



# Ambient Air Sampling Report

**Date:** October 3, 2011

**To:** Brian Kelly, U.S. EPA

**CC:** Joseph DeGrazia, MDEQ; Paul Max, City of Detroit DHWP; Yousef S. Ahmed, DWSD; William Burbidge, DWSD; Raymond Scott, City of Detroit Environmental Affairs; Honor Sheard, MPC; Greg Smith, MPC; Lisa Lautermilch, MPC

**From:** Joseph F. Marra

**RE:** September Ambient Air Sampling Report

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Ambient air sampling per the Sewer Vapor Investigation Work Plan (revision 2; March 16, 2011) was conducted on September 15 and 16, 2011.

During the sampling event the refinery was running both the hydrogen peroxide and carbon filter treatment systems. The samples are analyzed for benzene in the water phase of the sample per EPA Method 8260, results are reported in ppb.

Date	Carbon Bed Wastewater Effluent
9/12/11	Non-Detect (both beds)
9/14/11	Non-Detect (both beds)
<i>9/15/11</i>	<i>Non-Detect (both beds)</i>
9/16/11	Non-Detect (both beds)
9/19/11	Non-Detect (both beds)

*Results in Italics are from the Date of Ambient Air Testing, all results are in ppb.*

Per Attachment 1 – Figure 3 Ambient Air Sample Locations the four ‘Monthly Community Air Sample Locations’ were collected as described in the Work Plan. In addition, two background samples were collected from the two locations identified on the Figure as ‘Monthly Background Air Sample Location’ as East Fort and West Fort. Canisters were set-up at the specified location based on a predicted North-West wind.

The regulator on the canister for the “Liddesdale” sample malfunctioned during the sampling period and only allowed a vacuum change of 4 inches of Hg. The regulator was checked in the afternoon of September 15, 2011 and had decreased appearing to function but failed to take a full sample. The regulator issue is noted throughout this document to this issue.

Lab data for the air samples are contained in *Attachment 2 – Analytical Results*. Benzene concentrations are summarized as follows:

Location	Benzene (ppbv)
I-75	0.30
Patricia	0.29
Liebold	0.29
Liddesdale	<0.20 (1)
Background: East Fort	0.41
Background: West Fort	0.28

*Notes:*

(1) The 9/15/11 sample at Liddesdale only decreased by 4" of Hg; a full sample was not taken by the regulator.

*Attachment 3 – Indoor/Ambient Air Sample Collection Log* contains the field notes for the sampling. The sampling crew identified increased vehicle activity related to the Fort Street Bridge project as a potential source during monitoring. Picture 1 is provided in the attachment showing work at the I-75 sampling locations. In addition, work crews were conducting demolition of abandoned homes on Patricia Ave. during the sampling process.

*Attachment 4 – Detailed Weather September 15-16, 2011* contains weather conditions as acquired from the [www.weather.gov](http://www.weather.gov). The refinery's air modeling Safer Software was unavailable during the testing period. This data should be available in future reports. Winds were typically between 4-8 mph from the Northwest and West.

*Attachments:*

*Attachment 1 – Figure 3 Ambient Air Sample Locations*

*Attachment 2 – Analytical Results*

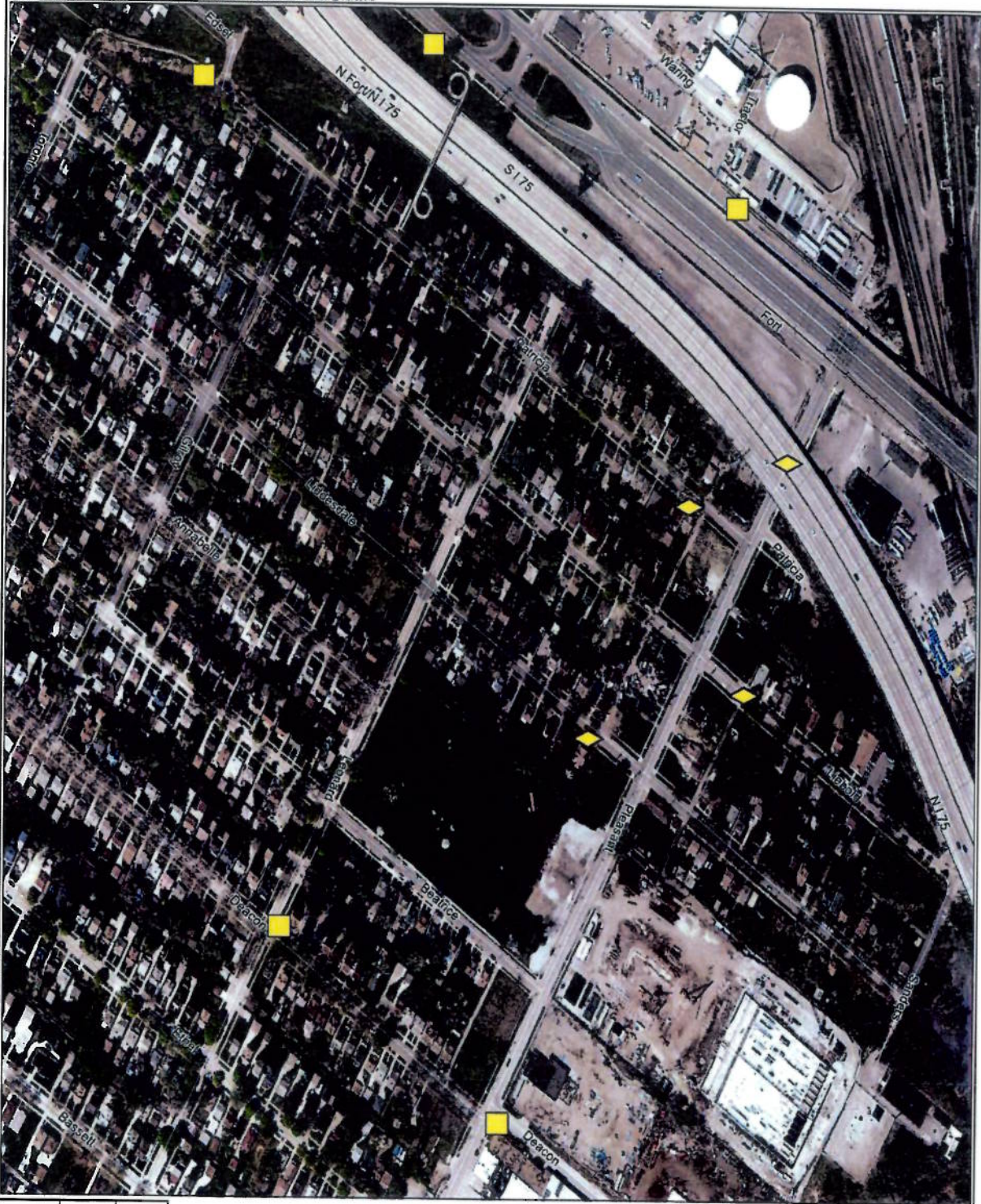
*Attachment 3 – Indoor/Ambient Air Sample Collection Log*

*Attachment 4 – Detailed Weather September 15-16, 2011*

*Attachment 5 – Ambient Air and Wastewater Sample results March 2011 through September 2011*

## **Attachment 1 – Figure 3 Ambient Air Sample Locations**





### LEGEND



MONTHLY BACKGROUND AIR SAMPLE LOCATION

MONTHLY BACKGROUND AIR SAMPLE LOCATION



**MARATHON OIL COMPANY  
1300 SOUTH FORT STREET, DETROIT, MICHIGAN  
SEWER VAPOR INVESTIGATION WORK PLAN  
AMBIENT AIR SAMPLE LOCATIONS**



## **Attachment 2 – Analytical Results**





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Mr. Greg Shay  
Marathon Petroleum Co., MI  
1300 South Fort Street  
Detroit, MI 48217

### Report Summary

Wednesday September 21, 2011

Report Number: L536833

Samples Received: 09/17/11

Client Project:

Description: Ambient Air Monitoring

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Craig Cothron, ESC Representative

### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487  
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140  
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233  
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,  
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Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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# REPORT OF ANALYSIS

September 21, 2011

Mr. Greg Shay  
Marathon Petroleum Co., MI  
1300 South Fort Street  
Detroit, MI 48217

Date Received : September 17, 2011  
Description : Ambient Air Monitoring

ESC Sample # : L536833-01

Sample ID : EAST FORT

Site ID :

Collected By : Landon Eenigenburg  
Collection Date : 09/16/11 08:09

Project # :

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
Volatile Organics									
Acetone	67-64-1	58.1	1.25	3.00	3.8	9.0	TO-15	09/20/11	1
Allyl chloride	107-05-1	76.53	0.200	0.630	< 0.20	< 0.63	TO-15	09/20/11	1
Benzene	71-43-2	78.1	0.200	0.640	0.41	1.3	TO-15	09/20/11	1
Benzyl Chloride	100-44-7	127	0.200	1.00	< 0.20	< 1.0	TO-15	09/20/11	1
Bromodichloromethane	75-27-4	164	0.200	1.30	< 0.20	< 1.3	TO-15	09/20/11	1
Bromoform	75-25-2	253	0.600	6.20	< 0.60	< 6.2	TO-15	09/20/11	1
Bromomethane	74-83-9	94.9	0.200	0.780	< 0.20	< 0.78	TO-15	09/20/11	1
1,3-Butadiene	106-99-0	54.1	2.00	4.40	< 2.0	< 4.4	TO-15	09/20/11	1
Carbon disulfide	75-15-0	76.1	0.200	0.620	< 0.20	< 0.62	TO-15	09/20/11	1
Carbon tetrachloride	56-23-5	154	0.200	1.30	< 0.20	< 1.3	TO-15	09/20/11	1
Chlorobenzene	108-90-7	113	0.200	0.920	< 0.20	< 0.92	TO-15	09/20/11	1
Chloroethane	75-00-3	64.5	0.200	0.530	< 0.20	< 0.53	TO-15	09/20/11	1
Chloroform	67-66-3	119	0.200	0.970	< 0.20	< 0.97	TO-15	09/20/11	1
Chloromethane	74-87-3	50.5	0.200	0.410	0.39	0.81	TO-15	09/20/11	1
2-Chlorotoluene	95-49-8	126	0.200	1.00	< 0.20	< 1.0	TO-15	09/20/11	1
Cyclohexane	110-82-7	84.2	0.200	0.690	0.61	2.1	TO-15	09/20/11	1
Dibromochloromethane	124-48-1	208	0.200	1.70	< 0.20	< 1.7	TO-15	09/20/11	1
1,2-Dibromoethane	106-93-4	188	0.200	1.50	< 0.20	< 1.5	TO-15	09/20/11	1
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,2-Dichloroethane	107-06-2	99	0.200	0.810	< 0.20	< 0.81	TO-15	09/20/11	1
1,1-Dichloroethane	75-34-3	98	0.200	0.800	< 0.20	< 0.80	TO-15	09/20/11	1
1,1-Dichloroethene	75-35-4	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
cis-1,2-Dichloroethene	156-59-2	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
trans-1,2-Dichloroethene	156-60-5	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
1,2-Dichloropropane	78-87-5	113	0.200	0.920	< 0.20	< 0.92	TO-15	09/20/11	1
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.910	< 0.20	< 0.91	TO-15	09/20/11	1
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.910	< 0.20	< 0.91	TO-15	09/20/11	1
1,4-Dioxane	123-91-1	88.1	0.200	0.720	1.3	4.7	TO-15	09/20/11	1
Ethanol	64-17-5	46.1	0.630	1.20	7.8	15.	TO-15	09/20/11	1
Ethylbenzene	100-41-4	106	0.200	0.870	0.41	1.8	TO-15	09/20/11	1
4-Ethyltoluene	622-96-8	120	0.200	0.980	0.52	2.6	TO-15	09/20/11	1
Trichlorofluoromethane	75-69-4	137.4	0.200	1.10	0.21	1.2	TO-15	09/20/11	1
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.990	0.44	2.2	TO-15	09/20/11	1
1,1,2-Trichlorotrifluoroethane	76-13-1	187.4	0.200	1.50	< 0.20	< 1.5	TO-15	09/20/11	1
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Heptane	142-82-5	100	0.200	0.820	0.77	3.1	TO-15	09/20/11	1
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.70	< 0.63	< 6.7	TO-15	09/20/11	1
n-Hexane	110-54-3	86.2	0.200	0.710	0.79	2.8	TO-15	09/20/11	1
Isopropylbenzene	98-82-8	120.2	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
Methylene Chloride	75-09-2	84.9	0.200	0.690	< 0.20	< 0.69	TO-15	09/20/11	1
Methyl Butyl Ketone	591-78-6	100	1.25	5.10	< 1.3	< 5.1	TO-15	09/20/11	1

RDL1 = ppbv , RDL2 = ug/m3

Note:

Units are based on (STP) - Standard Temperature and Pressure

The reported analytical results relate only to the sample submitted.

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# REPORT OF ANALYSIS

September 21, 2011

Mr. Greg Shay  
Marathon Petroleum Co., MI  
1300 South Fort Street  
Detroit, MI 48217

Date Received : September 17, 2011  
Description : Ambient Air Monitoring  
Sample ID : EAST FORT  
Collected By : Landon Eenigenburg  
Collection Date : 09/16/11 08:09

ESC Sample # : L536833-01

Site ID :

Project # :

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
2-Butanone (MEK)	78-93-3	72.1	1.25	3.70	< 1.3	< 3.7	TO-15	09/20/11	1
4-Methyl-2-pentanone (MIBK)	108-10-1	100.1	1.25	5.10	< 1.3	< 5.1	TO-15	09/20/11	1
Methyl methacrylate	80-62-6	100.12	0.200	0.820	< 0.20	< 0.82	TO-15	09/20/11	1
MTBE	1634-04-4	88.1	0.200	0.720	< 0.20	< 0.72	TO-15	09/20/11	1
Naphthalene	91-20-3	128	0.630	3.30	< 0.63	< 3.3	TO-15	09/20/11	1
2-Propanol	67-63-0	60.1	1.25	3.10	< 1.3	< 3.1	TO-15	09/20/11	1
Propene	115-07-1	42.1	0.400	0.690	1.6	2.8	TO-15	09/20/11	1
Styrene	100-42-5	104	0.200	0.850	< 0.20	< 0.85	TO-15	09/20/11	1
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Tetrachloroethylene	127-18-4	166	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Tetrahydrofuran	109-99-9	72.1	0.200	0.590	< 0.20	< 0.59	TO-15	09/20/11	1
Toluene	108-88-3	92.1	0.200	0.750	1.6	6.0	TO-15	09/20/11	1
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.70	< 0.63	< 4.7	TO-15	09/20/11	1
1,1,1-Trichloroethane	71-55-6	133	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
1,1,2-Trichloroethane	79-00-5	133	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
Trichloroethylene	79-01-6	131	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.980	3.0	15.	TO-15	09/20/11	1
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.980	0.76	3.7	TO-15	09/20/11	1
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.930	0.34	1.6	TO-15	09/20/11	1
Vinyl chloride	75-01-4	62.5	0.200	0.510	< 0.20	< 0.51	TO-15	09/20/11	1
Vinyl Bromide	593-60-2	106.95	0.200	0.870	< 0.20	< 0.87	TO-15	09/20/11	1
Vinyl acetate	108-05-4	86.1	0.200	0.700	< 0.20	< 0.70	TO-15	09/20/11	1
m&p-Xylene	1330-20-7	106	0.400	1.70	3.0	13.	TO-15	09/20/11	1
o-Xylene	95-47-6	106	0.200	0.870	1.0	4.3	TO-15	09/20/11	1
1,4-Bromofluorobenzene	460-00-4				81.34	% Rec.	TO-15	09/20/11	1

RDL1 = ppbv , RDL2 = ug/m3

Note:

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September 21, 2011

Mr. Greg Shay  
Marathon Petroleum Co., MI  
1300 South Fort Street  
Detroit, MI 48217

Date Received : September 17, 2011  
Description : Ambient Air Monitoring  
Sample ID : I-75  
Collected By : Landon Eenigenburg  
Collection Date : 09/16/11 08:14

ESC Sample # : L536833-02

Site ID :

Project # :

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
Volatile Organics									
Acetone	67-64-1	58.1	1.25	3.00	2.9	6.9	TO-15	09/20/11	1
Allyl chloride	107-05-1	76.53	0.200	0.630	< 0.20	< 0.63	TO-15	09/20/11	1
Benzene	71-43-2	78.1	0.200	0.640	0.30	0.96	TO-15	09/20/11	1
Benzyl Chloride	100-44-7	127	0.200	1.00	< 0.20	< 1.0	TO-15	09/20/11	1
Bromodichloromethane	75-27-4	164	0.200	1.30	< 0.20	< 1.3	TO-15	09/20/11	1
Bromoform	75-25-2	253	0.600	6.20	< 0.60	< 6.2	TO-15	09/20/11	1
Bromomethane	74-83-9	94.9	0.200	0.780	< 0.20	< 0.78	TO-15	09/20/11	1
1,3-Butadiene	106-99-0	54.1	2.00	4.40	< 2.0	< 4.4	TO-15	09/20/11	1
Carbon disulfide	75-15-0	76.1	0.200	0.620	< 0.20	< 0.62	TO-15	09/20/11	1
Carbon tetrachloride	56-23-5	154	0.200	1.30	< 0.20	< 1.3	TO-15	09/20/11	1
Chlorobenzene	108-90-7	113	0.200	0.920	< 0.20	< 0.92	TO-15	09/20/11	1
Chloroethane	75-00-3	64.5	0.200	0.530	< 0.20	< 0.53	TO-15	09/20/11	1
Chloroform	67-66-3	119	0.200	0.970	< 0.20	< 0.97	TO-15	09/20/11	1
Chloromethane	74-87-3	50.5	0.200	0.410	0.38	0.78	TO-15	09/20/11	1
2-Chlorotoluene	95-49-8	126	0.200	1.00	< 0.20	< 1.0	TO-15	09/20/11	1
Cyclohexane	110-82-7	84.2	0.200	0.690	< 0.20	< 0.69	TO-15	09/20/11	1
Dibromochloromethane	124-48-1	208	0.200	1.70	< 0.20	< 1.7	TO-15	09/20/11	1
1,2-Dibromoethane	106-93-4	188	0.200	1.50	< 0.20	< 1.5	TO-15	09/20/11	1
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,2-Dichloroethane	107-06-2	99	0.200	0.810	< 0.20	< 0.81	TO-15	09/20/11	1
1,1-Dichloroethane	75-34-3	98	0.200	0.800	< 0.20	< 0.80	TO-15	09/20/11	1
1,1-Dichloroethene	75-35-4	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
cis-1,2-Dichloroethene	156-59-2	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
trans-1,2-Dichloroethene	156-60-5	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
1,2-Dichloropropane	78-87-5	113	0.200	0.920	< 0.20	< 0.92	TO-15	09/20/11	1
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.910	< 0.20	< 0.91	TO-15	09/20/11	1
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.910	< 0.20	< 0.91	TO-15	09/20/11	1
1,4-Dioxane	123-91-1	88.1	0.200	0.720	< 0.20	< 0.72	TO-15	09/20/11	1
Ethanol	64-17-5	46.1	0.630	1.20	12.	23.	TO-15	09/20/11	1
Ethylbenzene	100-41-4	106	0.200	0.870	< 0.20	< 0.87	TO-15	09/20/11	1
4-Ethyltoluene	622-96-8	120	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
Trichlorofluoromethane	75-69-4	137.4	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.990	0.43	2.1	TO-15	09/20/11	1
1,1,2-Trichlorotrifluoroethane	76-13-1	187.4	0.200	1.50	< 0.20	< 1.5	TO-15	09/20/11	1
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Heptane	142-82-5	100	0.200	0.820	< 0.20	< 0.82	TO-15	09/20/11	1
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.70	< 0.63	< 6.7	TO-15	09/20/11	1
n-Hexane	110-54-3	86.2	0.200	0.710	0.29	1.0	TO-15	09/20/11	1
Isopropylbenzene	98-82-8	120.2	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
Methylene Chloride	75-09-2	84.9	0.200	0.690	< 0.20	< 0.69	TO-15	09/20/11	1
Methyl Butyl Ketone	591-78-6	100	1.25	5.10	< 1.3	< 5.1	TO-15	09/20/11	1

RDL1 = ppbv , RDL2 = ug/m3

Note:

Units are based on (STP) - Standard Temperature and Pressure

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September 21, 2011

Mr. Greg Shay  
Marathon Petroleum Co., MI  
1300 South Fort Street  
Detroit, MI 48217

Date Received : September 17, 2011  
Description : Ambient Air Monitoring

ESC Sample # : L536833-02

Sample ID : I-75

Site ID :

Collected By : Landon Eenigenburg  
Collection Date : 09/16/11 08:14

Project # :

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
2-Butanone (MEK)	78-93-3	72.1	1.25	3.70	< 1.3	< 3.7	TO-15	09/20/11	1
4-Methyl-2-pentanone (MIBK)	108-10-1	100.1	1.25	5.10	< 1.3	< 5.1	TO-15	09/20/11	1
Methyl methacrylate	80-62-6	100.12	0.200	0.820	< 0.20	< 0.82	TO-15	09/20/11	1
MTBE	1634-04-4	88.1	0.200	0.720	< 0.20	< 0.72	TO-15	09/20/11	1
Naphthalene	91-20-3	128	0.630	3.30	< 0.63	< 3.3	TO-15	09/20/11	1
2-Propanol	67-63-0	60.1	1.25	3.10	< 1.3	< 3.1	TO-15	09/20/11	1
Propene	115-07-1	42.1	0.400	0.690	0.96	1.7	TO-15	09/20/11	1
Styrene	100-42-5	104	0.200	0.850	< 0.20	< 0.85	TO-15	09/20/11	1
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Tetrachloroethylene	127-18-4	166	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Tetrahydrofuran	109-99-9	72.1	0.200	0.590	< 0.20	< 0.59	TO-15	09/20/11	1
Toluene	108-88-3	92.1	0.200	0.750	0.99	3.7	TO-15	09/20/11	1
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.70	< 0.63	< 4.7	TO-15	09/20/11	1
1,1,1-Trichloroethane	71-55-6	133	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
1,1,2-Trichloroethane	79-00-5	133	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
Trichloroethylene	79-01-6	131	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.930	< 0.20	< 0.93	TO-15	09/20/11	1
Vinyl chloride	75-01-4	62.5	0.200	0.510	< 0.20	< 0.51	TO-15	09/20/11	1
Vinyl Bromide	593-60-2	106.95	0.200	0.870	< 0.20	< 0.87	TO-15	09/20/11	1
Vinyl acetate	108-05-4	86.1	0.200	0.700	< 0.20	< 0.70	TO-15	09/20/11	1
m&p-Xylene	1330-20-7	106	0.400	1.70	0.63	2.7	TO-15	09/20/11	1
o-Xylene	95-47-6	106	0.200	0.870	< 0.20	< 0.87	TO-15	09/20/11	1
1,4-Bromofluorobenzene	460-00-4				79.71	% Rec.	TO-15	09/20/11	1

RDL1 = ppbv , RDL2 = ug/m3

Note:

Units are based on (STP) - Standard Temperature and Pressure

The reported analytical results relate only to the sample submitted.

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Est. 1970

# REPORT OF ANALYSIS

September 21, 2011

Mr. Greg Shay  
Marathon Petroleum Co., MI  
1300 South Fort Street  
Detroit, MI 48217

Date Received : September 17, 2011  
Description : Ambient Air Monitoring

ESC Sample # : L536833-03

Sample ID : PATRICIA

Site ID :

Collected By : Landon Eenigenburg  
Collection Date : 09/16/11 08:17

Project # :

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
Volatile Organics									
Acetone	67-64-1	58.1	1.25	3.00	2.8	6.7	TO-15	09/20/11	1
Allyl chloride	107-05-1	76.53	0.200	0.630	< 0.20	< 0.63	TO-15	09/20/11	1
Benzene	71-43-2	78.1	0.200	0.640	0.29	0.93	TO-15	09/20/11	1
Benzyl Chloride	100-44-7	127	0.200	1.00	< 0.20	< 1.0	TO-15	09/20/11	1
Bromodichloromethane	75-27-4	164	0.200	1.30	< 0.20	< 1.3	TO-15	09/20/11	1
Bromoform	75-25-2	253	0.600	6.20	< 0.60	< 6.2	TO-15	09/20/11	1
Bromomethane	74-83-9	94.9	0.200	0.780	< 0.20	< 0.78	TO-15	09/20/11	1
1,3-Butadiene	106-99-0	54.1	2.00	4.40	< 2.0	< 4.4	TO-15	09/20/11	1
Carbon disulfide	75-15-0	76.1	0.200	0.620	< 0.20	< 0.62	TO-15	09/20/11	1
Carbon tetrachloride	56-23-5	154	0.200	1.30	< 0.20	< 1.3	TO-15	09/20/11	1
Chlorobenzene	108-90-7	113	0.200	0.920	< 0.20	< 0.92	TO-15	09/20/11	1
Chloroethane	75-00-3	64.5	0.200	0.530	< 0.20	< 0.53	TO-15	09/20/11	1
Chloroform	67-66-3	119	0.200	0.970	< 0.20	< 0.97	TO-15	09/20/11	1
Chloromethane	74-87-3	50.5	0.200	0.410	0.38	0.78	TO-15	09/20/11	1
2-Chlorotoluene	95-49-8	126	0.200	1.00	< 0.20	< 1.0	TO-15	09/20/11	1
Cyclohexane	110-82-7	84.2	0.200	0.690	< 0.20	< 0.69	TO-15	09/20/11	1
Dibromochloromethane	124-48-1	208	0.200	1.70	< 0.20	< 1.7	TO-15	09/20/11	1
1,2-Dibromoethane	106-93-4	188	0.200	1.50	< 0.20	< 1.5	TO-15	09/20/11	1
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,2-Dichloroethane	107-06-2	99	0.200	0.810	< 0.20	< 0.81	TO-15	09/20/11	1
1,1-Dichloroethane	75-34-3	98	0.200	0.800	< 0.20	< 0.80	TO-15	09/20/11	1
1,1-Dichloroethene	75-35-4	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
cis-1,2-Dichloroethene	156-59-2	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
trans-1,2-Dichloroethene	156-60-5	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
1,2-Dichloropropane	78-87-5	113	0.200	0.920	< 0.20	< 0.92	TO-15	09/20/11	1
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.910	< 0.20	< 0.91	TO-15	09/20/11	1
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.910	< 0.20	< 0.91	TO-15	09/20/11	1
1,4-Dioxane	123-91-1	88.1	0.200	0.720	< 0.20	< 0.72	TO-15	09/20/11	1
Ethanol	64-17-5	46.1	0.630	1.20	9.8	18.	TO-15	09/20/11	1
Ethylbenzene	100-41-4	106	0.200	0.870	< 0.20	< 0.87	TO-15	09/20/11	1
4-Ethyltoluene	622-96-8	120	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
Trichlorofluoromethane	75-69-4	137.4	0.200	1.10	0.20	1.1	TO-15	09/20/11	1
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.990	0.41	2.0	TO-15	09/20/11	1
1,1,2-Trichlorotrifluoroethane	76-13-1	187.4	0.200	1.50	< 0.20	< 1.5	TO-15	09/20/11	1
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Heptane	142-82-5	100	0.200	0.820	< 0.20	< 0.82	TO-15	09/20/11	1
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.70	< 0.63	< 6.7	TO-15	09/20/11	1
n-Hexane	110-54-3	86.2	0.200	0.710	0.26	0.92	TO-15	09/20/11	1
Isopropylbenzene	98-82-8	120.2	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
Methylene Chloride	75-09-2	84.9	0.200	0.690	< 0.20	< 0.69	TO-15	09/20/11	1
Methyl Butyl Ketone	591-78-6	100	1.25	5.10	< 1.3	< 5.1	TO-15	09/20/11	1

RDL1 = ppbv , RDL2 = ug/m3

Note:

Units are based on (STP) - Standard Temperature and Pressure

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# REPORT OF ANALYSIS

Mr. Greg Shay  
Marathon Petroleum Co., MI  
1300 South Fort Street  
Detroit, MI 48217

September 21, 2011

Date Received : September 17, 2011  
Description : Ambient Air Monitoring  
Sample ID : PATRICIA  
Collected By : Landon Eenigenburg  
Collection Date : 09/16/11 08:17

ESC Sample # : L536833-03  
Site ID :  
Project # :

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
2-Butanone (MEK)	78-93-3	72.1	1.25	3.70	< 1.3	< 3.7	TO-15	09/20/11	1
4-Methyl-2-pentanone (MIBK)	108-10-1	100.1	1.25	5.10	< 1.3	< 5.1	TO-15	09/20/11	1
Methyl methacrylate	80-62-6	100.12	0.200	0.820	< 0.20	< 0.82	TO-15	09/20/11	1
MTBE	1634-04-4	88.1	0.200	0.720	< 0.20	< 0.72	TO-15	09/20/11	1
Naphthalene	91-20-3	128	0.630	3.30	< 0.63	< 3.3	TO-15	09/20/11	1
2-Propanol	67-63-0	60.1	1.25	3.10	< 1.3	< 3.1	TO-15	09/20/11	1
Propene	115-07-1	42.1	0.400	0.690	0.91	1.6	TO-15	09/20/11	1
Styrene	100-42-5	104	0.200	0.850	< 0.20	< 0.85	TO-15	09/20/11	1
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Tetrachloroethylene	127-18-4	166	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Tetrahydrofuran	109-99-9	72.1	0.200	0.590	< 0.20	< 0.59	TO-15	09/20/11	1
Toluene	108-88-3	92.1	0.200	0.750	0.86	3.2	TO-15	09/20/11	1
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.70	< 0.63	< 4.7	TO-15	09/20/11	1
1,1,1-Trichloroethane	71-55-6	133	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
1,1,2-Trichloroethane	79-00-5	133	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
Trichloroethylene	79-01-6	131	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.930	< 0.20	< 0.93	TO-15	09/20/11	1
Vinyl chloride	75-01-4	62.5	0.200	0.510	< 0.20	< 0.51	TO-15	09/20/11	1
Vinyl Bromide	593-60-2	106.95	0.200	0.870	< 0.20	< 0.87	TO-15	09/20/11	1
Vinyl acetate	108-05-4	86.1	0.200	0.700	< 0.20	< 0.70	TO-15	09/20/11	1
m&p-Xylene	1330-20-7	106	0.400	1.70	0.64	2.8	TO-15	09/20/11	1
o-Xylene	95-47-6	106	0.200	0.870	< 0.20	< 0.87	TO-15	09/20/11	1
1,4-Bromofluorobenzene	460-00-4				80.78	% Rec.	TO-15	09/20/11	1

RDL1 = ppbv , RDL2 = ug/m3

Note:

Units are based on (STP) - Standard Temperature and Pressure

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# REPORT OF ANALYSIS

September 21, 2011

Mr. Greg Shay  
Marathon Petroleum Co., MI  
1300 South Fort Street  
Detroit, MI 48217

Date Received : September 17, 2011  
Description : Ambient Air Monitoring

ESC Sample # : L536833-04

Sample ID : LIDDESDALE

Site ID :

Collected By : Landon Eenigenburg  
Collection Date : 09/16/11 08:20

Project # :

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
<b>Volatile Organics</b>									
Acetone	67-64-1	58.1	1.25	3.00	2.4	5.7	TO-15	09/20/11	1
Allyl chloride	107-05-1	76.53	0.200	0.630	< 0.20	< 0.63	TO-15	09/20/11	1
Benzene	71-43-2	78.1	0.200	0.640	< 0.20	< 0.64	TO-15	09/20/11	1
Benzyl Chloride	100-44-7	127	0.200	1.00	< 0.20	< 1.0	TO-15	09/20/11	1
Bromodichloromethane	75-27-4	164	0.200	1.30	< 0.20	< 1.3	TO-15	09/20/11	1
Bromoform	75-25-2	253	0.600	6.20	< 0.60	< 6.2	TO-15	09/20/11	1
Bromomethane	74-83-9	94.9	0.200	0.780	< 0.20	< 0.78	TO-15	09/20/11	1
1,3-Butadiene	106-99-0	54.1	2.00	4.40	< 2.0	< 4.4	TO-15	09/20/11	1
Carbon disulfide	75-15-0	76.1	0.200	0.620	< 0.20	< 0.62	TO-15	09/20/11	1
Carbon tetrachloride	56-23-5	154	0.200	1.30	< 0.20	< 1.3	TO-15	09/20/11	1
Chlorobenzene	108-90-7	113	0.200	0.920	< 0.20	< 0.92	TO-15	09/20/11	1
Chloroethane	75-00-3	64.5	0.200	0.530	< 0.20	< 0.53	TO-15	09/20/11	1
Chloroform	67-66-3	119	0.200	0.970	< 0.20	< 0.97	TO-15	09/20/11	1
Chloromethane	74-87-3	50.5	0.200	0.410	0.29	0.60	TO-15	09/20/11	1
2-Chlorotoluene	95-49-8	126	0.200	1.00	< 0.20	< 1.0	TO-15	09/20/11	1
Cyclohexane	110-82-7	84.2	0.200	0.690	< 0.20	< 0.69	TO-15	09/20/11	1
Dibromochloromethane	124-48-1	208	0.200	1.70	< 0.20	< 1.7	TO-15	09/20/11	1
1,2-Dibromoethane	106-93-4	188	0.200	1.50	< 0.20	< 1.5	TO-15	09/20/11	1
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,2-Dichloroethane	107-06-2	99	0.200	0.810	< 0.20	< 0.81	TO-15	09/20/11	1
1,1-Dichloroethane	75-34-3	98	0.200	0.800	< 0.20	< 0.80	TO-15	09/20/11	1
1,1-Dichloroethene	75-35-4	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
cis-1,2-Dichloroethene	156-59-2	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
trans-1,2-Dichloroethene	156-60-5	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
1,2-Dichloropropane	78-87-5	113	0.200	0.920	< 0.20	< 0.92	TO-15	09/20/11	1
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.910	< 0.20	< 0.91	TO-15	09/20/11	1
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.910	< 0.20	< 0.91	TO-15	09/20/11	1
1,4-Dioxane	123-91-1	88.1	0.200	0.720	< 0.20	< 0.72	TO-15	09/20/11	1
Ethanol	64-17-5	46.1	0.630	1.20	7.0	13.	TO-15	09/20/11	1
Ethylbenzene	100-41-4	106	0.200	0.870	< 0.20	< 0.87	TO-15	09/20/11	1
4-Ethyltoluene	622-96-8	120	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
Trichlorofluoromethane	75-69-4	137.4	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.990	0.29	1.4	TO-15	09/20/11	1
1,1,2-Trichlorotrifluoroethane	76-13-1	187.4	0.200	1.50	< 0.20	< 1.5	TO-15	09/20/11	1
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Heptane	142-82-5	100	0.200	0.820	< 0.20	< 0.82	TO-15	09/20/11	1
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.70	< 0.63	< 6.7	TO-15	09/20/11	1
n-Hexane	110-54-3	86.2	0.200	0.710	< 0.20	< 0.71	TO-15	09/20/11	1
Isopropylbenzene	98-82-8	120.2	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
Methylene Chloride	75-09-2	84.9	0.200	0.690	< 0.20	< 0.69	TO-15	09/20/11	1
Methyl Butyl Ketone	591-78-6	100	1.25	5.10	< 1.3	< 5.1	TO-15	09/20/11	1

RDL1 = ppbv , RDL2 = ug/m3

Note:

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# REPORT OF ANALYSIS

Mr. Greg Shay  
Marathon Petroleum Co., MI  
1300 South Fort Street  
Detroit, MI 48217

September 21, 2011

Date Received : September 17, 2011  
Description : Ambient Air Monitoring  
Sample ID : LIDDESDALE  
Collected By : Landon Eenigenburg  
Collection Date : 09/16/11 08:20

ESC Sample # : L536833-04

Site ID :

Project # :

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
2-Butanone (MEK)	78-93-3	72.1	1.25	3.70	< 1.3	< 3.7	TO-15	09/20/11	1
4-Methyl-2-pentanone (MIBK)	108-10-1	100.1	1.25	5.10	< 1.3	< 5.1	TO-15	09/20/11	1
Methyl methacrylate	80-62-6	100.12	0.200	0.820	< 0.20	< 0.82	TO-15	09/20/11	1
MTBE	1634-04-4	88.1	0.200	0.720	< 0.20	< 0.72	TO-15	09/20/11	1
Naphthalene	91-20-3	128	0.630	3.30	< 0.63	< 3.3	TO-15	09/20/11	1
2-Propanol	67-63-0	60.1	1.25	3.10	< 1.3	< 3.1	TO-15	09/20/11	1
Propene	115-07-1	42.1	0.400	0.690	< 0.40	< 0.69	TO-15	09/20/11	1
Styrene	100-42-5	104	0.200	0.850	< 0.20	< 0.85	TO-15	09/20/11	1
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Tetrachloroethylene	127-18-4	166	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Tetrahydrofuran	109-99-9	72.1	0.200	0.590	< 0.20	< 0.59	TO-15	09/20/11	1
Toluene	108-88-3	92.1	0.200	0.750	0.54	2.0	TO-15	09/20/11	1
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.70	< 0.63	< 4.7	TO-15	09/20/11	1
1,1,1-Trichloroethane	71-55-6	133	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
1,1,2-Trichloroethane	79-00-5	133	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
Trichloroethylene	79-01-6	131	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.930	< 0.20	< 0.93	TO-15	09/20/11	1
Vinyl chloride	75-01-4	62.5	0.200	0.510	< 0.20	< 0.51	TO-15	09/20/11	1
Vinyl Bromide	593-60-2	106.95	0.200	0.870	< 0.20	< 0.87	TO-15	09/20/11	1
Vinyl acetate	108-05-4	86.1	0.200	0.700	< 0.20	< 0.70	TO-15	09/20/11	1
m&p-Xylene	1330-20-7	106	0.400	1.70	< 0.40	< 1.7	TO-15	09/20/11	1
o-Xylene	95-47-6	106	0.200	0.870	< 0.20	< 0.87	TO-15	09/20/11	1
1,4-Bromofluorobenzene	460-00-4				81.1	% Rec.	TO-15	09/20/11	1

RDL1 = ppbv , RDL2 = ug/m3

Note:

Units are based on (STP) - Standard Temperature and Pressure

The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

September 21, 2011

Mr. Greg Shay  
Marathon Petroleum Co., MI  
1300 South Fort Street  
Detroit, MI 48217

Date Received : September 17, 2011  
Description : Ambient Air Monitoring

Sample ID : LIEBOLD

Collected By : Landon Eenigenburg  
Collection Date : 09/16/11 08:24

ESC Sample # : L536833-05

Site ID :

Project # :

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
Volatile Organics									
Acetone	67-64-1	58.1	1.25	3.00	1.5	3.6	TO-15	09/20/11	1
Allyl chloride	107-05-1	76.53	0.200	0.630	< 0.20	< 0.63	TO-15	09/20/11	1
Benzene	71-43-2	78.1	0.200	0.640	0.29	0.93	TO-15	09/20/11	1
Benzyl Chloride	100-44-7	127	0.200	1.00	< 0.20	< 1.0	TO-15	09/20/11	1
Bromodichloromethane	75-27-4	164	0.200	1.30	< 0.20	< 1.3	TO-15	09/20/11	1
Bromoform	75-25-2	253	0.600	6.20	< 0.60	< 6.2	TO-15	09/20/11	1
Bromomethane	74-83-9	94.9	0.200	0.780	< 0.20	< 0.78	TO-15	09/20/11	1
1,3-Butadiene	106-99-0	54.1	2.00	4.40	< 2.0	< 4.4	TO-15	09/20/11	1
Carbon disulfide	75-15-0	76.1	0.200	0.620	< 0.20	< 0.62	TO-15	09/20/11	1
Carbon tetrachloride	56-23-5	154	0.200	1.30	< 0.20	< 1.3	TO-15	09/20/11	1
Chlorobenzene	108-90-7	113	0.200	0.920	< 0.20	< 0.92	TO-15	09/20/11	1
Chloroethane	75-00-3	64.5	0.200	0.530	< 0.20	< 0.53	TO-15	09/20/11	1
Chloroform	67-66-3	119	0.200	0.970	< 0.20	< 0.97	TO-15	09/20/11	1
Chloromethane	74-87-3	50.5	0.200	0.410	0.40	0.83	TO-15	09/20/11	1
2-Chlorotoluene	95-49-8	126	0.200	1.00	< 0.20	< 1.0	TO-15	09/20/11	1
Cyclohexane	110-82-7	84.2	0.200	0.690	< 0.20	< 0.69	TO-15	09/20/11	1
Dibromochloromethane	124-48-1	208	0.200	1.70	< 0.20	< 1.7	TO-15	09/20/11	1
1,2-Dibromoethane	106-93-4	188	0.200	1.50	< 0.20	< 1.5	TO-15	09/20/11	1
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,2-Dichloroethane	107-06-2	99	0.200	0.810	< 0.20	< 0.81	TO-15	09/20/11	1
1,1-Dichloroethane	75-34-3	98	0.200	0.800	< 0.20	< 0.80	TO-15	09/20/11	1
1,1-Dichloroethene	75-35-4	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
cis-1,2-Dichloroethene	156-59-2	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
trans-1,2-Dichloroethene	156-60-5	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
1,2-Dichloropropane	78-87-5	113	0.200	0.920	< 0.20	< 0.92	TO-15	09/20/11	1
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.910	< 0.20	< 0.91	TO-15	09/20/11	1
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.910	< 0.20	< 0.91	TO-15	09/20/11	1
1,4-Dioxane	123-91-1	88.1	0.200	0.720	< 0.20	< 0.72	TO-15	09/20/11	1
Ethanol	64-17-5	46.1	0.630	1.20	9.2	17.	TO-15	09/20/11	1
Ethylbenzene	100-41-4	106	0.200	0.870	< 0.20	< 0.87	TO-15	09/20/11	1
4-Ethyltoluene	622-96-8	120	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
Trichlorofluoromethane	75-69-4	137.4	0.200	1.10	0.23	1.3	TO-15	09/20/11	1
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.990	0.47	2.3	TO-15	09/20/11	1
1,1,2-Trichlorotrifluoroethane	76-13-1	187.4	0.200	1.50	< 0.20	< 1.5	TO-15	09/20/11	1
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Heptane	142-82-5	100	0.200	0.820	< 0.20	< 0.82	TO-15	09/20/11	1
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.70	< 0.63	< 6.7	TO-15	09/20/11	1
n-Hexane	110-54-3	86.2	0.200	0.710	0.21	0.74	TO-15	09/20/11	1
Isopropylbenzene	98-82-8	120.2	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
Methylene Chloride	75-09-2	84.9	0.200	0.690	< 0.20	< 0.69	TO-15	09/20/11	1
Methyl Butyl Ketone	591-78-6	100	1.25	5.10	< 1.3	< 5.1	TO-15	09/20/11	1

RDL1 = ppbv , RDL2 = ug/m3

Note:

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# REPORT OF ANALYSIS

Mr. Greg Shay  
Marathon Petroleum Co., MI  
1300 South Fort Street  
Detroit, MI 48217

September 21, 2011

Date Received : September 17, 2011  
Description : Ambient Air Monitoring  
Sample ID : LIEBOLD  
Collected By : Landon Eenigenburg  
Collection Date : 09/16/11 08:24

ESC Sample # : L536833-05

Site ID :

Project # :

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
2-Butanone (MEK)	78-93-3	72.1	1.25	3.70	< 1.3	< 3.7	TO-15	09/20/11	1
4-Methyl-2-pentanone (MIBK)	108-10-1	100.1	1.25	5.10	< 1.3	< 5.1	TO-15	09/20/11	1
Methyl methacrylate	80-62-6	100.12	0.200	0.820	< 0.20	< 0.82	TO-15	09/20/11	1
MTBE	1634-04-4	88.1	0.200	0.720	< 0.20	< 0.72	TO-15	09/20/11	1
Naphthalene	91-20-3	128	0.630	3.30	< 0.63	< 3.3	TO-15	09/20/11	1
2-Propanol	67-63-0	60.1	1.25	3.10	< 1.3	< 3.1	TO-15	09/20/11	1
Propene	115-07-1	42.1	0.400	0.690	< 0.40	< 0.69	TO-15	09/20/11	1
Styrene	100-42-5	104	0.200	0.850	< 0.20	< 0.85	TO-15	09/20/11	1
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Tetrachloroethylene	127-18-4	166	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Tetrahydrofuran	109-99-9	72.1	0.200	0.590	< 0.20	< 0.59	TO-15	09/20/11	1
Toluene	108-88-3	92.1	0.200	0.750	0.91	3.4	TO-15	09/20/11	1
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.70	< 0.63	< 4.7	TO-15	09/20/11	1
1,1,1-Trichloroethane	71-55-6	133	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
1,1,2-Trichloroethane	79-00-5	133	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
Trichloroethylene	79-01-6	131	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.930	< 0.20	< 0.93	TO-15	09/20/11	1
Vinyl chloride	75-01-4	62.5	0.200	0.510	< 0.20	< 0.51	TO-15	09/20/11	1
Vinyl Bromide	593-60-2	106.95	0.200	0.870	< 0.20	< 0.87	TO-15	09/20/11	1
Vinyl acetate	108-05-4	86.1	0.200	0.700	< 0.20	< 0.70	TO-15	09/20/11	1
m,p-Xylene	1330-20-7	106	0.400	1.70	0.49	2.1	TO-15	09/20/11	1
o-Xylene	95-47-6	106	0.200	0.870	< 0.20	< 0.87	TO-15	09/20/11	1
1,4-Bromofluorobenzene	460-00-4				81.04	% Rec.	TO-15	09/20/11	1

RDL1 = ppbv , RDL2 = ug/m3

Note:

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# REPORT OF ANALYSIS

September 21, 2011

Mr. Greg Shay  
Marathon Petroleum Co., MI  
1300 South Fort Street  
Detroit, MI 48217

Date Received : September 17, 2011  
Description : Ambient Air Monitoring

ESC Sample # : L536833-06

Sample ID : WEST FORT

Site ID :

Collected By : Landon Eenigenburg  
Collection Date : 09/16/11 08:31

Project # :

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
Volatile Organics									
Acetone	67-64-1	58.1	1.25	3.00	4.2	10.	TO-15	09/20/11	1
Allyl chloride	107-05-1	76.53	0.200	0.630	< 0.20	< 0.63	TO-15	09/20/11	1
Benzene	71-43-2	78.1	0.200	0.640	0.28	0.89	TO-15	09/20/11	1
Benzyl Chloride	100-44-7	127	0.200	1.00	< 0.20	< 1.0	TO-15	09/20/11	1
Bromodichloromethane	75-27-4	164	0.200	1.30	< 0.20	< 1.3	TO-15	09/20/11	1
Bromoform	75-25-2	253	0.600	6.20	< 0.60	< 6.2	TO-15	09/20/11	1
Bromomethane	74-83-9	94.9	0.200	0.780	< 0.20	< 0.78	TO-15	09/20/11	1
1,3-Butadiene	106-99-0	54.1	2.00	4.40	< 2.0	< 4.4	TO-15	09/20/11	1
Carbon disulfide	75-15-0	76.1	0.200	0.620	< 0.20	< 0.62	TO-15	09/20/11	1
Carbon tetrachloride	56-23-5	154	0.200	1.30	< 0.20	< 1.3	TO-15	09/20/11	1
Chlorobenzene	108-90-7	113	0.200	0.920	< 0.20	< 0.92	TO-15	09/20/11	1
Chloroethane	75-00-3	64.5	0.200	0.530	< 0.20	< 0.53	TO-15	09/20/11	1
Chloroform	67-66-3	119	0.200	0.970	< 0.20	< 0.97	TO-15	09/20/11	1
Chloromethane	74-87-3	50.5	0.200	0.410	0.34	0.70	TO-15	09/20/11	1
2-Chlorotoluene	95-49-8	126	0.200	1.00	< 0.20	< 1.0	TO-15	09/20/11	1
Cyclohexane	110-82-7	84.2	0.200	0.690	< 0.20	< 0.69	TO-15	09/20/11	1
Dibromochloromethane	124-48-1	208	0.200	1.70	< 0.20	< 1.7	TO-15	09/20/11	1
1,2-Dibromoethane	106-93-4	188	0.200	1.50	< 0.20	< 1.5	TO-15	09/20/11	1
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	< 0.20	< 1.2	TO-15	09/20/11	1
1,2-Dichloroethane	107-06-2	99	0.200	0.810	< 0.20	< 0.81	TO-15	09/20/11	1
1,1-Dichloroethane	75-34-3	98	0.200	0.800	< 0.20	< 0.80	TO-15	09/20/11	1
1,1-Dichloroethene	75-35-4	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
cis-1,2-Dichloroethene	156-59-2	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
trans-1,2-Dichloroethene	156-60-5	96.9	0.200	0.790	< 0.20	< 0.79	TO-15	09/20/11	1
1,2-Dichloropropane	78-87-5	113	0.200	0.920	< 0.20	< 0.92	TO-15	09/20/11	1
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.910	< 0.20	< 0.91	TO-15	09/20/11	1
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.910	< 0.20	< 0.91	TO-15	09/20/11	1
1,4-Dioxane	123-91-1	88.1	0.200	0.720	< 0.20	< 0.72	TO-15	09/20/11	1
Ethanol	64-17-5	46.1	0.630	1.20	11.	21.	TO-15	09/20/11	1
Ethylbenzene	100-41-4	106	0.200	0.870	< 0.20	< 0.87	TO-15	09/20/11	1
4-Ethyltoluene	622-96-8	120	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
Trichlorofluoromethane	75-69-4	137.4	0.200	1.10	0.21	1.2	TO-15	09/20/11	1
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.990	0.40	2.0	TO-15	09/20/11	1
1,1,2-Trichlorotrifluoroethane	76-13-1	187.4	0.200	1.50	< 0.20	< 1.5	TO-15	09/20/11	1
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Heptane	142-82-5	100	0.200	0.820	0.28	1.1	TO-15	09/20/11	1
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.70	< 0.63	< 6.7	TO-15	09/20/11	1
n-Hexane	110-54-3	86.2	0.200	0.710	0.85	3.0	TO-15	09/20/11	1
Isopropylbenzene	98-82-8	120.2	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
Methylene Chloride	75-09-2	84.9	0.200	0.690	< 0.20	< 0.69	TO-15	09/20/11	1
Methyl Butyl Ketone	591-78-6	100	1.25	5.10	< 1.3	< 5.1	TO-15	09/20/11	1

RDL1 = ppbv , RDL2 = ug/m3

Note:

Units are based on (STP) - Standard Temperature and Pressure

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# REPORT OF ANALYSIS

Mr. Greg Shay  
Marathon Petroleum Co., MI  
1300 South Fort Street  
Detroit, MI 48217

September 21, 2011

Date Received : September 17, 2011  
Description : Ambient Air Monitoring  
Sample ID : WEST FORT  
Collected By : Landon Eenigenburg  
Collection Date : 09/16/11 08:31

ESC Sample # : L536833-06

Site ID :

Project # :

Parameter	Cas#	Mol Wght	RDL1	RDL2	ppbv	ug/m3	Method	Date	Dil.
2-Butanone (MEK)	78-93-3	72.1	1.25	3.70	< 1.3	< 3.7	TO-15	09/20/11	1
4-Methyl-2-pentanone (MIBK)	108-10-1	100.1	1.25	5.10	< 1.3	< 5.1	TO-15	09/20/11	1
Methyl methacrylate	80-62-6	100.12	0.200	0.820	< 0.20	< 0.82	TO-15	09/20/11	1
MTBE	1634-04-4	88.1	0.200	0.720	< 0.20	< 0.72	TO-15	09/20/11	1
Naphthalene	91-20-3	128	0.630	3.30	< 0.63	< 3.3	TO-15	09/20/11	1
2-Propanol	67-63-0	60.1	1.25	3.10	< 1.3	< 3.1	TO-15	09/20/11	1
Propene	115-07-1	42.1	0.400	0.690	1.1	1.9	TO-15	09/20/11	1
Styrene	100-42-5	104	0.200	0.850	< 0.20	< 0.85	TO-15	09/20/11	1
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Tetrachloroethylene	127-18-4	166	0.200	1.40	< 0.20	< 1.4	TO-15	09/20/11	1
Tetrahydrofuran	109-99-9	72.1	0.200	0.590	< 0.20	< 0.59	TO-15	09/20/11	1
Toluene	108-88-3	92.1	0.200	0.750	0.89	3.4	TO-15	09/20/11	1
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.70	< 0.63	< 4.7	TO-15	09/20/11	1
1,1,1-Trichloroethane	71-55-6	133	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
1,1,2-Trichloroethane	79-00-5	133	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
Trichloroethylene	79-01-6	131	0.200	1.10	< 0.20	< 1.1	TO-15	09/20/11	1
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.980	< 0.20	< 0.98	TO-15	09/20/11	1
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.930	< 0.20	< 0.93	TO-15	09/20/11	1
Vinyl chloride	75-01-4	62.5	0.200	0.510	< 0.20	< 0.51	TO-15	09/20/11	1
Vinyl Bromide	593-60-2	106.95	0.200	0.870	< 0.20	< 0.87	TO-15	09/20/11	1
Vinyl acetate	108-05-4	86.1	0.200	0.700	< 0.20	< 0.70	TO-15	09/20/11	1
m&p-Xylene	1330-20-7	106	0.400	1.70	0.78	3.4	TO-15	09/20/11	1
o-Xylene	95-47-6	106	0.200	0.870	0.21	0.91	TO-15	09/20/11	1
1,4-Bromofluorobenzene	460-00-4				80.97	% Rec.	TO-15	09/20/11	1

RDL1 = ppbv , RDL2 = ug/m3

Note:

Units are based on (STP) - Standard Temperature and Pressure

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 09/21/11 11:39 Printed: 09/21/11 12:45

Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L536833-01	WG556069	SAMP	Benzyl Chloride	R1864972	J4
	WG556069	SAMP	Hexachloro-1,3-butadiene	R1864972	J4
L536833-02	WG556069	SAMP	Benzyl Chloride	R1864972	J4
	WG556069	SAMP	Hexachloro-1,3-butadiene	R1864972	J4
L536833-03	WG556069	SAMP	Benzyl Chloride	R1864972	J4
	WG556069	SAMP	Hexachloro-1,3-butadiene	R1864972	J4
L536833-04	WG556069	SAMP	Benzyl Chloride	R1864972	J4
	WG556069	SAMP	Hexachloro-1,3-butadiene	R1864972	J4
L536833-05	WG556069	SAMP	Benzyl Chloride	R1864972	J4
	WG556069	SAMP	Hexachloro-1,3-butadiene	R1864972	J4
L536833-06	WG556069	SAMP	Benzyl Chloride	R1864972	J4
	WG556069	SAMP	Hexachloro-1,3-butadiene	R1864972	J4

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J4	The associated batch QC was outside the established quality control range for accuracy.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



Summary of Remarks For Samples Printed  
09/21/11 at 12:45:22

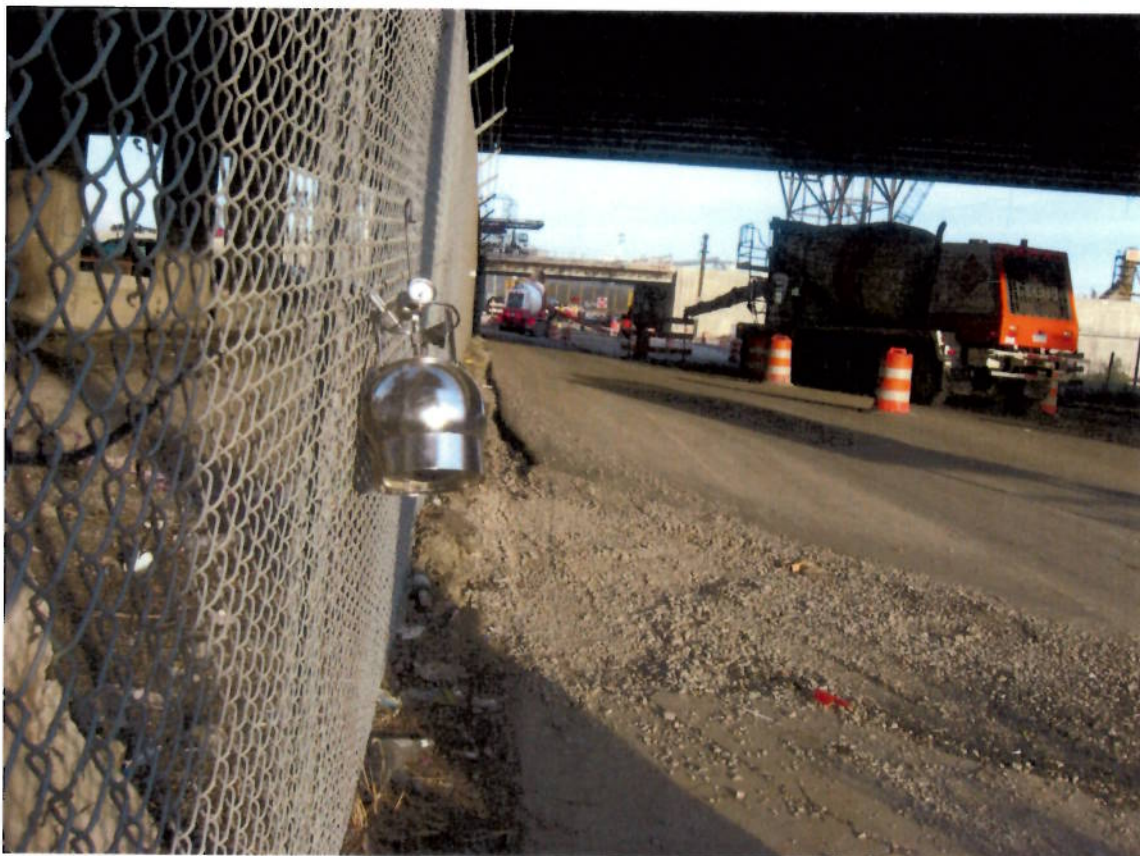
TSR Signing Reports: 034  
R5 - Desired TAT

standing PO# for 3rd qtr. 2011

Sample: L536833-01	Account: MAROILDMI	Received: 09/17/11 09:00	Due Date: 09/23/11 00:00	RPT Date: 09/21/11 11:39
Sample: L536833-02	Account: MAROILDMI	Received: 09/17/11 09:00	Due Date: 09/23/11 00:00	RPT Date: 09/21/11 11:39
Sample: L536833-03	Account: MAROILDMI	Received: 09/17/11 09:00	Due Date: 09/23/11 00:00	RPT Date: 09/21/11 11:39
Sample: L536833-04	Account: MAROILDMI	Received: 09/17/11 09:00	Due Date: 09/23/11 00:00	RPT Date: 09/21/11 11:39
Sample: L536833-05	Account: MAROILDMI	Received: 09/17/11 09:00	Due Date: 09/23/11 00:00	RPT Date: 09/21/11 11:39
Sample: L536833-06	Account: MAROILDMI	Received: 09/17/11 09:00	Due Date: 09/23/11 00:00	RPT Date: 09/21/11 11:39

### **Attachment 3 – Indoor/Ambient Air Sample Collection Log**

Picture 1: Construction Vehicles at I-75 sample location





## Indoor Air/Ambient Air Sample Collection Log

		Sample ID:	East Fort
		Outdoor/Indoor:	Outdoor
Client:	Marathon	Sample Intake Height:	~4'
Project:	Ambient Air Monitoring	Tubing Information:	NA
Location:	Detroit, MI	Miscellaneous Equipment:	NA
Project #:	04085513.02	Time On/Off:	1033 / 0809
Samplers:	L. Eenigenburg	Subcontractor:	NA
Sample Point Location:			

### Instrument Readings:

Date	Time	Canister Vacuum (a) (inches of Hg)	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
9/13/11	1033	30	~60				
9/16/11	0809	8"	~50				


(a) Record canister information at a minimum at the beginning and end of sampling

### SUMMA Canister Information:

Size (circle one):	1 L (6 L)
Canister ID:	CG5
Flow Controller ID:	200
Notes:	

### General Observations/Notes:




		Indoor Air/Ambient Air Sample Collection Log	
		Sample ID:	I-75
Client:	Marathon	Outdoor/Indoor:	Outdoor
Project:	Ambient Air Monitoring	Sample Intake Height:	~4'
Location:	Detroit, MI	Tubing Information:	NA
Project #:	04085513.02	Miscellaneous Equipment:	NA
Samplers:	L. Eenigenburg	Time On/Off:	1043 / 0814
Sample Point Location:		Subcontractor:	NA

**Instrument Readings:**


Date	Time	Canister Vacuum (a) (inches of Hg)	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
9/15/11	1043	30	~66				
9/15/11	0814	10	~50				

(a) Record canister information at a minimum at the beginning and end of sampling

**SUMMA Canister Information:**

Size (circle one):	1 L <u>6 L</u>
Canister ID:	618
Flow Controller ID:	179
Notes:	

**General Observations/Notes:**


		Indoor Air/Ambient Air Sample Collection Log	
		Sample ID:	Patricia
Client:	Marathon	Outdoor/Indoor:	Outdoor
Project:	Ambient Air Monitoring	Sample Intake Height:	~4'
Location:	Detroit, MI	Tubing Information:	NA
Project #:	OH085513.02	Miscellaneous Equipment:	NA
Samplers:	L. Eenigenburg	Time On/Off:	1047/0817
Sample Point Location:		Subcontractor:	NA

**Instrument Readings:**


Date	Time	Canister Vacuum (a) (inches of Hg)	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
9/15/11	1047	29	~60				
9/16/11	0817	7	~50				

(a) Record canister information at a minimum at the beginning and end of sampling

**SUMMA Canister Information:**

Size (circle one):	1 L    (6 L)
Canister ID:	260
Flow Controller ID:	233
Notes:	

**General Observations/Notes:**


		Indoor Air/Ambient Air Sample Collection Log	
		Sample ID:	Liddesdale
Client:	Marathon	Outdoor/Indoor:	Outdoor
Project:	Ambient Air Monitoring	Sample Intake Height:	~4'
Location:	Detroit, MI	Tubing Information:	NA
Project #:	OH085513.02	Miscellaneous Equipment:	NA
Samplers:	L. Eenigenburg	Time On/Off:	1052 / 0820
Sample Point Location:		Subcontractor:	NA

**Instrument Readings:**

Date	Time	Canister Vacuum (a) (inches of Hg)	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
9/15/11	1052	28	~60				
9/16/11	0820	24	~50				


(a) Record canister information at a minimum at the beginning and end of sampling

**SUMMA Canister Information:**

Size (circle one):	1 L <b>(6 L)</b>
Canister ID:	78
Flow Controller ID:	100
Notes:	

**General Observations/Notes:**




		Indoor Air/Ambient Air Sample Collection Log	
		Sample ID:	Liebold
Client:	Marathon	Outdoor/Indoor:	Outdoor
Project:	Ambient Air Monitoring	Sample Intake Height:	~4'
Location:	Detroit, MI	Tubing Information:	NA
Project #:	OH085513.02	Miscellaneous Equipment:	NA
Samplers:	L. Eenigenburg	Time On/Off:	1056 / 824
Sample Point Location:		Subcontractor:	NA

**Instrument Readings:**


Date	Time	Canister Vacuum (a) (inches of Hg)	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
9/15/11	1056	30	~60				
9/16/11	0824	7	~50				

(a) Record canister information at a minimum at the beginning and end of sampling

**SUMMA Canister Information:**

Size (circle one):	1 L <u>(6 L)</u>
Canister ID:	823
Flow Controller ID:	201
Notes:	

**General Observations/Notes:**


		Indoor Air/Ambient Air Sample Collection Log	
		Sample ID:	West Fort
Client:	Marathon	Outdoor/Indoor:	Outdoor
Project:	Ambient Air Monitoring	Sample Intake Height:	~4'
Location:	Detroit, MI	Tubing Information:	NA
Project #:	OH085513.02	Miscellaneous Equipment:	NA
Samplers:	L. Eenigenburg	Time On/Off:	1103 / 0831
Sample Point Location:		Subcontractor:	NA

**Instrument Readings:**

Date	Time	Canister Vacuum (a) (inches of Hg)	Temperature (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (inches of Hg)	PID (ppb)
9/15/11	1103	28"	~60				
9/15/11	0831	4	~50				

(a) Record canister information at a minimum at the beginning and end of sampling

**SUMMA Canister Information:**

Size (circle one):	1 L <u>(6 L)</u>
Canister ID:	58
Flow Controller ID:	239
Notes:	

**General Observations/Notes:**


## **Attachment 4 – Detailed Weather September 15- 16, 2011**



**These data are preliminary and have not undergone final quality control by the National Climatic Data Center (NCDC). Therefore, these data are subject to revision. Final and certified climate data can be accessed at the NCDC - <http://www.ncdc.noaa.gov>.**

### Climatological Report (Daily)

000

CDUS43 KDTX 160639

CLIDTW

CLIMATE REPORT

NATIONAL WEATHER SERVICE DETROIT/PONTIAC MI

141 AM EDT FRI SEP 16 2011

.....

...THE DETROIT MI CLIMATE SUMMARY FOR SEPTEMBER 15 2011...

CLIMATE NORMAL PERIOD 1981 TO 2010

CLIMATE RECORD PERIOD 1874 TO 2011

WEATHER ITEM	OBSERVED VALUE	TIME (LST)	RECORD VALUE	YEAR	NORMAL VALUE	DEPARTURE FROM NORMAL	LAST YEAR
.....							
TEMPERATURE (F)							
YESTERDAY							
MAXIMUM	61	323 PM	100	1939	75	-14	70
MINIMUM	43	634 AM	41	1984	55	-12	50
AVERAGE	52				65	-13	60
PRECIPITATION (IN)							
YESTERDAY	0.00		1.65	1992	0.11	-0.11	0.00
MONTH TO DATE	2.52				1.65	0.87	0.55
SINCE SEP 1	2.52				1.65	0.87	0.55
SINCE JAN 1	33.01				24.08	8.93	23.82
SNOWFALL (IN)							
YESTERDAY	0.0		0.0	MM	0.0	0.0	0.0
MONTH TO DATE	0.0				0.0	0.0	0.0
SINCE SEP 1	0.0				0.0	0.0	0.0
SINCE JUL 1	0.0				0.0	0.0	0.0
SNOW DEPTH	0						
DEGREE DAYS							
HEATING							
YESTERDAY	13				3	10	5
MONTH TO DATE	35				25	10	34
SINCE SEP 1	35				25	10	34
SINCE JUL 1	35				35	0	34
COOLING							
YESTERDAY	0				3	-3	0
MONTH TO DATE	89				59	30	49

SINCE SEP 1	89	59	30	49
SINCE JAN 1	1049	770	279	1063

.....

## WIND (MPH)

HIGHEST WIND SPEED	20	HIGHEST WIND DIRECTION	NW (310)
HIGHEST GUST SPEED	MM	HIGHEST GUST DIRECTION	W (280)
AVERAGE WIND SPEED	8.5		

## SKY COVER

POSSIBLE SUNSHINE MM  
AVERAGE SKY COVER 0.4

## WEATHER CONDITIONS

THE FOLLOWING WEATHER WAS RECORDED YESTERDAY.  
NO SIGNIFICANT WEATHER WAS OBSERVED.

## RELATIVE HUMIDITY (PERCENT)

HIGHEST	83	400 AM
LOWEST	36	500 PM
AVERAGE	60	

.....

## THE DETROIT MI CLIMATE NORMALS FOR TODAY

	NORMAL	RECORD	YEAR
MAXIMUM TEMPERATURE (F)	74	98	1939
MINIMUM TEMPERATURE (F)	55	38	1966

## SUNRISE AND SUNSET

SEPTEMBER 16 2011.....	SUNRISE	714 AM EDT	SUNSET	742 PM EDT
SEPTEMBER 17 2011.....	SUNRISE	715 AM EDT	SUNSET	740 PM EDT

- INDICATES NEGATIVE NUMBERS.  
R INDICATES RECORD WAS SET OR TIED.  
MM INDICATES DATA IS MISSING.  
T INDICATES TRACE AMOUNT.  
&&

## TEMPERATURE DATA...

MONTHLY AVERAGE..... 68.5  
DEPARTURE FROM NORMAL... 2.0

DETROIT CITY AIRPORT HIGH AND LOW FOR YESTERDAY.... 61/45  
.....

CLIMATE INFORMATION FROM THE NATIONAL WEATHER SERVICE FORECAST  
OFFICE IN WHITE LAKE MICHIGAN FOR YESTERDAY...

TEMPERATURE:

HIGH... 57 LOW.... 36

PRECIPITATION:

DAY.... 0.00 MONTH.... 1.71 YEAR.... 31.88

SNOWFALL:

DAY.... 0.0 MONTH.... 0 SEASON.... 0

DETROIT SNOW DEPTH IS MEASURED AT 7 AM.

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The U.S. Naval Observatory (USNO) computes astronomical data. Therefore, the NWS does not record, certify, or authenticate astronomical data. Computed times of sunrise, sunset, moonrise, moonset; and twilight, moon phases and other astronomical data are available from USNO's Astronomical Applications Department (<http://www.usno.navy.mil>). See <http://www.usno.navy.mil/USNO/astronomical-applications/astronomical-information-center/litigation> for information on using these data for legal purposes.



**These data are preliminary and have not undergone final quality control by the National Climatic Data Center (NCDC). Therefore, these data are subject to revision. Final and certified climate data can be accessed at the NCDC - <http://www.ncdc.noaa.gov>.**

### Climatological Report (Daily)

000

CDUS43 KDTX 170706

CLIDTW

CLIMATE REPORT

NATIONAL WEATHER SERVICE DETROIT/PONTIAC MI

138 AM EDT SAT SEP 17 2011

.....

...THE DETROIT MI CLIMATE SUMMARY FOR SEPTEMBER 16 2011...

CLIMATE NORMAL PERIOD 1981 TO 2010

CLIMATE RECORD PERIOD 1874 TO 2011

WEATHER ITEM	OBSERVED VALUE	TIME (LST)	RECORD VALUE	YEAR	NORMAL VALUE	DEPARTURE FROM NORMAL	LAST YEAR
.....							
TEMPERATURE (F)							
YESTERDAY							
MAXIMUM	62	355 PM	98	1939	74	-12	75
MINIMUM	43	544 AM	38	1966	55	-12	57
AVERAGE	53				64	-11	66
PRECIPITATION (IN)							
YESTERDAY	0.00		1.39	2010	0.12	-0.12	1.39
MONTH TO DATE	2.52				1.77	0.75	1.94
SINCE SEP 1	2.52				1.77	0.75	1.94
SINCE JAN 1	33.01				24.20	8.81	25.21
SNOWFALL (IN)							
YESTERDAY	0.0		0.0	MM	0.0	0.0	0.0
MONTH TO DATE	0.0				0.0	0.0	0.0
SINCE SEP 1	0.0				0.0	0.0	0.0
SINCE JUL 1	0.0				0.0	0.0	0.0
SNOW DEPTH	0						
DEGREE DAYS							
HEATING							
YESTERDAY	12				3	9	0
MONTH TO DATE	47				28	19	34
SINCE SEP 1	47				28	19	34
SINCE JUL 1	47				38	9	34
COOLING							
YESTERDAY	0				3	-3	1
MONTH TO DATE	89				62	27	50

SINCE SEP 1	89	62	27	50
SINCE JAN 1	1049	773	276	1064

.....

## WIND (MPH)

HIGHEST WIND SPEED	10	HIGHEST WIND DIRECTION	NW (300)
HIGHEST GUST SPEED	14	HIGHEST GUST DIRECTION	NW (320)
AVERAGE WIND SPEED	3.8		

## SKY COVER

POSSIBLE SUNSHINE MM  
AVERAGE SKY COVER 0.9

## WEATHER CONDITIONS

THE FOLLOWING WEATHER WAS RECORDED YESTERDAY.  
NO SIGNIFICANT WEATHER WAS OBSERVED.

## RELATIVE HUMIDITY (PERCENT)

HIGHEST	83	300 AM
LOWEST	39	400 PM
AVERAGE	61	

.....

## THE DETROIT MI CLIMATE NORMALS FOR TODAY

	NORMAL	RECORD	YEAR
MAXIMUM TEMPERATURE (F)	74	93	1955
MINIMUM TEMPERATURE (F)	54	36	1959

## SUNRISE AND SUNSET

SEPTEMBER 17 2011.....	SUNRISE	715 AM EDT	SUNSET	740 PM EDT
SEPTEMBER 18 2011.....	SUNRISE	716 AM EDT	SUNSET	738 PM EDT

- INDICATES NEGATIVE NUMBERS.  
R INDICATES RECORD WAS SET OR TIED.  
MM INDICATES DATA IS MISSING.  
T INDICATES TRACE AMOUNT.  
&&

## TEMPERATURE DATA...

MONTHLY AVERAGE..... 67.5  
DEPARTURE FROM NORMAL... 1.1

DETROIT CITY AIRPORT HIGH AND LOW FOR YESTERDAY.... 61/44

.....

CLIMATE INFORMATION FROM THE NATIONAL WEATHER SERVICE FORECAST  
OFFICE IN WHITE LAKE MICHIGAN FOR YESTERDAY...

TEMPERATURE:

HIGH... 57 LOW.... 35

PRECIPITATION:

DAY.... 0.00 MONTH.... 1.71 YEAR.... 31.88

SNOWFALL:

DAY.... 0.0 MONTH.... 0 SEASON.... 0

DETROIT SNOW DEPTH IS MEASURED AT 7 AM.

---

The U.S. Naval Observatory (USNO) computes astronomical data. Therefore, the NWS does not record, certify, or authenticate astronomical data. Computed times of sunrise, sunset, moonrise, moonset; and twilight, moon phases and other astronomical data are available from USNO's Astronomical Applications Department (<http://www.usno.navy.mil>). See <http://www.usno.navy.mil/USNO/astronomical-applications/astronomical-information-center/litigation> for information on using these data for legal purposes.

## Attachment 5 - Ambient Air and Wastewater Sample results March 2011 through September 2011

Location	3/25/2011 (ppb)	4/13/2011 (ppb)	5/20/11 (ppb)	6/13/11 (ppb)	7/13/11 (ppb)	8/16/11 (ppb)	9/15/11
I-75	Non-Detect	0.305	Non-Detect	0.37	0.554	0.32	0.30
Patricia	Non-Detect	0.37	6.87	0.302	1.72	0.22	0.29
Liebold	Non-Detect	0.431	Non-Detect	0.308	1.48	0.28	0.29
Liddesdale	Non-Detect	0.286	0.4	0.305	0.493	0.29	<0.20 (1)
Background: East Fort	Non-Detect	0.37	N/A	0.431	N/A	0.32	0.41
Background: West Fort	Non-Detect	0.431	N/A	0.493	N/A		0.28
Background: Deacon & Pleasant	N/A	N/A	0.493	N/A	1.69		
Background: Deacon & Leonard	N/A	N/A	Non-Detect	N/A	0.554		
Background: Patricia & Edsel						0.28	
Carbon East Effluent*	2.1 and 1.8	No Sample	Non-Detect	N/A	No Sample Off-Line	No Sample	Non-Detect
Carbon West Effluent*	Non-Detect	No Sample	Non-Detect	N/A	Non-Detect	Non-Detect (8/17/11)	Non-Detect
Peroxide Only Effluent*	N/A	N/A	N/A	97	N/A		

\*Results are waste water samples collected for analysis under EPA Method 8260. All other samples are a TO-15 analysis for air samples.

### Notes:

(1) The 9/15/11 sample at Liddesdale only decreased by 4" of Hg; a full sample was not taken by the regulator.