S.Lewis	ppbv	2.62	2.51	4.4	20 2.01 to 3.01	25 1.88 to 3.14	
5 1,2 dibromoethane	TO-15	S.Lewis	ppbv	1.7	2.08	-18.3	20 1.66 to 2.50	25 1.56 to 2.60	
8 1,2 dichloropropane	TO-15	S.Lewis	ppbv	2.3	2.51	-8.4	20 2.01 to 3.01	25 1.88 to 3.14	
9 1,2 dichloroethane	TO-15	S.Lewis	ppbv	2.3	2.22	3.6	20 1.78 to 2.66	25 1.67 to 2.78	
11 Dichloromethane	TO-15	S.Lewis	ppbv	1.84	2.26	-18.6	20 1.81 to 2.71	25 1.69 to 2.83	
12 1,1,2,2 tetrachloroethane	TO-15	S.Lewis	ppbv	2.07	2.15	-3.7	20 1.72 to 2.58	25 1.61 to 2.69	
13 Tetrachloroethelyne (PERC)	TO-15	S.Lewis	ppbv	2.32	2.41	-3.7	20 1.93 to 2.89	25 1.81 to 3.01	
14 trichloroethylene	TO-15	S.Lewis	ppbv	2.06	2.16	-4.6	20 1.73 to 2.59	25 1.62 to 2.70	
15 Vinyl Chloride	TO-15	S.Lewis	ppbv	2.4	2.57	-6.6	20 2.06 to 3.08	25 1.93 to 3.21	
16 cis-1,3-Dichloropropene	TO-15	S.Lewis	ppbv	2.32	2.39	-2.9	20 1.91 to 2.87	25 1.79 to 2.99	
17 Trans-1,3-dichloropropene	TO-15	S.Lewis	ppbv	2.62	2.56	2.3	20 2.05 to 3.07	25 1.92 to 3.20	



PTNATTS PE Report

1/17/2005



Study: 200402-V Close Date: 12/30/2004 Lab Code: 03-01-V

This evaluation report is being submitted for:

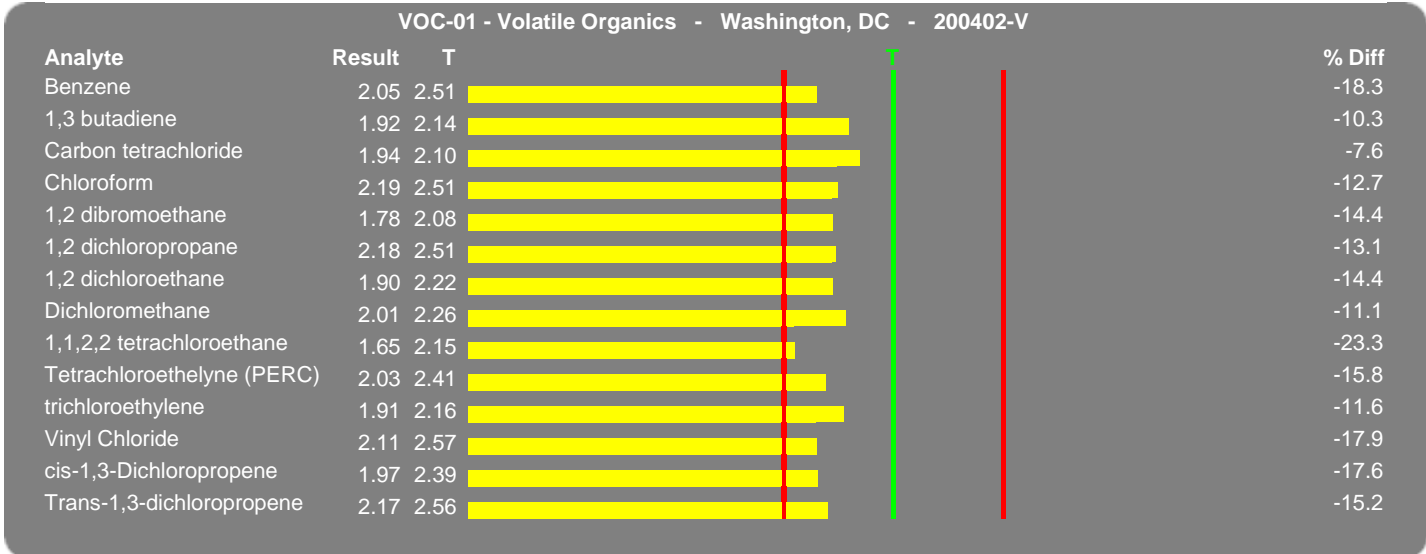
Washington, DC
 Attention: Robert Day
 MD Dept. of the Environment-ARMA
 1800 Washington Blvd. Suite 110
 Baltimore, MD, 21230-1721

202-535-2986

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
 (919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Washington, DC - 200402-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
1 Benzene	113	W.Cooney	ppbv	2.05	2.51	-18.3	20 2.01 to 3.01	25 1.88 to 3.14	
2 1,3 butadiene	113	W.Cooney	ppbv	1.92	2.14	-10.3	20 1.71 to 2.57	25 1.61 to 2.68	
3 Carbon tetrachloride	113	W.Cooney	ppbv	1.94	2.10	-7.6	20 1.68 to 2.52	25 1.58 to 2.63	
4 Chloroform	113	W.Cooney	ppbv	2.19	2.51	-12.7	20 2.01 to 3.01	25 1.88 to 3.14	
5 1,2 dibromoethane	113	W.Cooney	ppbv	1.78	2.08	-14.4	20 1.66 to 2.50	25 1.56 to 2.60	
8 1,2 dichloropropane	113	W.Cooney	ppbv	2.18	2.51	-13.1	20 2.01 to 3.01	25 1.88 to 3.14	
9 1,2 dichloroethane	113	W.Cooney	ppbv	1.9	2.22	-14.4	20 1.78 to 2.66	25 1.67 to 2.78	
11 Dichloromethane	113	W.Cooney	ppbv	2.01	2.26	-11.1	20 1.81 to 2.71	25 1.69 to 2.83	
12 1,1,2,2 tetrachloroethane	113	W.Cooney	ppbv	1.65	2.15	-23.3	20 1.72 to 2.58	25 1.61 to 2.69	WARNING
13 Tetrachloroethelyne (PERC)	113	W.Cooney	ppbv	2.03	2.41	-15.8	20 1.93 to 2.89	25 1.81 to 3.01	
14 trichloroethylene	113	W.Cooney	ppbv	1.91	2.16	-11.6	20 1.73 to 2.59	25 1.62 to 2.70	
15 Vinyl Chloride	113	W.Cooney	ppbv	2.11	2.57	-17.9	20 2.06 to 3.08	25 1.93 to 3.21	
16 cis-1,3-Dichloropropene	113	W.Cooney	ppbv	1.97	2.39	-17.6	20 1.91 to 2.87	25 1.79 to 2.99	
17 Trans-1,3-dichloropropene	113	W.Cooney	ppbv	2.17	2.56	-15.2	20 2.05 to 3.07	25 1.92 to 3.20	



PTNATTS PE Report

1/17/2005



Study: 200402-V Close Date: 12/30/2004 Lab Code: 04-01-V

This evaluation report is being submitted for:

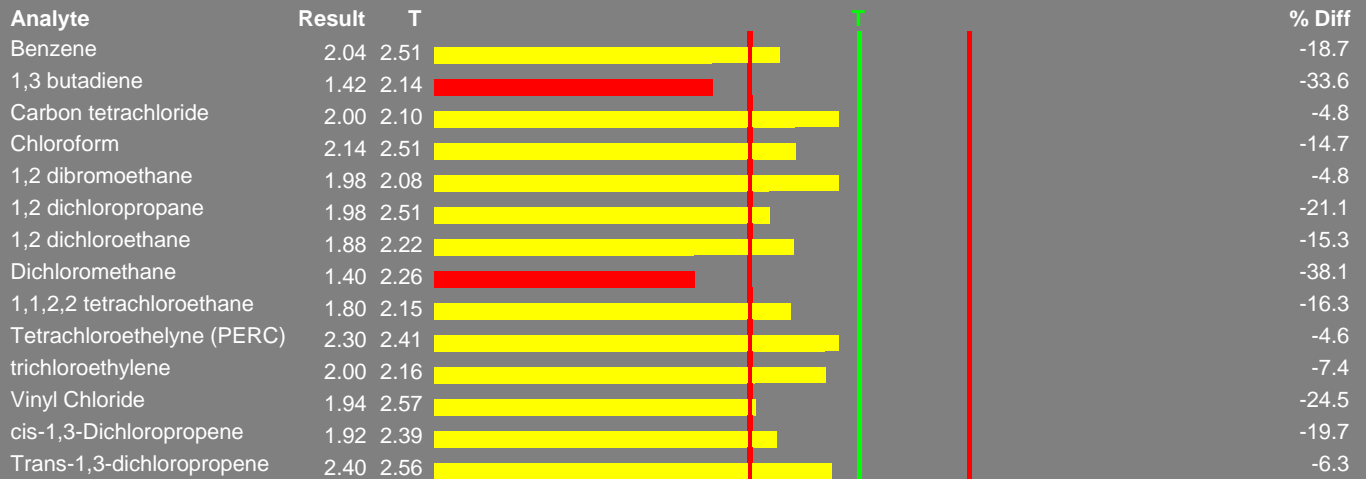
Tampa
 Attention: Michael Lindis
 Pinellas County DEM AQ
 300 S. Garden Avenue
 Clearwater, FL, 33756

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
 (919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Tampa - 200402-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/- Range	Accept Limits +/- Range	Evaluation
1 Benzene	176	MJL	ppbv	2.04	2.51	-18.7	20 2.01 to 3.01	25 1.88 to 3.14	
2 1,3 butadiene	176	MJL	ppbv	1.42	2.14	-33.6	20 1.71 to 2.57	25 1.61 to 2.68	< 25%
3 Carbon tetrachloride	176	MJL	ppbv	2.0	2.10	-4.8	20 1.68 to 2.52	25 1.58 to 2.63	
4 Chloroform	176	MJL	ppbv	2.14	2.51	-14.7	20 2.01 to 3.01	25 1.88 to 3.14	
5 1,2 dibromoethane	176	MJL	ppbv	1.98	2.08	-4.8	20 1.66 to 2.50	25 1.56 to 2.60	
8 1,2 dichloropropane	176	MJL	ppbv	1.98	2.51	-21.1	20 2.01 to 3.01	25 1.88 to 3.14	WARNING
9 1,2 dichloroethane	176	MJL	ppbv	1.88	2.22	-15.3	20 1.78 to 2.66	25 1.67 to 2.78	
11 Dichloromethane	176	MJL	ppbv	1.4	2.26	-38.1	20 1.81 to 2.71	25 1.69 to 2.83	< 25%
12 1,1,2,2 tetrachloroethane	176	MJL	ppbv	1.8	2.15	-16.3	20 1.72 to 2.58	25 1.61 to 2.69	
13 Tetrachloroethelyne (PERC)	176	MJL	ppbv	2.3	2.41	-4.6	20 1.93 to 2.89	25 1.81 to 3.01	
14 trichloroethylene	176	MJL	ppbv	2.0	2.16	-7.4	20 1.73 to 2.59	25 1.62 to 2.70	
15 Vinyl Chloride	176	MJL	ppbv	1.94	2.57	-24.5	20 2.06 to 3.08	25 1.93 to 3.21	WARNING
16 cis-1,3-Dichloropropene	176	MJL	ppbv	1.92	2.39	-19.7	20 1.91 to 2.87	25 1.79 to 2.99	
17 Trans-1,3-dichloropropene	176	MJL	ppbv	2.4	2.56	-6.3	20 2.05 to 3.07	25 1.92 to 3.20	

VOC-01 - Volatile Organics - Tampa - 200402-V



PTNATTS PE Report

1/17/2005



Study: 200402-V Close Date: 12/30/2004 Lab Code: 04-02-V

This evaluation report is being submitted for:

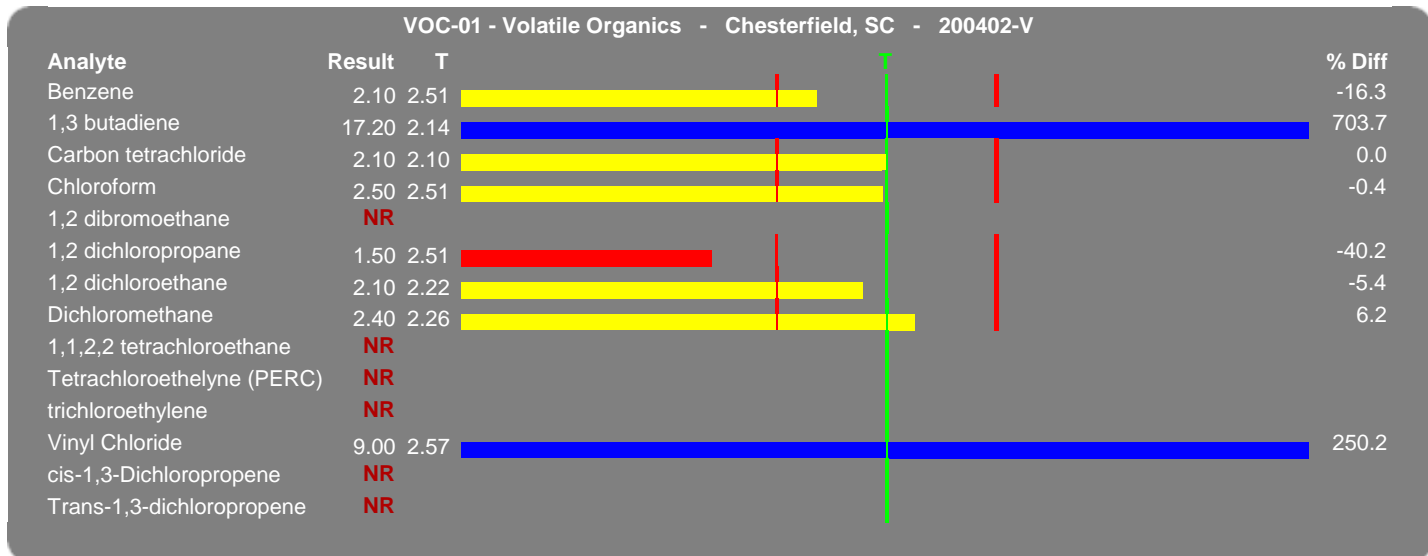
Chesterfield, SC
 Attention: Scott Reynolds
 SC Dept of HEC, Div. of AQ Analysis
 8231 Parklane Road
 Columbia, SC, 29223

803-896-0902

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
 (919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Chesterfield, SC - 200402-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/--% Range	Accept Limits +/--% Range	Evaluation
1 Benzene	150	D.Baer	ppbv	2.1	2.51	-16.3	20 2.01 to 3.01	25 1.88 to 3.14	
2 1,3 butadiene	150	D.Baer	ppbv	17.2	2.14	703.7	20 1.71 to 2.57	25 1.61 to 2.68	> 25%
3 Carbon tetrachloride	150	D.Baer	ppbv	2.1	2.10	0.0	20 1.68 to 2.52	25 1.58 to 2.63	
4 Chloroform	150	D.Baer	ppbv	2.5	2.51	-0.4	20 2.01 to 3.01	25 1.88 to 3.14	
5 1,2 dibromoethane				NR	2.08		1.66 to 2.50	1.56 to 2.60	
8 1,2 dichloropropane	150	D.Baer	ppbv	1.5	2.51	-40.2	20 2.01 to 3.01	25 1.88 to 3.14	< 25%
9 1,2 dichloroethane	150	D.Baer	ppbv	2.1	2.22	-5.4	20 1.78 to 2.66	25 1.67 to 2.78	
11 Dichloromethane	150	D.Baer	ppbv	2.4	2.26	6.2	20 1.81 to 2.71	25 1.69 to 2.83	
12 1,1,2,2 tetrachloroethane				NR	2.15		1.72 to 2.58	1.61 to 2.69	
13 Tetrachloroethelyne (PERC)				NR	2.41		1.93 to 2.89	1.81 to 3.01	
14 trichloroethylene				NR	2.16		1.73 to 2.59	1.62 to 2.70	
15 Vinyl Chloride	150	D.Baer	ppbv	9.0	2.57	250.2	20 2.06 to 3.08	25 1.93 to 3.21	> 25%
16 cis-1,3-Dichloropropene				NR	2.39		1.91 to 2.87	1.79 to 2.99	
17 Trans-1,3-dichloropropene				NR	2.56		2.05 to 3.07	1.92 to 3.20	



PTNATTS PE Report

1/17/2005



Study: 200402-V Close Date: 12/30/2004 Lab Code: 04-03-V

This evaluation report is being submitted for:

Hazard, KY
 Attention: Larry Garrison
 Div of Environmental Services
 100 Sower Blvd. Suite 104
 Frankfort, KY, 40601-8272

502-573-3382

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
 (919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Hazard, KY - 200402-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/- Range	Accept Limits +/- Range	Evaluation
1 Benzene	unk	B.Chen	ppbv	2.89	2.51	15.1	20 2.01 to 3.01	25 1.88 to 3.14	
2 1,3 butadiene	unk	B.Chen	ppbv	< 0.5	2.14	-76.6	20 1.71 to 2.57	25 1.61 to 2.68	< 25%
3 Carbon tetrachloride	unk	B.Chen	ppbv	2.91	2.10	38.6	20 1.68 to 2.52	25 1.58 to 2.63	> 25%
4 Chloroform	unk	B.Chen	ppbv	2.94	2.51	17.1	20 2.01 to 3.01	25 1.88 to 3.14	
5 1,2 dibromoethane	unk	B.Chen	ppbv	2.81	2.08	35.1	20 1.66 to 2.50	25 1.56 to 2.60	> 25%
8 1,2 dichloropropane	unk	B.Chen	ppbv	2.78	2.51	10.8	20 2.01 to 3.01	25 1.88 to 3.14	
9 1,2 dichloroethane	unk	B.Chen	ppbv	2.71	2.22	22.1	20 1.78 to 2.66	25 1.67 to 2.78	WARNING
11 Dichloromethane	unk	B.Chen	ppbv	2.57	2.26	13.7	20 1.81 to 2.71	25 1.69 to 2.83	
12 1,1,2,2 tetrachloroethane	unk	B.Chen	ppbv	2.73	2.15	27.0	20 1.72 to 2.58	25 1.61 to 2.69	> 25%
13 Tetrachloroethelyne (PERC)	unk	B.Chen	ppbv	4.74	2.41	96.7	20 1.93 to 2.89	25 1.81 to 3.01	> 25%
14 trichloroethylene	unk	B.Chen	ppbv	2.48	2.16	14.8	20 1.73 to 2.59	25 1.62 to 2.70	
15 Vinyl Chloride	unk	B.Chen	ppbv	< 0.5	2.57	-80.5	20 2.06 to 3.08	25 1.93 to 3.21	< 25%
16 cis-1,3-Dichloropropene	unk	B.Chen	ppbv	2.99	2.39	25.1	20 1.91 to 2.87	25 1.79 to 2.99	WARNING
17 Trans-1,3-dichloropropene	unk	B.Chen	ppbv	2.62	2.56	2.3	20 2.05 to 3.07	25 1.92 to 3.20	

VOC-01 - Volatile Organics - Hazard, KY - 200402-V



PTNATTS PE Report

1/17/2005



Study: 200402-V Close Date: 12/30/2004 Lab Code: 04-04-V

This evaluation report is being submitted for:

Atlanta, GA
 Attention: Susan Zimmer-Dauphinee
 GA DNR EPD Laboratory
 455 14th Street
 Atlanta, GA, 30318-7900

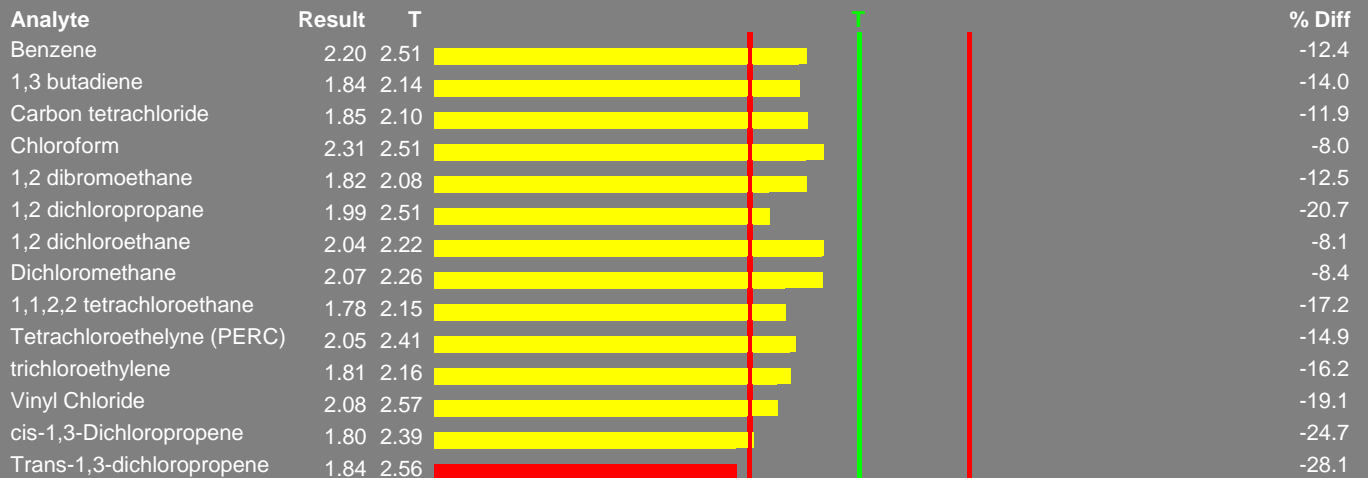
404-363-7004

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
 (919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Atlanta, GA - 200402-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/- Range	Accept Limits +/- Range	Evaluation
1 Benzene	TO14/TO15	HZ	ppbv	2.2	2.51	-12.4	20 2.01 to 3.01	25 1.88 to 3.14	
2 1,3 butadiene	TO14/TO15	HZ	ppbv	1.84	2.14	-14.0	20 1.71 to 2.57	25 1.61 to 2.68	
3 Carbon tetrachloride	TO14/TO15	HZ	ppbv	1.85	2.10	-11.9	20 1.68 to 2.52	25 1.58 to 2.63	
4 Chloroform	TO14/TO15	HZ	ppbv	2.31	2.51	-8.0	20 2.01 to 3.01	25 1.88 to 3.14	
5 1,2 dibromoethane	TO14/TO15	HZ	ppbv	1.82	2.08	-12.5	20 1.66 to 2.50	25 1.56 to 2.60	
8 1,2 dichloropropane	TO14/TO15	HZ	ppbv	1.99	2.51	-20.7	20 2.01 to 3.01	25 1.88 to 3.14	WARNING
9 1,2 dichloroethane	TO14/TO15	HZ	ppbv	2.04	2.22	-8.1	20 1.78 to 2.66	25 1.67 to 2.78	
11 Dichloromethane	TO14/TO15	HZ	ppbv	2.07	2.26	-8.4	20 1.81 to 2.71	25 1.69 to 2.83	
12 1,1,2,2 tetrachloroethane	TO14/TO15	HZ	ppbv	1.78	2.15	-17.2	20 1.72 to 2.58	25 1.61 to 2.69	
13 Tetrachloroethyne (PERC)	TO14/TO15	HZ	ppbv	2.05	2.41	-14.9	20 1.93 to 2.89	25 1.81 to 3.01	
14 trichloroethylene	TO14/TO15	HZ	ppbv	1.81	2.16	-16.2	20 1.73 to 2.59	25 1.62 to 2.70	
15 Vinyl Chloride	TO14/TO15	HZ	ppbv	2.08	2.57	-19.1	20 2.06 to 3.08	25 1.93 to 3.21	
16 cis-1,3-Dichloropropene	TO14/TO15	HZ	ppbv	1.8	2.39	-24.7	20 1.91 to 2.87	25 1.79 to 2.99	WARNING
17 Trans-1,3-dichloropropene	TO14/TO15	HZ	ppbv	1.84	2.56	-28.1	20 2.05 to 3.07	25 1.92 to 3.20	< 25%

VOC-01 - Volatile Organics - Atlanta, GA - 200402-V



PTNATTS PE Report

1/17/2005



Study: 200402-V Close Date: 12/30/2004 Lab Code: 05-03-V

This evaluation report is being submitted for:

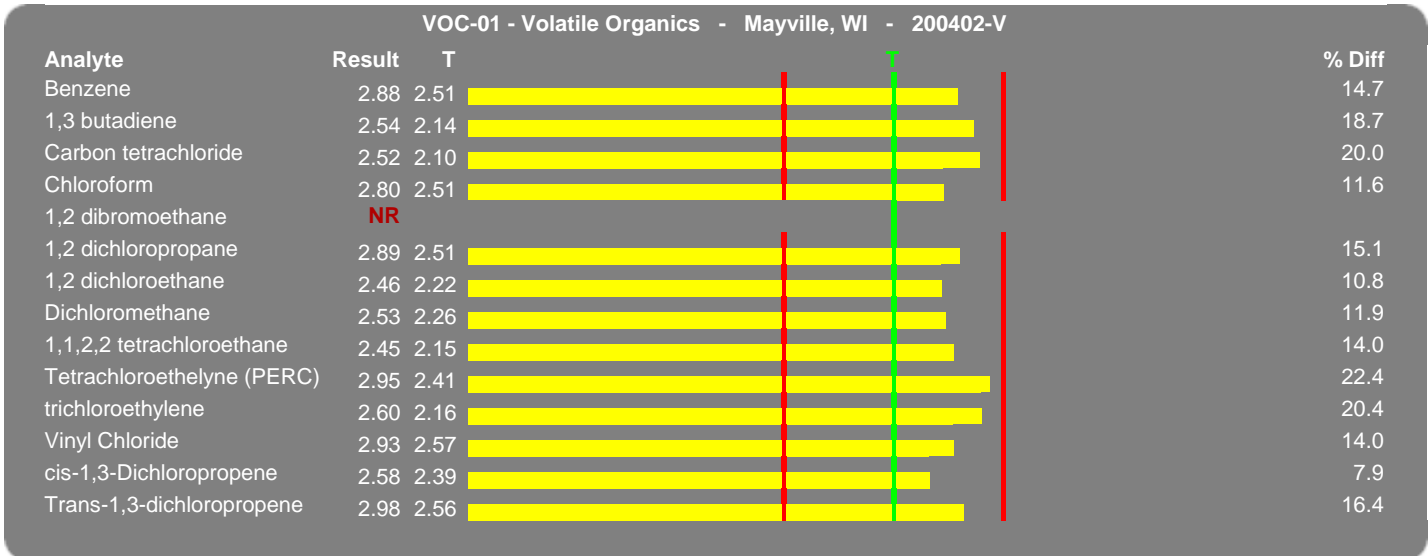
Mayville, WI
 Attention: Mark Allen
 Wisconsin DNR
 101 S Webster St
 Madison,, WI, 53707

608-266-8049

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
 (919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Mayville, WI - 200402-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/- Range	Accept Limits +/- Range	Evaluation
1 Benzene	150	E.Bean	ppbv	2.88	2.51	14.7	20 2.01 to 3.01	25 1.88 to 3.14	
2 1,3 butadiene	150	E.Bean	ppbv	2.54	2.14	18.7	20 1.71 to 2.57	25 1.61 to 2.68	
3 Carbon tetrachloride	150	E.Bean	ppbv	2.52	2.10	20.0	20 1.68 to 2.52	25 1.58 to 2.63	
4 Chloroform	150	E.Bean	ppbv	2.8	2.51	11.6	20 2.01 to 3.01	25 1.88 to 3.14	
5 1,2 dibromoethane				NR	2.08		1.66 to 2.50	1.56 to 2.60	
8 1,2 dichloropropane	150	E.Bean	ppbv	2.89	2.51	15.1	20 2.01 to 3.01	25 1.88 to 3.14	
9 1,2 dichloroethane	150	E.Bean	ppbv	2.46	2.22	10.8	20 1.78 to 2.66	25 1.67 to 2.78	
11 Dichloromethane	150	E.Bean	ppbv	2.53	2.26	11.9	20 1.81 to 2.71	25 1.69 to 2.83	
12 1,1,2,2 tetrachloroethane	150	E.Bean	ppbv	2.45	2.15	14.0	20 1.72 to 2.58	25 1.61 to 2.69	
13 Tetrachloroethelyne (PERC)	150	E.Bean	ppbv	2.95	2.41	22.4	20 1.93 to 2.89	25 1.81 to 3.01	WARNING
14 trichloroethylene	150	E.Bean	ppbv	2.6	2.16	20.4	20 1.73 to 2.59	25 1.62 to 2.70	WARNING
15 Vinyl Chloride	150	E.Bean	ppbv	2.93	2.57	14.0	20 2.06 to 3.08	25 1.93 to 3.21	
16 cis-1,3-Dichloropropene	150	E.Bean	ppbv	2.58	2.39	7.9	20 1.91 to 2.87	25 1.79 to 2.99	
17 Trans-1,3-dichloropropene	150	E.Bean	ppbv	2.98	2.56	16.4	20 2.05 to 3.07	25 1.92 to 3.20	



PTNATTS PE Report

1/17/2005



Study: 200402-V Close Date: 12/30/2004 Lab Code: 10-01-V

This evaluation report is being submitted for:

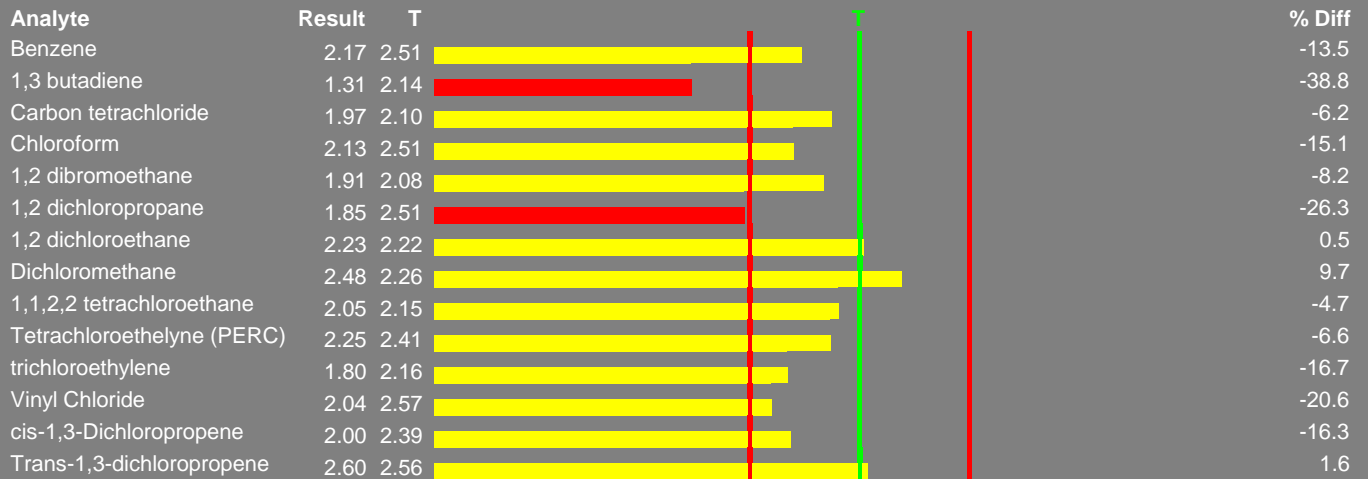
Seattle, Wa
 Attention: Hal Westberg
 CEE Department Sloan Hall, Room 101
 Washington State University
 Pullman, WA, 99164-2910

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
 (919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Seattle, Wa - 200402-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/-% Range	Accept Limits +/-% Range	Evaluation
1 Benzene	TO-15	Montacastr	ppbv	2.17	2.51	-13.5	20 2.01 to 3.01	25 1.88 to 3.14	
2 1,3 butadiene	TO-15	Montacastr	ppbv	1.31	2.14	-38.8	20 1.71 to 2.57	25 1.61 to 2.68	< 25%
3 Carbon tetrachloride	TO-15	Montacastr	ppbv	1.97	2.10	-6.2	20 1.68 to 2.52	25 1.58 to 2.63	
4 Chloroform	TO-15	Montacastr	ppbv	2.13	2.51	-15.1	20 2.01 to 3.01	25 1.88 to 3.14	
5 1,2 dibromoethane	TO-15	Montacastr	ppbv	1.91	2.08	-8.2	20 1.66 to 2.50	25 1.56 to 2.60	
8 1,2 dichloropropane	TO-15	Montacastr	ppbv	1.85	2.51	-26.3	20 2.01 to 3.01	25 1.88 to 3.14	< 25%
9 1,2 dichloroethane	TO-15	Montacastr	ppbv	2.23	2.22	0.5	20 1.78 to 2.66	25 1.67 to 2.78	
11 Dichloromethane	TO-15	Montacastr	ppbv	2.48	2.26	9.7	20 1.81 to 2.71	25 1.69 to 2.83	
12 1,1,2,2 tetrachloroethane	TO-15	Montacastr	ppbv	2.05	2.15	-4.7	20 1.72 to 2.58	25 1.61 to 2.69	
13 Tetrachloroethelyne (PERC)	TO-15	Montacastr	ppbv	2.25	2.41	-6.6	20 1.93 to 2.89	25 1.81 to 3.01	
14 trichloroethylene	TO-15	Montacastr	ppbv	1.8	2.16	-16.7	20 1.73 to 2.59	25 1.62 to 2.70	
15 Vinyl Chloride	TO-15	Montacastr	ppbv	2.04	2.57	-20.6	20 2.06 to 3.08	25 1.93 to 3.21	WARNING
16 cis-1,3-Dichloropropene	TO-15	Montacastr	ppbv	2.0	2.39	-16.3	20 1.91 to 2.87	25 1.79 to 2.99	
17 Trans-1,3-dichloropropene	TO-15	Montacastr	ppbv	2.6	2.56	1.6	20 2.05 to 3.07	25 1.92 to 3.20	

VOC-01 - Volatile Organics - Seattle, Wa - 200402-V



PTNATTS PE Report

1/17/2005



Study: 200402-V Close Date: 12/30/2004 Lab Code: 10-02-V

This evaluation report is being submitted for:

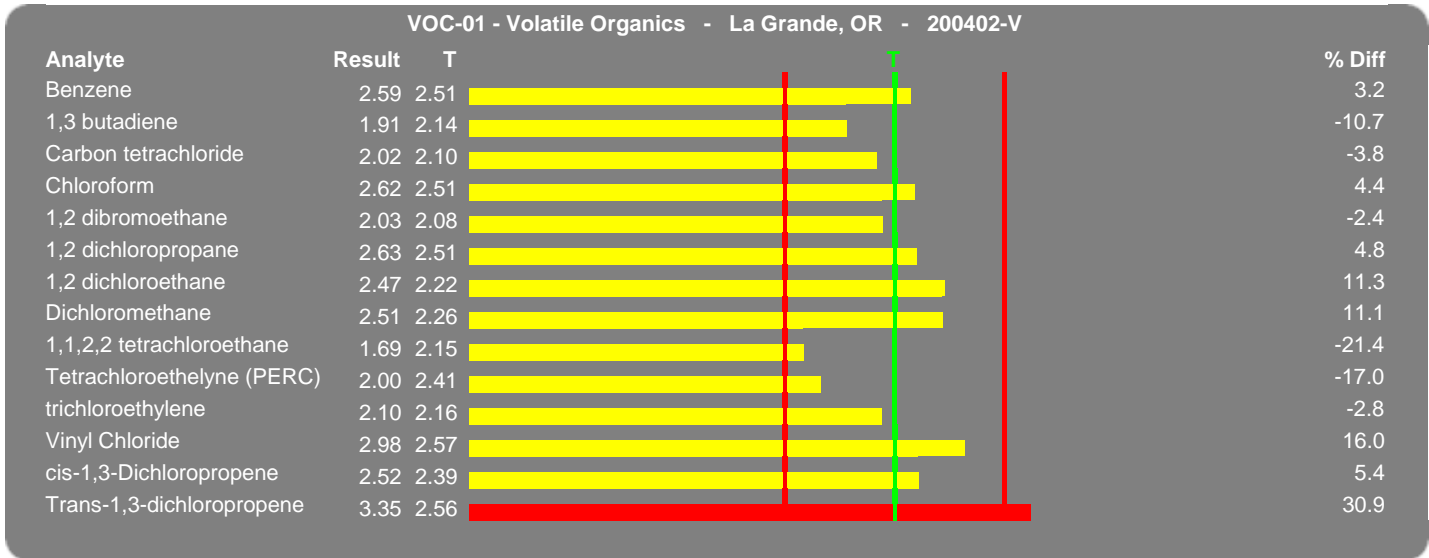
La Grande, OR
 Attention: Gregg Lande
 Oregon DEQ Lab
 1927 13th Street
 Portland, OR, 97201

503-229-6411

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
 (919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - La Grande, OR - 200402-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/- Range	Accept Limits +/- Range	Evaluation
1 Benzene	TO-15	PWS	ppbv	2.59	2.51	3.2	20 2.01 to 3.01	25 1.88 to 3.14	
2 1,3 butadiene	TO-15	PWS	ppbv	1.91	2.14	-10.7	20 1.71 to 2.57	25 1.61 to 2.68	
3 Carbon tetrachloride	TO-15	PWS	ppbv	2.02	2.10	-3.8	20 1.68 to 2.52	25 1.58 to 2.63	
4 Chloroform	TO-15	PWS	ppbv	2.62	2.51	4.4	20 2.01 to 3.01	25 1.88 to 3.14	
5 1,2 dibromoethane	TO-15	PWS	ppbv	2.03	2.08	-2.4	20 1.66 to 2.50	25 1.56 to 2.60	
8 1,2 dichloropropane	TO-15	PWS	ppbv	2.63	2.51	4.8	20 2.01 to 3.01	25 1.88 to 3.14	
9 1,2 dichloroethane	TO-15	PWS	ppbv	2.47	2.22	11.3	20 1.78 to 2.66	25 1.67 to 2.78	
11 Dichloromethane	TO-15	PWS	ppbv	2.51	2.26	11.1	20 1.81 to 2.71	25 1.69 to 2.83	
12 1,1,2,2 tetrachloroethane	TO-15	PWS	ppbv	1.69	2.15	-21.4	20 1.72 to 2.58	25 1.61 to 2.69	WARNING
13 Tetrachloroethelyne (PERC)	TO-15	PWS	ppbv	2.0	2.41	-17.0	20 1.93 to 2.89	25 1.81 to 3.01	
14 trichloroethylene	TO-15	PWS	ppbv	2.1	2.16	-2.8	20 1.73 to 2.59	25 1.62 to 2.70	
15 Vinyl Chloride	TO-15	PWS	ppbv	2.98	2.57	16.0	20 2.06 to 3.08	25 1.93 to 3.21	
16 cis-1,3-Dichloropropene	TO-15	PWS	ppbv	2.52	2.39	5.4	20 1.91 to 2.87	25 1.79 to 2.99	
17 Trans-1,3-dichloropropene	TO-15	PWS	ppbv	3.35	2.56	30.9	20 2.05 to 3.07	25 1.92 to 3.20	> 25%



PTNATTS PE Report

1/17/2005



Study: 200402-V Close Date: 12/30/2004 Lab Code: 11-01-V

This evaluation report is being submitted for:

Chicago, St. Louis, Bountiful, Gr Junction, Phoeni
 Attention: Julie Swift
 900 Perimeter Park
 Morrisville, NC, 27560

919-468-7924

Please contact Ken Caviston at ManTech Environmental if you have any questions about this report.
 (919) 405-3140 - Kenneth.Caviston@ManTech.com

VOC-01 - Volatile Organics - Chicago, St. Louis, Bountiful, Gr Junct., Detroit - 200402-V

Analyte	Method Description	Analyst	Units	Reported Value	Assigned Value	% Diff	Warn Limits +/--% Range	Accept Limits +/--% Range	Evaluation
1 Benzene	unk.	M.F.	ppbv	2.37	2.51	-5.6	20 2.01 to 3.01	25 1.88 to 3.14	
2 1,3 butadiene	unk.	M.F.	ppbv	2.03	2.14	-5.1	20 1.71 to 2.57	25 1.61 to 2.68	
3 Carbon tetrachloride	unk.	M.F.	ppbv	2.35	2.10	11.9	20 1.68 to 2.52	25 1.58 to 2.63	
4 Chloroform	unk.	M.F.	ppbv	2.35	2.51	-6.4	20 2.01 to 3.01	25 1.88 to 3.14	
5 1,2 dibromoethane	unk.	M.F.	ppbv	2.13	2.08	2.4	20 1.66 to 2.50	25 1.56 to 2.60	
8 1,2 dichloropropane	unk.	M.F.	ppbv	2.43	2.51	-3.2	20 2.01 to 3.01	25 1.88 to 3.14	
9 1,2 dichloroethane	unk.	M.F.	ppbv	1.87	2.22	-15.8	20 1.78 to 2.66	25 1.67 to 2.78	
11 Dichloromethane	unk.	M.F.	ppbv	1.86	2.26	-17.7	20 1.81 to 2.71	25 1.69 to 2.83	
12 1,1,2,2 tetrachloroethane	unk.	M.F.	ppbv	1.9	2.15	-11.6	20 1.72 to 2.58	25 1.61 to 2.69	
13 Tetrachloroethelyne (PERC)	unk.	M.F.	ppbv	2.36	2.41	-2.1	20 1.93 to 2.89	25 1.81 to 3.01	
14 trichloroethylene	unk.	M.F.	ppbv	2.19	2.16	1.4	20 1.73 to 2.59	25 1.62 to 2.70	
15 Vinyl Chloride	unk.	M.F.	ppbv	2.43	2.57	-5.4	20 2.06 to 3.08	25 1.93 to 3.21	
16 cis-1,3-Dichloropropene	unk.	M.F.	ppbv	2.23	2.39	-6.7	20 1.91 to 2.87	25 1.79 to 2.99	
17 Trans-1,3-dichloropropene	unk.	M.F.	ppbv	2.68	2.56	4.7	20 2.05 to 3.07	25 1.92 to 3.20	

VOC-01 - Volatile Organics - Chicago, St. Louis, Bountiful, Gr Junct., Detroit - 200402-V

