



5301 Northshore Drive
North Little Rock, AR 72118
Telephone: 501-682-0744

Client Report For: Exxon Oil Spill Well Sampling 2013 2633-2636
Attention:
Client Address:

,

Report Date: August 16, 2013
LAB ID: AR13JUL30-04
Comment:

Approved By: _____

Date: August 16, 2013

Client: Special Samples

Client Sample ID: TW40-01

Lab ID: 2013-2633

Collection Date: 7/30/2013 11:30:00 AM

Matrix: Water

Analyses

Volatile Organics by GCMS

EPA 8260C

Batch: 13080207 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
<i>Dibromofluoromethane (% Recovery)</i>	106	70-130			%
<i>1,2-Dichloroethane-d4 (% Recovery)</i>	100	70-130			%
<i>Toluene-d8 (% Recovery)</i>	102	70-130			%
<i>4-Bromofluorobenzene (% Recovery)</i>	104	70-130			%
Dichlorodifluoromethane	<1.12	1.12	1.12		ug/L
Chloromethane	<0.58	0.58	0.58		ug/L
Vinyl chloride	<0.82	0.82	0.82		ug/L
Bromomethane	<3.9	3.9	3.90		ug/L
Chloroethane	<2.68	2.68	2.68		ug/L
Trichlorofluoromethane	<0.51	0.51	0.51		ug/L
1,1-Dichloroethene	<0.43	0.43	0.43		ug/L
Acetone	<10.5	10.5	10.5		ug/L
Methylene chloride	<2.5	2.5	2.5		ug/L
Methyl tert-butyl ether	<0.83	0.83	0.83		ug/L
trans-1,2-Dichloroethene	<0.59	0.59	0.59		ug/L
1,1-Dichloroethane	<0.42	0.42	0.42		ug/L
Methyl ethyl ketone	<12.8	12.8	12.8		ug/L
cis-1,2-Dichloroethene	<1.15	1.15	1.15		ug/L
2,2-Dichloropropane	<0.81	0.81	0.81		ug/L
Bromochloromethane	<0.66	0.66	0.66		ug/L
Chloroform	<0.27	0.27	0.27		ug/L
1,1,1-Trichloroethane	<0.46	0.46	0.46		ug/L
1,1-Dichloropropene	<0.59	0.59	0.59		ug/L
Carbon tetrachloride	<0.6	0.6	0.6		ug/L
Benzene	<0.66	0.66	0.66		ug/L
1,2-Dichloroethane	<1.15	1.15	1.15		ug/L
Trichloroethene	<0.6	0.6	0.60		ug/L
1,2-Dichloropropane	<0.98	0.98	0.98		ug/L
Dibromomethane	<1.78	1.78	1.78		ug/L
Bromodichloromethane	<0.65	0.65	0.65		ug/L
cis-1,3-Dichloropropene	<0.86	0.86	0.86		ug/L

Methyl isobutyl ketone	<8.1	8.1	8.10	ug/L
Toluene	<0.57	0.57	0.57	ug/L
trans-1,3-Dichloropropene	<0.84	0.84	0.84	ug/L
1,1,2-Trichloroethane	<0.78	0.78	0.78	ug/L
2-Hexanone	<9.5	9.5	9.5	ug/L
Tetrachloroethene	<0.96	0.96	0.96	ug/L
1,3-Dichloropropane	<0.94	0.94	0.94	ug/L
Dibromochloromethane	<1.25	1.25	1.25	ug/L
1,2-Dibromoethane (EDB)	<0.68	0.68	0.68	ug/L
Chlorobenzene	<0.62	0.62	0.62	ug/L
Ethylbenzene	<0.51	0.51	0.51	ug/L
1,1,1,2-Tetrachloroethane	<0.57	0.57	0.57	ug/L
m,p-Xylene	<1.2	1.2	1.2	ug/L
o-Xylene	<0.5	0.5	0.5	ug/L
Styrene	<0.53	0.53	0.53	ug/L
Bromoform	<1.56	1.56	1.56	ug/L
Isopropylbenzene	<0.59	0.59	0.59	ug/L
1,1,1,2-Tetrachloroethane	<0.39	0.39	0.39	ug/L
1,2,3-Trichloropropane	<1.83	1.83	1.83	ug/L
n-Propylbenzene	<0.49	0.49	0.49	ug/L
Bromobenzene	<0.5	0.5	0.5	ug/L
1,3,5-Trimethylbenzene	<0.3	0.3	0.30	ug/L
2-Chlorotoluene	<0.66	0.66	0.66	ug/L
4-Chlorotoluene	<0.8	0.8	0.80	ug/L
tert-Butylbenzene	<0.85	0.85	0.85	ug/L
1,2,4-Trimethylbenzene	<0.46	0.46	0.46	ug/L
sec-Butylbenzene	<0.63	0.63	0.63	ug/L
p-Isopropyltoluene	<0.59	0.59	0.59	ug/L
1,3-Dichlorobenzene	<0.7	0.7	0.70	ug/L
1,4-Dichlorobenzene	<0.53	0.53	0.53	ug/L
n-Butylbenzene	<0.72	0.72	0.72	ug/L
1,2-Dichlorobenzene	<0.7	0.7	0.70	ug/L
1,2-Dibromo-3-chloropropane	<0.86	0.86	0.86	ug/L
1,2,4-Trichlorobenzene	<1.14	1.14	1.14	ug/L
Naphthalene	<1.53	1.53	1.53	ug/L
1,2,3-Trichlorobenzene	<1.3	1.3	1.3	ug/L
Dilution Factor	1			
Analyzed By	Jeff Ruehr			
Analysis Date/Time	7/31/2013 10:46 AM			

Client: Special Samples

Client Sample ID: TW36-03

Lab ID: 2013-2634

Collection Date: 7/30/2013 1:10:00 PM

Matrix: Water

Analyses

Volatile Organics by GCMS

EPA 8260C

Batch: 13080207 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
<i>Dibromofluoromethane (% Recovery)</i>	106	70-130			%
<i>1,2-Dichloroethane-d4 (% Recovery)</i>	102	70-130			%
<i>Toluene-d8 (% Recovery)</i>	101	70-130			%
<i>4-Bromofluorobenzene (% Recovery)</i>	107	70-130			%
Dichlorodifluoromethane	<1.12	1.12	1.12		ug/L
Chloromethane	<0.58	0.58	0.58		ug/L
Vinyl chloride	<0.82	0.82	0.82		ug/L
Bromomethane	<3.9	3.9	3.90		ug/L
Chloroethane	<2.68	2.68	2.68		ug/L
Trichlorofluoromethane	<0.51	0.51	0.51		ug/L
1,1-Dichloroethene	<0.43	0.43	0.43		ug/L
Acetone	<10.5	10.5	10.5		ug/L
Methylene chloride	<2.5	2.5	2.5		ug/L
Methyl tert-butyl ether	<0.83	0.83	0.83		ug/L
trans-1,2-Dichloroethene	<0.59	0.59	0.59		ug/L
1,1-Dichloroethane	<0.42	0.42	0.42		ug/L
Methyl ethyl ketone	<12.8	12.8	12.8		ug/L
cis-1,2-Dichloroethene	<1.15	1.15	1.15		ug/L
2,2-Dichloropropane	<0.81	0.81	0.81		ug/L
Bromochloromethane	<0.66	0.66	0.66		ug/L
Chloroform	<0.27	0.27	0.27		ug/L
1,1,1-Trichloroethane	<0.46	0.46	0.46		ug/L
1,1-Dichloropropene	<0.59	0.59	0.59		ug/L
Carbon tetrachloride	<0.6	0.6	0.6		ug/L
Benzene	<0.66	0.66	0.66		ug/L
1,2-Dichloroethane	<1.15	1.15	1.15		ug/L
Trichloroethene	<0.6	0.6	0.60		ug/L
1,2-Dichloropropane	<0.98	0.98	0.98		ug/L
Dibromomethane	<1.78	1.78	1.78		ug/L
Bromodichloromethane	<0.65	0.65	0.65		ug/L
cis-1,3-Dichloropropene	<0.86	0.86	0.86		ug/L
Methyl isobutyl ketone	<8.1	8.1	8.10		ug/L

Toluene	<0.57	0.57	0.57	ug/L
trans-1,3-Dichloropropene	<0.84	0.84	0.84	ug/L
1,1,2-Trichloroethane	<0.78	0.78	0.78	ug/L
2-Hexanone	<9.5	9.5	9.5	ug/L
Tetrachloroethene	<0.96	0.96	0.96	ug/L
1,3-Dichloropropane	<0.94	0.94	0.94	ug/L
Dibromochloromethane	<1.25	1.25	1.25	ug/L
1,2-Dibromoethane (EDB)	<0.68	0.68	0.68	ug/L
Chlorobenzene	<0.62	0.62	0.62	ug/L
Ethylbenzene	<0.51	0.51	0.51	ug/L
1,1,1,2-Tetrachloroethane	<0.57	0.57	0.57	ug/L
m,p-Xylene	<1.2	1.2	1.2	ug/L
o-Xylene	<0.5	0.5	0.5	ug/L
Styrene	<0.53	0.53	0.53	ug/L
Bromoform	<1.56	1.56	1.56	ug/L
Isopropylbenzene	<0.59	0.59	0.59	ug/L
1,1,1,2,2-Tetrachloroethane	<0.39	0.39	0.39	ug/L
1,2,3-Trichloropropane	<1.83	1.83	1.83	ug/L
n-Propylbenzene	<0.49	0.49	0.49	ug/L
Bromobenzene	<0.5	0.5	0.5	ug/L
1,3,5-Trimethylbenzene	<0.3	0.3	0.30	ug/L
2-Chlorotoluene	<0.66	0.66	0.66	ug/L
4-Chlorotoluene	<0.8	0.8	0.80	ug/L
tert-Butylbenzene	<0.85	0.85	0.85	ug/L
1,2,4-Trimethylbenzene	<0.46	0.46	0.46	ug/L
sec-Butylbenzene	<0.63	0.63	0.63	ug/L
p-Isopropyltoluene	<0.59	0.59	0.59	ug/L
1,3-Dichlorobenzene	<0.7	0.7	0.70	ug/L
1,4-Dichlorobenzene	<0.53	0.53	0.53	ug/L
n-Butylbenzene	<0.72	0.72	0.72	ug/L
1,2-Dichlorobenzene	<0.7	0.7	0.70	ug/L
1,2-Dibromo-3-chloropropane	<0.86	0.86	0.86	ug/L
1,2,4-Trichlorobenzene	<1.14	1.14	1.14	ug/L
Naphthalene	<1.53	1.53	1.53	ug/L
1,2,3-Trichlorobenzene	<1.3	1.3	1.3	ug/L
Dilution Factor	1			
Analyzed By	Jeff Ruehr			
Analysis Date/Time	7/31/2013 11:11 AM			

Client: Special Samples

Client Sample ID: TW36-04

Lab ID: 2013-2635

Collection Date: 7/30/2013 2:00:00 PM

Matrix: Water

Analyses

Volatile Organics by GCMS

EPA 8260C

Batch: 13080207 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Dibromofluoromethane (% Recovery)	103	70-130			%
1,2-Dichloroethane-d4 (% Recovery)	98.7	70-130			%
Toluene-d8 (% Recovery)	98.0	70-130			%
4-Bromofluorobenzene (% Recovery)	104	70-130			%
Dichlorodifluoromethane	<1.12	1.12	1.12		ug/L
Chloromethane	<0.58	0.58	0.58		ug/L
Vinyl chloride	<0.82	0.82	0.82		ug/L
Bromomethane	<3.9	3.9	3.90		ug/L
Chloroethane	<2.68	2.68	2.68		ug/L
Trichlorofluoromethane	<0.51	0.51	0.51		ug/L
1,1-Dichloroethene	<0.43	0.43	0.43		ug/L
Acetone	<10.5	10.5	10.5		ug/L
Methylene chloride	<2.5	2.5	2.5		ug/L
Methyl tert-butyl ether	<0.83	0.83	0.83		ug/L
trans-1,2-Dichloroethene	<0.59	0.59	0.59		ug/L
1,1-Dichloroethane	<0.42	0.42	0.42		ug/L
Methyl ethyl ketone	<12.8	12.8	12.8		ug/L
cis-1,2-Dichloroethene	<1.15	1.15	1.15		ug/L
2,2-Dichloropropane	<0.81	0.81	0.81		ug/L
Bromochloromethane	<0.66	0.66	0.66		ug/L
Chloroform	<0.27	0.27	0.27		ug/L
1,1,1-Trichloroethane	<0.46	0.46	0.46		ug/L
1,1-Dichloropropene	<0.59	0.59	0.59		ug/L
Carbon tetrachloride	<0.6	0.6	0.6		ug/L
Benzene	<0.66	0.66	0.66		ug/L
1,2-Dichloroethane	<1.15	1.15	1.15		ug/L
Trichloroethene	<0.6	0.6	0.60		ug/L
1,2-Dichloropropane	<0.98	0.98	0.98		ug/L
Dibromomethane	<1.78	1.78	1.78		ug/L
Bromodichloromethane	<0.65	0.65	0.65		ug/L
cis-1,3-Dichloropropene	<0.86	0.86	0.86		ug/L
Methyl isobutyl ketone	<8.1	8.1	8.10		ug/L

Toluene	<0.57	0.57	0.57	ug/L
trans-1,3-Dichloropropene	<0.84	0.84	0.84	ug/L
1,1,2-Trichloroethane	<0.78	0.78	0.78	ug/L
2-Hexanone	<9.5	9.5	9.5	ug/L
Tetrachloroethene	<0.96	0.96	0.96	ug/L
1,3-Dichloropropane	<0.94	0.94	0.94	ug/L
Dibromochloromethane	<1.25	1.25	1.25	ug/L
1,2-Dibromoethane (EDB)	<0.68	0.68	0.68	ug/L
Chlorobenzene	<0.62	0.62	0.62	ug/L
Ethylbenzene	<0.51	0.51	0.51	ug/L
1,1,1,2-Tetrachloroethane	<0.57	0.57	0.57	ug/L
m,p-Xylene	<1.2	1.2	1.2	ug/L
o-Xylene	<0.5	0.5	0.5	ug/L
Styrene	<0.53	0.53	0.53	ug/L
Bromoform	<1.56	1.56	1.56	ug/L
Isopropylbenzene	<0.59	0.59	0.59	ug/L
1,1,1,2,2-Tetrachloroethane	<0.39	0.39	0.39	ug/L
1,2,3-Trichloropropane	<1.83	1.83	1.83	ug/L
n-Propylbenzene	<0.49	0.49	0.49	ug/L
Bromobenzene	<0.5	0.5	0.5	ug/L
1,3,5-Trimethylbenzene	<0.3	0.3	0.30	ug/L
2-Chlorotoluene	<0.66	0.66	0.66	ug/L
4-Chlorotoluene	<0.8	0.8	0.80	ug/L
tert-Butylbenzene	<0.85	0.85	0.85	ug/L
1,2,4-Trimethylbenzene	<0.46	0.46	0.46	ug/L
sec-Butylbenzene	<0.63	0.63	0.63	ug/L
p-Isopropyltoluene	<0.59	0.59	0.59	ug/L
1,3-Dichlorobenzene	<0.7	0.7	0.70	ug/L
1,4-Dichlorobenzene	<0.53	0.53	0.53	ug/L
n-Butylbenzene	<0.72	0.72	0.72	ug/L
1,2-Dichlorobenzene	<0.7	0.7	0.70	ug/L
1,2-Dibromo-3-chloropropane	<0.86	0.86	0.86	ug/L
1,2,4-Trichlorobenzene	<1.14	1.14	1.14	ug/L
Naphthalene	<1.53	1.53	1.53	ug/L
1,2,3-Trichlorobenzene	<1.3	1.3	1.3	ug/L
Dilution Factor	1			
Analyzed By	Jeff Ruehr			
Analysis Date/Time	7/31/2013 12:02 PM			

Client: Special Samples

Client Sample ID: TW36-01

Lab ID: 2013-2636

Collection Date: 7/30/2013 3:00:00 PM

Matrix: Water

Analyses

Volatile Organics by GCMS

EPA 8260C

Batch: 13080207 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
<i>Dibromofluoromethane (% Recovery)</i>	107	70-130			%
<i>1,2-Dichloroethane-d4 (% Recovery)</i>	104	70-130			%
<i>Toluene-d8 (% Recovery)</i>	102	70-130			%
<i>4-Bromofluorobenzene (% Recovery)</i>	109	70-130			%
Dichlorodifluoromethane	<1.12	1.12	1.12		ug/L
Chloromethane	<0.58	0.58	0.58		ug/L
Vinyl chloride	<0.82	0.82	0.82		ug/L
Bromomethane	<3.9	3.9	3.90		ug/L
Chloroethane	<2.68	2.68	2.68		ug/L
Trichlorofluoromethane	<0.51	0.51	0.51		ug/L
1,1-Dichloroethene	<0.43	0.43	0.43		ug/L
Acetone	<10.5	10.5	10.5		ug/L
Methylene chloride	<2.5	2.5	2.5		ug/L
Methyl tert-butyl ether	<0.83	0.83	0.83		ug/L
trans-1,2-Dichloroethene	<0.59	0.59	0.59		ug/L
1,1-Dichloroethane	<0.42	0.42	0.42		ug/L
Methyl ethyl ketone	<12.8	12.8	12.8		ug/L
cis-1,2-Dichloroethene	<1.15	1.15	1.15		ug/L
2,2-Dichloropropane	<0.81	0.81	0.81		ug/L
Bromochloromethane	<0.66	0.66	0.66		ug/L
Chloroform	<0.27	0.27	0.27		ug/L
1,1,1-Trichloroethane	<0.46	0.46	0.46		ug/L
1,1-Dichloropropene	<0.59	0.59	0.59		ug/L
Carbon tetrachloride	<0.6	0.6	0.6		ug/L
Benzene	<0.66	0.66	0.66		ug/L
1,2-Dichloroethane	<1.15	1.15	1.15		ug/L
Trichloroethene	<0.6	0.6	0.60		ug/L
1,2-Dichloropropane	<0.98	0.98	0.98		ug/L
Dibromomethane	<1.78	1.78	1.78		ug/L
Bromodichloromethane	<0.65	0.65	0.65		ug/L
cis-1,3-Dichloropropene	<0.86	0.86	0.86		ug/L
Methyl isobutyl ketone	<8.1	8.1	8.10		ug/L

Toluene	<0.57	0.57	0.57	ug/L
trans-1,3-Dichloropropene	<0.84	0.84	0.84	ug/L
1,1,2-Trichloroethane	<0.78	0.78	0.78	ug/L
2-Hexanone	<9.5	9.5	9.5	ug/L
Tetrachloroethene	<0.96	0.96	0.96	ug/L
1,3-Dichloropropane	<0.94	0.94	0.94	ug/L
Dibromochloromethane	<1.25	1.25	1.25	ug/L
1,2-Dibromoethane (EDB)	<0.68	0.68	0.68	ug/L
Chlorobenzene	<0.62	0.62	0.62	ug/L
Ethylbenzene	<0.51	0.51	0.51	ug/L
1,1,1,2-Tetrachloroethane	<0.57	0.57	0.57	ug/L
m,p-Xylene	<1.2	1.2	1.2	ug/L
o-Xylene	<0.5	0.5	0.5	ug/L
Styrene	<0.53	0.53	0.53	ug/L
Bromoform	<1.56	1.56	1.56	ug/L
Isopropylbenzene	<0.59	0.59	0.59	ug/L
1,1,1,2,2-Tetrachloroethane	<0.39	0.39	0.39	ug/L
1,2,3-Trichloropropane	<1.83	1.83	1.83	ug/L
n-Propylbenzene	<0.49	0.49	0.49	ug/L
Bromobenzene	<0.5	0.5	0.5	ug/L
1,3,5-Trimethylbenzene	<0.3	0.3	0.30	ug/L
2-Chlorotoluene	<0.66	0.66	0.66	ug/L
4-Chlorotoluene	<0.8	0.8	0.80	ug/L
tert-Butylbenzene	<0.85	0.85	0.85	ug/L
1,2,4-Trimethylbenzene	<0.46	0.46	0.46	ug/L
sec-Butylbenzene	<0.63	0.63	0.63	ug/L
p-Isopropyltoluene	<0.59	0.59	0.59	ug/L
1,3-Dichlorobenzene	<0.7	0.7	0.70	ug/L
1,4-Dichlorobenzene	<0.53	0.53	0.53	ug/L
n-Butylbenzene	<0.72	0.72	0.72	ug/L
1,2-Dichlorobenzene	<0.7	0.7	0.70	ug/L
1,2-Dibromo-3-chloropropane	<0.86	0.86	0.86	ug/L
1,2,4-Trichlorobenzene	<1.14	1.14	1.14	ug/L
Naphthalene	<1.53	1.53	1.53	ug/L
1,2,3-Trichlorobenzene	<1.3	1.3	1.3	ug/L
Dilution Factor	1			
Analyzed By	Jeff Ruehr			
Analysis Date/Time	7/31/2013 11:36 AM			

Client: Special Samples

Client Sample ID: TW36-03

Lab ID: 2013-2634

Collection Date: 7/30/2013 1:10:00 PM

Matrix: Water

Analyses

Semi-Volatiles by GC/MS

EPA 3510C/EPA 8270D

Batch: 13080502 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
2-Fluorophenol (% Recovery)	14.4	40-110			%
Nitrobenzene-d5 (% Recovery)	63.7	50-110			%
2-Fluorobiphenyl (% Recovery)	63.7	50-110			%
2,4,6-Tribromophenol (% Recovery)	16.3	40-110			%
Terphenyl-d14 (% Recovery)	69.7	50-110			%
Methyl Methanesulfonate	<0.2	0.2	100		ug/L
Ethyl methanesulfonate	<0.2	0.2	100		ug/L
Phenol	<0.2	0.2	100		ug/L
Aniline	<0.2	0.2	100		ug/L
Bis(2-chloroethyl)ether	<0.2	0.2	100		ug/L
2-Chlorophenol	<0.2	0.2	100		ug/L
1,3-Dichlorobenzene	<0.12	0.12	60		ug/L
1,4-Dichlorobenzene	<0.12	0.12	60		ug/L
Benzyl alcohol	<0.16	0.16	80		ug/L
1,2-Dichlorobenzene	<0.12	0.12	60		ug/L
2-Methylphenol	<0.1	0.1	50		ug/L
Acetophenone	<0.1	0.1	50		ug/L
4-Methylphenol	<0.1	0.1	50		ug/L
N-Nitrosodi-n-propylamine	<0.2	0.2	100		ug/L
Hexachloroethane	<0.2	0.2	100		ug/L
Nitrobenzene	<0.2	0.2	100		ug/L
N-Nitrosopiperidine	<0.2	0.2	100		ug/L
Isophorone	<0.1	0.1	50		ug/L
2-Nitrophenol	<0.3	0.3	150		ug/L
2,4-Dimethylphenol	<0.1	0.1	50		ug/L
Bis(2-chloroethoxy)methane	<0.2	0.2	100		ug/L
2,4-Dichlorophenol	<0.2	0.2	100		ug/L
1,2,4-Trichlorobenzene	<0.12	0.12	60		ug/L
Naphthalene	<0.08	0.08	40		ug/L
4-Chloroaniline	<0.1	0.1	50		ug/L
2,6-Dichlorophenol	<0.2	0.2	100		ug/L
Hexachlorobutadiene	<0.2	0.2	100		ug/L

N-Nitrosodibutylamine	<0.2	0.2	100	ug/L
4-Chloro-3-methylphenol	<0.16	0.16	80	ug/L
2-Methylnaphthalene	<0.1	0.1	50	ug/L
1,2,4,5-Tetrachlorobenzene	<0.1	0.1	50	ug/L
Hexachlorocyclopentadiene	<0.16	0.16	80	ug/L
2,4,6-Trichlorophenol	<0.2	0.2	100	ug/L
2,4,5-Trichlorophenol	<0.2	0.2	100	ug/L
2-Chloronaphthalene	<0.1	0.1	50	ug/L
1-Chloronaphthalene	<0.1	0.1	50	ug/L
2-Nitroaniline	<0.2	0.2	100	ug/L
Dimethyl phthalate	<0.2	0.2	100	ug/L
2,6-Dinitrotoluene	<0.2	0.2	100	ug/L
Acenaphthylene	<0.08	0.08	40	ug/L
3-Nitroaniline	<0.2	0.2	100	ug/L
Acenaphthene	<0.1	0.1	50	ug/L
2,4-Dinitrophenol	<4	4	2000	ug/L
Pentachlorobenzene	<0.12	0.12	60	ug/L
4-Nitrophenol	<2	2	1000	ug/L
Dibenzofuran	<0.1	0.1	50	ug/L
2,4-Dinitrotoluene	<0.2	0.2	100	ug/L
2,3,4,6-Tetrachlorophenol	<0.6	0.6	300	ug/L
Diethyl phthalate	<0.2	0.2	100	ug/L
Fluorene	<0.1	0.1	50	ug/L
4-Chlorophenyl phenyl ether	<0.1	0.1	50	ug/L
4-Nitroaniline	<0.2	0.2	100	ug/L
4,6-Dinitro-2-methylphenol	<6	6	3000	ug/L
Diphenylamine	<0.1	0.1	50	ug/L
Azobenzene	<0.08	0.08	40	ug/L
4-Bromophenyl phenyl ether	<0.2	0.2	100	ug/L
Hexachlorobenzene	<0.16	0.16	80	ug/L
Pentachlorophenol	<1	1	500	ug/L
Pentachloronitrobenzene	<0.2	0.2	100	ug/L
Pronamide	<0.2	0.2	100	ug/L
Phenanthrene	<0.08	0.08	40	ug/L
Anthracene	<0.08	0.08	40	ug/L
Carbazole	<0.1	0.1	50	ug/L
Di-n-butyl phthalate	<0.2	0.2	100	ug/L
Fluoranthene	<0.08	0.08	40	ug/L
Pyrene	<0.08	0.08	40	ug/L
Dimethylaminoazobenzene	<0.2	0.2	100	ug/L

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Butyl benzyl phthalate	<0.3	0.3	150	ug/L
Benzo (a) anthracene	<0.1	0.1	50	ug/L
Chrysene	<0.1	0.1	50	ug/L
Bis(2-ethylhexyl)phthalate	<0.3	0.3	150	ug/L
Di-n-octyl phthalate	<0.3	0.3	150	ug/L
Benzo (b) fluoranthene	<0.16	0.16	80	ug/L
7,12-Dimethylbenz (a) anthracene	<0.2	0.2	100	ug/L
Benzo (k) fluoranthene	<0.16	0.16	80	ug/L
Benzo (a) pyrene	<0.16	0.16	80	ug/L
3-Methylcholanthrene	<0.2	0.2	100	ug/L
Indeno (1,2,3-cd) pyrene	<0.2	0.2	100	ug/L
Dibenzo (a,h) anthracene	<0.16	0.16	80	ug/L
Benzo (g,h,i) perylene	<0.16	0.16	80	ug/L
Initial Volume	500			mL
Final Volume	1			mL
Dilution Factor	1			
Analyzed By	Ed Harris			
Analysis Date/Time	8/5/2013 1:08 PM			
Prep By	Ed Harris			
Prep Date/Time	8/2/2013 08:00			

Client: Special Samples

Client Sample ID: TW36-04

Lab ID: 2013-2635

Collection Date: 7/30/2013 2:00:00 PM

Matrix: Water

Analyses

Semi-Volatiles by GC/MS

EPA 3510C/EPA 8270D

Batch: 13080502 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
2-Fluorophenol (% Recovery)	28.2	40-110			%
Nitrobenzene-d5 (% Recovery)	53.3	50-110			%
2-Fluorobiphenyl (% Recovery)	50.9	50-110			%
2,4,6-Tribromophenol (% Recovery)	46.4	40-110			%
Terphenyl-d14 (% Recovery)	73.0	50-110			%
Methyl Methanesulfonate	<0.2	0.2	100		ug/L
Ethyl methanesulfonate	<0.2	0.2	100		ug/L
Phenol	<0.2	0.2	100		ug/L
Aniline	<0.2	0.2	100		ug/L
Bis(2-chloroethyl)ether	<0.2	0.2	100		ug/L
2-Chlorophenol	<0.2	0.2	100		ug/L
1,3-Dichlorobenzene	<0.12	0.12	60		ug/L
1,4-Dichlorobenzene	<0.12	0.12	60		ug/L
Benzyl alcohol	<0.16	0.16	80		ug/L
1,2-Dichlorobenzene	<0.12	0.12	60		ug/L
2-Methylphenol	<0.1	0.1	50		ug/L
Acetophenone	<0.1	0.1	50		ug/L
4-Methylphenol	<0.1	0.1	50		ug/L
N-Nitrosodi-n-propylamine	<0.2	0.2	100		ug/L
Hexachloroethane	<0.2	0.2	100		ug/L
Nitrobenzene	<0.2	0.2	100		ug/L
N-Nitrosopiperidine	<0.2	0.2	100		ug/L
Isophorone	<0.1	0.1	50		ug/L
2-Nitrophenol	<0.3	0.3	150		ug/L
2,4-Dimethylphenol	<0.1	0.1	50		ug/L
Bis(2-chloroethoxy)methane	<0.2	0.2	100		ug/L
2,4-Dichlorophenol	<0.2	0.2	100		ug/L
1,2,4-Trichlorobenzene	<0.12	0.12	60		ug/L
Naphthalene	<0.08	0.08	40		ug/L
4-Chloroaniline	<0.1	0.1	50		ug/L
2,6-Dichlorophenol	<0.2	0.2	100		ug/L
Hexachlorobutadiene	<0.2	0.2	100		ug/L

N-Nitrosodibutylamine	<0.2	0.2	100	ug/L
4-Chloro-3-methylphenol	<0.16	0.16	80	ug/L
2-Methylnaphthalene	<0.1	0.1	50	ug/L
1,2,4,5-Tetrachlorobenzene	<0.1	0.1	50	ug/L
Hexachlorocyclopentadiene	<0.16	0.16	80	ug/L
2,4,6-Trichlorophenol	<0.2	0.2	100	ug/L
2,4,5-Trichlorophenol	<0.2	0.2	100	ug/L
2-Chloronaphthalene	<0.1	0.1	50	ug/L
1-Chloronaphthalene	<0.1	0.1	50	ug/L
2-Nitroaniline	<0.2	0.2	100	ug/L
Dimethyl phthalate	<0.2	0.2	100	ug/L
2,6-Dinitrotoluene	<0.2	0.2	100	ug/L
Acenaphthylene	<0.08	0.08	40	ug/L
3-Nitroaniline	<0.2	0.2	100	ug/L
Acenaphthene	<0.1	0.1	50	ug/L
2,4-Dinitrophenol	<4	4	2000	ug/L
Pentachlorobenzene	<0.12	0.12	60	ug/L
4-Nitrophenol	<2	2	1000	ug/L
Dibenzofuran	<0.1	0.1	50	ug/L
2,4-Dinitrotoluene	<0.2	0.2	100	ug/L
2,3,4,6-Tetrachlorophenol	<0.6	0.6	300	ug/L
Diethyl phthalate	<0.2	0.2	100	ug/L
Fluorene	<0.1	0.1	50	ug/L
4-Chlorophenyl phenyl ether	<0.1	0.1	50	ug/L
4-Nitroaniline	<0.2	0.2	100	ug/L
4,6-Dinitro-2-methylphenol	<6	6	3000	ug/L
Diphenylamine	<0.1	0.1	50	ug/L
Azobenzene	<0.08	0.08	40	ug/L
4-Bromophenyl phenyl ether	<0.2	0.2	100	ug/L
Hexachlorobenzene	<0.16	0.16	80	ug/L
Pentachlorophenol	<1	1	500	ug/L
Pentachloronitrobenzene	<0.2	0.2	100	ug/L
Pronamide	<0.2	0.2	100	ug/L
Phenanthrene	<0.08	0.08	40	ug/L
Anthracene	<0.08	0.08	40	ug/L
Carbazole	<0.1	0.1	50	ug/L
Di-n-butyl phthalate	<0.2	0.2	100	ug/L
Fluoranthene	<0.08	0.08	40	ug/L
Pyrene	<0.08	0.08	40	ug/L
Dimethylaminoazobenzene	<0.2	0.2	100	ug/L

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Butyl benzyl phthalate	<0.3	0.3	150	ug/L
Benzo (a) anthracene	<0.1	0.1	50	ug/L
Chrysene	<0.1	0.1	50	ug/L
Bis(2-ethylhexyl)phthalate	<0.3	0.3	150	ug/L
Di-n-octyl phthalate	<0.3	0.3	150	ug/L
Benzo (b) fluoranthene	<0.16	0.16	80	ug/L
7,12-Dimethylbenz (a) anthracene	<0.2	0.2	100	ug/L
Benzo (k) fluoranthene	<0.16	0.16	80	ug/L
Benzo (a) pyrene	<0.16	0.16	80	ug/L
3-Methylcholanthrene	<0.2	0.2	100	ug/L
Indeno (1,2,3-cd) pyrene	<0.2	0.2	100	ug/L
Dibenzo (a,h) anthracene	<0.16	0.16	80	ug/L
Benzo (g,h,i) perylene	<0.16	0.16	80	ug/L
Initial Volume	500			mL
Final Volume	1			mL
Dilution Factor	1			
Analyzed By	Ed Harris			
Analysis Date/Time	8/5/2013 1:37 PM			
Prep By	Ed Harris			
Prep Date/Time	8/2/2013 08:00			

Client: Special Samples

Client Sample ID: TW36-01

Lab ID: 2013-2636

Collection Date: 7/30/2013 3:00:00 PM

Matrix: Water

Analyses

Semi-Volatiles by GC/MS

EPA 3510C/EPA 8270D

Batch: 13080502 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
2-Fluorophenol (% Recovery)	1.6	40-110			%
Nitrobenzene-d5 (% Recovery)	71.2	50-110			%
2-Fluorobiphenyl (% Recovery)	64.9	50-110			%
2,4,6-Tribromophenol (% Recovery)	8.6	40-110			%
Terphenyl-d14 (% Recovery)	78.9	50-110			%
Methyl Methanesulfonate	<0.2	0.2	100		ug/L
Ethyl methanesulfonate	<0.2	0.2	100		ug/L
Phenol	<0.2	0.2	100		ug/L
Aniline	<0.2	0.2	100		ug/L
Bis(2-chloroethyl)ether	<0.2	0.2	100		ug/L
2-Chlorophenol	<0.2	0.2	100		ug/L
1,3-Dichlorobenzene	<0.12	0.12	60		ug/L
1,4-Dichlorobenzene	<0.12	0.12	60		ug/L
Benzyl alcohol	<0.16	0.16	80		ug/L
1,2-Dichlorobenzene	<0.12	0.12	60		ug/L
2-Methylphenol	<0.1	0.1	50		ug/L
Acetophenone	<0.1	0.1	50		ug/L
4-Methylphenol	<0.1	0.1	50		ug/L
N-Nitrosodi-n-propylamine	<0.2	0.2	100		ug/L
Hexachloroethane	<0.2	0.2	100		ug/L
Nitrobenzene	<0.2	0.2	100		ug/L
N-Nitrosopiperidine	<0.2	0.2	100		ug/L
Isophorone	<0.1	0.1	50		ug/L
2-Nitrophenol	<0.3	0.3	150		ug/L
2,4-Dimethylphenol	<0.1	0.1	50		ug/L
Bis(2-chloroethoxy)methane	<0.2	0.2	100		ug/L
2,4-Dichlorophenol	<0.2	0.2	100		ug/L
1,2,4-Trichlorobenzene	<0.12	0.12	60		ug/L
Naphthalene	<0.08	0.08	40		ug/L
4-Chloroaniline	<0.1	0.1	50		ug/L
2,6-Dichlorophenol	<0.2	0.2	100		ug/L
Hexachlorobutadiene	<0.2	0.2	100		ug/L

N-Nitrosodibutylamine	<0.2	0.2	100	ug/L
4-Chloro-3-methylphenol	<0.16	0.16	80	ug/L
2-Methylnaphthalene	<0.1	0.1	50	ug/L
1,2,4,5-Tetrachlorobenzene	<0.1	0.1	50	ug/L
Hexachlorocyclopentadiene	<0.16	0.16	80	ug/L
2,4,6-Trichlorophenol	<0.2	0.2	100	ug/L
2,4,5-Trichlorophenol	<0.2	0.2	100	ug/L
2-Chloronaphthalene	<0.1	0.1	50	ug/L
1-Chloronaphthalene	<0.1	0.1	50	ug/L
2-Nitroaniline	<0.2	0.2	100	ug/L
Dimethyl phthalate	<0.2	0.2	100	ug/L
2,6-Dinitrotoluene	<0.2	0.2	100	ug/L
Acenaphthylene	<0.08	0.08	40	ug/L
3-Nitroaniline	<0.2	0.2	100	ug/L
Acenaphthene	<0.1	0.1	50	ug/L
2,4-Dinitrophenol	<4	4	2000	ug/L
Pentachlorobenzene	<0.12	0.12	60	ug/L
4-Nitrophenol	<2	2	1000	ug/L
Dibenzofuran	<0.1	0.1	50	ug/L
2,4-Dinitrotoluene	<0.2	0.2	100	ug/L
2,3,4,6-Tetrachlorophenol	<0.6	0.6	300	ug/L
Diethyl phthalate	<0.2	0.2	100	ug/L
Fluorene	<0.1	0.1	50	ug/L
4-Chlorophenyl phenyl ether	<0.1	0.1	50	ug/L
4-Nitroaniline	<0.2	0.2	100	ug/L
4,6-Dinitro-2-methylphenol	<6	6	3000	ug/L
Diphenylamine	<0.1	0.1	50	ug/L
Azobenzene	<0.08	0.08	40	ug/L
4-Bromophenyl phenyl ether	<0.2	0.2	100	ug/L
Hexachlorobenzene	<0.16	0.16	80	ug/L
Pentachlorophenol	<1	1	500	ug/L
Pentachloronitrobenzene	<0.2	0.2	100	ug/L
Pronamide	<0.2	0.2	100	ug/L
Phenanthrene	<0.08	0.08	40	ug/L
Anthracene	<0.08	0.08	40	ug/L
Carbazole	<0.1	0.1	50	ug/L
Di-n-butyl phthalate	<0.2	0.2	100	ug/L
Fluoranthene	<0.08	0.08	40	ug/L
Pyrene	<0.08	0.08	40	ug/L
Dimethylaminoazobenzene	<0.2	0.2	100	ug/L

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Butyl benzyl phthalate	<0.3	0.3	150	ug/L
Benzo (a) anthracene	<0.1	0.1	50	ug/L
Chrysene	<0.1	0.1	50	ug/L
Bis(2-ethylhexyl)phthalate	<0.3	0.3	150	ug/L
Di-n-octyl phthalate	<0.3	0.3	150	ug/L
Benzo (b) fluoranthene	<0.16	0.16	80	ug/L
7,12-Dimethylbenz (a) anthracene	<0.2	0.2	100	ug/L
Benzo (k) fluoranthene	<0.16	0.16	80	ug/L
Benzo (a) pyrene	<0.16	0.16	80	ug/L
3-Methylcholanthrene	<0.2	0.2	100	ug/L
Indeno (1,2,3-cd) pyrene	<0.2	0.2	100	ug/L
Dibenzo (a,h) anthracene	<0.16	0.16	80	ug/L
Benzo (g,h,i) perylene	<0.16	0.16	80	ug/L
Initial Volume	500			mL
Final Volume	1			mL
Dilution Factor	1			
Analyzed By	Ed Harris			
Analysis Date/Time	8/5/2013 2:06 PM			
Prep By	Ed Harris			
Prep Date/Time	8/2/2013 08:00			

Client: Special Samples

Client Sample ID: TW36-03

Lab ID: 2013-2634

Collection Date: 7/30/2013 1:10:00 PM

Matrix: Water

Analyses

Dissolved Metals by EPA 200.8

EPA 200.8

Batch: 13080601 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Aluminum	<4000	4000	20		ug/L
Antimony	<1000	1000	1.0		ug/L
Arsenic	<100	100	0.2		ug/L
Barium	<400	400	0.4		ug/L
Beryllium	<20	20	0.04		ug/L
Boron	<1000	1000	2.0		ug/L
Cadmium	<20	20	0.05		ug/L
Calcium	218	6	0.03		mg/L
Chromium	<100	100	0.05		ug/L
Cobalt	<100	100	0.05		ug/L
Copper	<100	100	0.2		ug/L
Iron	<4000	4000	5.0		ug/L
Lead	<60	60	0.02		ug/L
Magnesium	325	4	0.01		mg/L
Manganese	1300	60	0.07		ug/L
Nickel	<100	100	0.15		ug/L
Potassium	<4	4	0.01		mg/L
Selenium	<200	200	0.2		ug/L
Silicon Dioxide	32.3	10	0.01		mg/L
Silver	<100	100	0.02		ug/L
Sodium	769	4	0.01		mg/L
Thallium	<100	100	0.005		ug/L
Vanadium	<100	100	0.3		ug/L
Zinc	<200	200	0.3		ug/L
Hardness	1880	200	1.0		mg/L
Dilution Factor	200				
Analyzed By	Robert Graddy				
Analysis Date/Time	Aug 5 2013 12:48PM				

Total Metals by EPA 200.8

EPA 200.8

Batch: 13080602 Run: 1

Result Reporting MDL Qual Unit

		<u>Limit</u>		
Aluminum	<4000	4000	20	ug/L
Antimony	<2000	2000	5	ug/L
Arsenic	<200	200	0.5	ug/L
Barium	<2000	2000	2.0	ug/L
Beryllium	<100	100	0.1	ug/L
Boron	<5000	5000	5.0	ug/L
Cadmium	<200	200	0.3	ug/L
Calcium	326	8	0.04	mg/L
Chromium	<200	200	0.3	ug/L
Cobalt	<200	200	0.5	ug/L
Copper	<200	200	0.5	ug/L
Iron	<4000	4000	10.0	ug/L
Lead	<200	200	0.1	ug/L
Magnesium	477	20	0.1	mg/L
Manganese	493	200	0.2	ug/L
Nickel	<500	500	0.5	ug/L
Potassium	<200	200	0.05	mg/L
Selenium	<400	400	0.5	ug/L
Silver	<1000	1000	1.0	ug/L
Sodium	1050	8	0.02	mg/L
Thallium	<500	500	0.05	ug/L
Vanadium	<500	500	1.0	ug/L
Zinc	<600	600	2.0	ug/L
Dilution Factor	200			
Analyzed By	Robert Graddy			
Analysis Date/Time	Aug 5 2013 2:05PM			
Prep By				
Prep Date/Time				

Client: Special Samples	Client Sample ID: TW36-04
Lab ID: 2013-2635	Collection Date: 7/30/2013 2:00:00 PM
Matrix: Water	

Analyses

<i>Dissolved Metals by EPA 200.8</i>	<i>EPA 200.8</i>	<i>Batch: 13080601 Run: 1</i>			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Aluminum	<4000	4000	20		ug/L
Antimony	<1000	1000	1.0		ug/L
Arsenic	<100	100	0.2		ug/L
Barium	<400	400	0.4		ug/L
Beryllium	<20	20	0.04		ug/L
Boron	<1000	1000	2.0		ug/L
Cadmium	<20	20	0.05		ug/L
Calcium	35.6	6	0.03		mg/L
Chromium	<100	100	0.05		ug/L
Cobalt	<100	100	0.05		ug/L
Copper	<100	100	0.2		ug/L
Iron	<4000	4000	5.0		ug/L
Lead	<60	60	0.02		ug/L
Magnesium	65.9	4	0.01		mg/L
Manganese	747	60	0.07		ug/L
Nickel	<100	100	0.15		ug/L
Potassium	<4	4	0.01		mg/L
Selenium	<200	200	0.2		ug/L
Silicon Dioxide	35.6	10	0.01		mg/L
Silver	<100	100	0.02		ug/L
Sodium	332	4	0.01		mg/L
Thallium	<100	100	0.005		ug/L
Vanadium	<100	100	0.3		ug/L
Zinc	<200	200	0.3		ug/L
Hardness	360	200	1.0		mg/L
Dilution Factor	200				
Analyzed By	Robert Graddy				
Analysis Date/Time	Aug 5 2013 4:33PM				

<i>Total Metals by EPA 200.8</i>	<i>EPA 200.8</i>	<i>Batch: 13080602 Run: 1</i>			
	<u>Result</u>	<u>Reporting</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>

		<u>Limit</u>		
Aluminum	6180	4000	20	ug/L
Antimony	<2000	2000	5	ug/L
Arsenic	<200	200	0.5	ug/L
Barium	<2000	2000	2.0	ug/L
Beryllium	<100	100	0.1	ug/L
Boron	<5000	5000	5.0	ug/L
Cadmium	<200	200	0.3	ug/L
Calcium	24.7	8	0.04	mg/L
Chromium	<200	200	0.3	ug/L
Cobalt	<200	200	0.5	ug/L
Copper	<200	200	0.5	ug/L
Iron	<4000	4000	10.0	ug/L
Lead	<200	200	0.1	ug/L
Magnesium	33.1	20	0.1	mg/L
Manganese	462	200	0.2	ug/L
Nickel	<500	500	0.5	ug/L
Potassium	<200	200	0.05	mg/L
Selenium	<400	400	0.5	ug/L
Silver	<1000	1000	1.0	ug/L
Sodium	184	8	0.02	mg/L
Thallium	<500	500	0.05	ug/L
Vanadium	<500	500	1.0	ug/L
Zinc	<600	600	2.0	ug/L
Dilution Factor	200			
Analyzed By	Robert Graddy			
Analysis Date/Time	Aug 5 2013 4:46PM			
Prep By				
Prep Date/Time				

Client: Special Samples	Client Sample ID: TW36-01
Lab ID: 2013-2636	Collection Date: 7/30/2013 3:00:00 PM
Matrix: Water	

Analyses

Dissolved Metals by EPA 200.8

EPA 200.8

Batch: 13080601 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Aluminum	<4000	4000	20		ug/L
Antimony	<1000	1000	1.0		ug/L
Arsenic	<100	100	0.2		ug/L
Barium	<400	400	0.4		ug/L
Beryllium	<20	20	0.04		ug/L
Boron	<1000	1000	2.0		ug/L
Cadmium	<20	20	0.05		ug/L
Calcium	53.7	6	0.03		mg/L
Chromium	<100	100	0.05		ug/L
Cobalt	147	100	0.05		ug/L
Copper	<100	100	0.2		ug/L
Iron	<4000	4000	5.0		ug/L
Lead	<60	60	0.02		ug/L
Magnesium	120	4	0.01		mg/L
Manganese	1420	60	0.07		ug/L
Nickel	166	100	0.15		ug/L
Potassium	<4	4	0.01		mg/L
Selenium	<200	200	0.2		ug/L
Silicon Dioxide	68.5	10	0.01		mg/L
Silver	<100	100	0.02		ug/L
Sodium	309	4	0.01		mg/L
Thallium	<100	100	0.005		ug/L
Vanadium	<100	100	0.3		ug/L
Zinc	<200	200	0.3		ug/L
Hardness	630	200	1.0		mg/L
Dilution Factor	200				
Analyzed By	Robert Graddy				
Analysis Date/Time	Aug 5 2013 1:07PM				

Total Metals by EPA 200.8

EPA 200.8

Batch: 13080602 Run: 1

Result Reporting MDL Qual Unit

		<u>Limit</u>		
Aluminum	<4000	4000	20	ug/L
Antimony	<2000	2000	5	ug/L
Arsenic	<200	200	0.5	ug/L
Barium	<2000	2000	2.0	ug/L
Beryllium	<100	100	0.1	ug/L
Boron	<5000	5000	5.0	ug/L
Cadmium	<200	200	0.3	ug/L
Calcium	348	8	0.04	mg/L
Chromium	<200	200	0.3	ug/L
Cobalt	<200	200	0.5	ug/L
Copper	<200	200	0.5	ug/L
Iron	<4000	4000	10.0	ug/L
Lead	<200	200	0.1	ug/L
Magnesium	664	20	0.1	mg/L
Manganese	560	200	0.2	ug/L
Nickel	<500	500	0.5	ug/L
Potassium	<200	200	0.05	mg/L
Selenium	<400	400	0.5	ug/L
Silver	<1000	1000	1.0	ug/L
Sodium	1280	8	0.02	mg/L
Thallium	<500	500	0.05	ug/L
Vanadium	<500	500	1.0	ug/L
Zinc	<600	600	2.0	ug/L
Dilution Factor	200			
Analyzed By	Robert Graddy			
Analysis Date/Time	Aug 5 2013 2:24PM			
Prep By				
Prep Date/Time				

Analytical Quality Control Results Report

Batch: 13080502	Semi-VOA water (Prep)
MB	LIMS ID: 13080502-MB-01

Semi Volatiles - water MB

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Initial Volume	500 mL				
Final Volume	1 mL				
Prep By	Ed Harris				
Prep Date/Time	8/2/2013 08:00				
2-Fluorophenol (% Recovery)	34.3 %			40 - 110	
Nitrobenzene-d5 (% Recovery)	74.5 %			40 - 125	
2-Fluorobiphenyl (% Recovery)	69.6 %			40 - 125	
2,4,6-Tribromophenol (% Recovery)	62.6 %			40 - 125	
Terphenyl-d14 (% Recovery)	76.2 %			40 - 125	
Methyl Methanesulfonate	<0.2 ug/L	0.2	0.2		
Ethyl methanesulfonate	<0.2 ug/L	0.2	0.2		
Phenol	<0.2 ug/L	0.2	0.2		
Aniline	<0.2 ug/L	0.2	0.2		
Bis(2-chloroethyl)ether	<0.2 ug/L	0.2	0.2		
2-Chlorophenol	<0.2 ug/L	0.2	0.2		
1,3-Dichlorobenzene	<0.12 ug/L	0.12	0.12		
1,4-Dichlorobenzene	<0.12 ug/L	0.12	0.12		
Benzyl alcohol	<0.16 ug/L	0.16	0.16		
1,2-Dichlorobenzene	<0.12 ug/L	0.12	0.12		
2-Methylphenol	<0.1 ug/L	0.1	0.1		
Acetophenone	<0.1 ug/L	0.1	0.1		
4-Methylphenol	<0.1 ug/L	0.1	0.1		
N-Nitrosodi-n-propylamine	<0.2 ug/L	0.2	0.2		
Hexachloroethane	<0.2 ug/L	0.2	0.2		
Nitrobenzene	<0.2 ug/L	0.2	0.2		
N-Nitrosopiperidine	<0.2 ug/L	0.2	0.2		
Isophorone	<0.1 ug/L	0.1	0.1		
2-Nitrophenol	<0.3 ug/L	0.3	0.3		
2,4-Dimethylphenol	<0.1 ug/L	0.1	0.1		
Bis(2-chloroethoxy)methane	<0.2 ug/L	0.2	0.2		
2,4-Dichlorophenol	<0.2 ug/L	0.2	0.2		

1,2,4-Trichlorobenzene	<0.12 ug/L	0.12	0.12
Naphthalene	<0.08 ug/L	0.08	0.08
4-Chloroaniline	<0.1 ug/L	0.1	0.1
2,6-Dichlorophenol	<0.2 ug/L	0.2	0.2
Hexachlorobutadiene	<0.2 ug/L	0.2	0.2
N-Nitrosodibutylamine	<0.2 ug/L	0.2	0.2
4-Chloro-3-methylphenol	<0.16 ug/L	0.16	0.16
2-Methylnaphthalene	<0.12 ug/L	0.12	0.12
1,2,4,5-Tetrachlorobenzene	<0.1 ug/L	0.1	0.1
Hexachlorocyclopentadiene	<0.16 ug/L	0.16	0.16
2,4,6-Trichlorophenol	<0.2 ug/L	0.2	0.2
2,4,5-Trichlorophenol	<0.2 ug/L	0.2	0.2
2-Chloronaphthalene	<0.1 ug/L	0.1	0.1
1-Chloronaphthalene	<0.1 ug/L	0.1	0.1
2-Nitroaniline	<0.2 ug/L	0.2	0.2
Dimethyl phthalate	<0.2 ug/L	0.2	0.2
2,6-Dinitrotoluene	<0.2 ug/L	0.2	0.2
Acenaphthylene	<0.08 ug/L	0.08	0.08
3-Nitroaniline	<0.2 ug/L	0.2	0.2
Acenaphthene	<0.1 ug/L	0.1	0.1
2,4-Dinitrophenol	<4 ug/L	4	4
Pentachlorobenzene	<0.12 ug/L	0.12	0.12
4-Nitrophenol	<2 ug/L	2	2
Dibenzofuran	<0.1 ug/L	0.1	0.1
2,4-Dinitrotoluene	<0.2 ug/L	0.2	0.2
2,3,4,6-Tetrachlorophenol	<0.6 ug/L	0.6	0.6
Diethyl phthalate	<0.2 ug/L	0.2	0.2
Fluorene	<0.1 ug/L	0.1	0.1
4-Chlorophenyl phenyl ether	<0.1 ug/L	0.1	0.1
4-Nitroaniline	<0.2 ug/L	0.2	0.2
4,6-Dinitro-2-methylphenol	<6 ug/L	6	6
Diphenylamine	<0.1 ug/L	0.1	0.1
Azobenzene	<0.08 ug/L	0.08	0.08
4-Bromophenyl phenyl ether	<0.2 ug/L	0.2	0.2
Hexachlorobenzene	<0.16 ug/L	0.16	0.16
Pentachlorophenol	<1 ug/L	1	1
Pentachloronitrobenzene	<0.2 ug/L	0.2	0.2
Pronamide	<0.2 ug/L	0.2	0.2
Phenanthrene	<0.08 ug/L	0.08	0.08
Anthracene	<0.08 ug/L	0.08	0.08

Carbazole	<0.1 ug/L	0.1	0.1
Di-n-butyl phthalate	1.35 ug/L	0.2	0.2
Fluoranthene	<0.08 ug/L	0.08	0.08
Pyrene	<0.08 ug/L	0.08	0.08
Dimethylaminoazobenzene	<0.2 ug/L	0.2	0.2
Butyl benzyl phthalate	<0.3 ug/L	0.3	0.3
Benzo (a) anthracene	<0.2 ug/L	0.2	0.2
Chrysene	<0.1 ug/L	0.1	0.1
Bis(2-ethylhexyl)phthalate	<0.3 ug/L	0.3	0.3
Di-n-octyl phthalate	<0.3 ug/L	0.3	0.3
Benzo (b) fluoranthene	<0.16 ug/L	0.16	0.16
7,12-Dimethylbenz (a) anthracene	<0.2 ug/L	0.2	0.2
Benzo (k) fluoranthene	<0.16 ug/L	0.16	0.16
Benzo (a) pyrene	<0.16 ug/L	0.16	0.16
3-Methylcholanthrene	<0.2 ug/L	0.2	0.2
Indeno (1,2,3-cd) pyrene	<0.2 ug/L	0.2	0.2
Dibenzo (a,h) anthracene	<0.16 ug/L	0.16	0.16
Benzo (g,h,i) perylene	<0.16 ug/L	0.16	0.16
Dilution Factor	1		
Analyzed By	Ed Harris		
Analysis Date/Time	8/5/2013 12:10		

LCS	LIMS ID: 13080502-LCS-01
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Semi Volatiles - water LCS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Initial Volume	500 mL				
Final Volume	1 mL				
Prep By	Ed Harris				
Prep Date/Time	8/2/2013 08:00				
2-Fluorophenol (% Recovery)	35.0 %			40 - 110	
Nitrobenzene-d5 (% Recovery)	71.1 %			50 - 125	
2-Fluorobiphenyl (% Recovery)	63.2 %			50 - 125	
2,4,6-Tribromophenol (% Recovery)	74.6 %			40 - 125	
Terphenyl-d14 (% Recovery)	78.4 %			50 - 125	
Methyl Methanesulfonate (% Recovery)	55.6 %			50 - 150	
Ethyl methanesulfonate (% Recovery)	58.7 %			50 - 150	
Phenol (% Recovery)	29.1 %			50 - 150	
Aniline (% Recovery)	53.2 %			50 - 150	
Bis(2-chloroethyl)ether (% Recovery)	77.2 %			50 - 150	

2-Chlorophenol (% Recovery)	71.6 %	50 - 150
1,3-Dichlorobenzene (% Recovery)	51.2 %	50 - 150
1,4-Dichlorobenzene (% Recovery)	50.3 %	50 - 150
Benzyl alcohol (% Recovery)	72.0 %	50 - 150
1,2-Dichlorobenzene (% Recovery)	52.3 %	50 - 150
2-Methylphenol (% Recovery)	65.1 %	50 - 150
Acetophenone (% Recovery)	80.4 %	50 - 150
4-Methylphenol (% Recovery)	58.1 %	50 - 150
N-Nitrosodi-n-propylamine (% Recovery)	80.9 %	50 - 150
Hexachloroethane (% Recovery)	42.6 %	50 - 150
Nitrobenzene (% Recovery)	74.5 %	50 - 150
N-Nitrosopiperidine (% Recovery)	86.0 %	50 - 150
Isophorone (% Recovery)	78.6 %	50 - 150
2-Nitrophenol (% Recovery)	74.1 %	50 - 150
2,4-Dimethylphenol (% Recovery)	7.0 %	50 - 150
Bis(2-chloroethoxy)methane (% Recovery)	71.9 %	50 - 150
2,4-Dichlorophenol (% Recovery)	74.9 %	50 - 150
1,2,4-Trichlorobenzene (% Recovery)	51.3 %	50 - 150
Naphthalene (% Recovery)	68.9 %	50 - 150
4-Chloroaniline (% Recovery)	68.4 %	50 - 150
2,6-Dichlorophenol (% Recovery)	76.3 %	50 - 150
Hexachlorobutadiene (% Recovery)	40.7 %	50 - 150
N-Nitrosodibutylamine (% Recovery)	84.2 %	50 - 150
4-Chloro-3-methylphenol (% Recovery)	78.5 %	50 - 150
2-Methylnaphthalene (% Recovery)	69.2 %	50 - 150
1,2,4,5-Tetrachlorobenzene (% Recovery)	59.3 %	50 - 150
Hexachlorocyclopentadiene (% Recovery)	59.2 %	50 - 150
2,4,6-Trichlorophenol (% Recovery)	82.9 %	50 - 150
2,4,5-Trichlorophenol (% Recovery)	82.4 %	50 - 150
2-Chloronaphthalene (% Recovery)	75.0 %	50 - 150
1-Chloronaphthalene (% Recovery)	74.0 %	50 - 150
2-Nitroaniline (% Recovery)	87.4 %	50 - 150
Dimethyl phthalate (% Recovery)	78.4 %	50 - 150
2,6-Dinitrotoluene (% Recovery)	83.6 %	50 - 150
Acenaphthylene (% Recovery)	78.5 %	50 - 150
3-Nitroaniline (% Recovery)	88.6 %	50 - 150
Acenaphthene (% Recovery)	74.8 %	50 - 150
2,4-Dinitrophenol (% Recovery)	91.0 %	50 - 150
Pentachlorobenzene (% Recovery)	62.5 %	50 - 150
4-Nitrophenol (% Recovery)	33.3 %	50 - 150

Arkansas Department of Environmental Quality
 5301 Northshore Drive
 North Little Rock, AR 72118

Laboratory Contact: Jeff Ruehr
 Ruehr@adeq.state.ar.us
 501-682-0955

Dibenzofuran (% Recovery)	78.6 %	50 - 150
2,4-Dinitrotoluene (% Recovery)	79.6 %	50 - 150
2,3,4,6-Tetrachlorophenol (% Recovery)	81.2 %	50 - 150
Diethyl phthalate (% Recovery)	87.0 %	50 - 150
Fluorene (% Recovery)	75.5 %	50 - 150
4-Chlorophenyl phenyl ether (% Recovery)	78.2 %	50 - 150
4-Nitroaniline (% Recovery)	95.8 %	50 - 150
4,6-Dinitro-2-methylphenol (% Recovery)	83.9 %	50 - 150
Diphenylamine (% Recovery)	77.4 %	50 - 150
Azobenzene (% Recovery)	75.2 %	50 - 150
4-Bromophenyl phenyl ether (% Recovery)	72.2 %	50 - 150
Hexachlorobenzene (% Recovery)	64.6 %	50 - 150
Pentachlorophenol (% Recovery)	81.4 %	50 - 150
Pentachloronitrobenzene (% Recovery)	76.7 %	50 - 150
Pronamide (% Recovery)	85.4 %	50 - 150
Phenanthrene (% Recovery)	74.2 %	50 - 150
Anthracene (% Recovery)	76.2 %	50 - 150
Carbazole (% Recovery)	89.9 %	50 - 150
Di-n-butyl phthalate (% Recovery)	132 %	50 - 150
Fluoranthene (% Recovery)	78.0 %	50 - 150
Pyrene (% Recovery)	80.0 %	50 - 150
Dimethylaminoazobenzene (% Recovery)	88.2 %	50 - 150
Butyl benzyl phthalate (% Recovery)	85.5 %	50 - 150
Benzo (a) anthracene (% Recovery)	82.5 %	50 - 150
Chrysene (% Recovery)	85.0 %	50 - 150
Bis(2-ethylhexyl)phthalate (% Recovery)	77.4 %	50 - 150
Di-n-octyl phthalate (% Recovery)	75.7 %	50 - 150
Benzo (b) fluoranthene (% Recovery)	81.4 %	50 - 150
7,12-Dimethylbenz (a) anthracene (% Recovery)	79.1 %	50 - 150
Benzo (k) fluoranthene (% Recovery)	86.3 %	50 - 150
Benzo (a) pyrene (% Recovery)	85.3 %	50 - 150
3-Methylcholanthrene (% Recovery)	83.3 %	50 - 150
Indeno (1,2,3-cd) pyrene (% Recovery)	81.2 %	50 - 150
Dibenzo (a,h) anthracene (% Recovery)	84.6 %	50 - 150
Benzo (g,h,i) perylene (% Recovery)	81.1 %	50 - 150
Dilution Factor	1	
Analyzed By	Ed Harris	
Analysis Date/Time	8/5/2013 12:39	

Analytical Quality Control Results Report

Batch: 13080207	VOA - water
TW36-04	LIMS ID: 2013-2635

Volatiles - water DUP

Run: 1

<i>Parameter</i>	<i>Result</i>	<i>DL</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
Dibromofluoromethane (% Recovery)	103 %			70 - 130	
1,2-Dichloroethane-d4 (% Recovery)	98.9 %			70 - 130	
Toluene-d8 (% Recovery)	98.9 %			70 - 130	
4-Bromofluorobenzene (% Recovery)	110 %			70 - 130	
Dichlorodifluoromethane	<1.12 ug/L	1.12	1.12		
Dichlorodifluoromethane (RPD)	0 %				0 - 20
Chloromethane (RPD)	0 %				0 - 20
Chloromethane	<0.58 ug/L	0.58	0.58		
Vinyl chloride	<0.82 ug/L	0.82	0.82		
Vinyl chloride (RPD)	0 %				0 - 20
Bromomethane (RPD)	0 %				0 - 20
Bromomethane	<3.9 ug/L	3.9	3.9		
Chloroethane	<2.68 ug/L	2.68	2.68		
Chloroethane (RPD)	200 %				0 - 20
Trichlorofluoromethane	<0.51 ug/L	0.51	0.51		
Trichlorofluoromethane (RPD)	0 %				0 - 20
1,1-Dichloroethene	<0.43 ug/L	0.43	0.43		
1,1-Dichloroethene (RPD)	0 %				0 - 20
Acetone	<10.5 ug/L	10.5	10.5		
Acetone (RPD)	0 %				0 - 20
Methylene chloride (RPD)	3.6 %				0 - 20
Methylene chloride	<2.5 ug/L	2.5	2.5		
Methyl tert-butyl ether	<0.83 ug/L	0.83	0.83		
Methyl tert-butyl ether (RPD)	0 %				0 - 20
trans-1,2-Dichloroethene (RPD)	0 %				0 - 20
trans-1,2-Dichloroethene	<0.59 ug/L	0.59	0.59		
1,1-Dichloroethane (RPD)	0 %				0 - 20
1,1-Dichloroethane	<0.42 ug/L	0.42	0.42		
Methyl ethyl ketone (RPD)	0 %				0 - 20
Methyl ethyl ketone	<12.8 ug/L	12.8	12.8		
cis-1,2-Dichloroethene	<1.15 ug/L	1.15	1.15		
cis-1,2-Dichloroethene (RPD)	0 %				0 - 20
2,2-Dichloropropane (RPD)	0 %				0 - 20

2,2-Dichloropropane	<0.81 ug/L	0.81	0.81	
Bromochloromethane	<0.66 ug/L	0.66	0.66	
Bromochloromethane (RPD)	0 %			0 - 20
Chloroform (RPD)	0 %			0 - 20
Chloroform	<0.27 ug/L	0.27	0.27	
1,1,1-Trichloroethane	<0.46 ug/L	0.46	0.46	
1,1,1-Trichloroethane (RPD)	0 %			0 - 20
1,1-Dichloropropene	<0.59 ug/L	0.59	0.59	
1,1-Dichloropropene (RPD)	0 %			0 - 20
Carbon tetrachloride	<0.6 ug/L	0.6	0.6	
Carbon tetrachloride (RPD)	0 %			0 - 20
Benzene (RPD)	0 %			0 - 20
Benzene	<0.66 ug/L	0.66	0.66	
1,2-Dichloroethane	<1.15 ug/L	1.15	1.15	
1,2-Dichloroethane (RPD)	0 %			0 - 20
Trichloroethene	<0.6 ug/L	0.6	0.6	
Trichloroethene (RPD)	0 %			0 - 20
1,2-Dichloropropane (RPD)	0 %			0 - 20
1,2-Dichloropropane	<0.98 ug/L	0.98	0.98	
Dibromomethane	<1.78 ug/L	1.78	1.78	
Dibromomethane (RPD)	0 %			0 - 20
Bromodichloromethane (RPD)	0 %			0 - 20
Bromodichloromethane	<0.65 ug/L	0.65	0.65	
cis-1,3-Dichloropropene	<0.86 ug/L	0.86	0.86	
cis-1,3-Dichloropropene (RPD)	0 %			0 - 20
Methyl isobutyl ketone (RPD)	0 %			0 - 20
Methyl isobutyl ketone	<8.1 ug/L	8.1	8.1	
Toluene	<0.57 ug/L	0.57	0.57	
Toluene (RPD)	0 %			0 - 20
trans-1,3-Dichloropropene (RPD)	0 %			0 - 20
trans-1,3-Dichloropropene	<0.84 ug/L	0.84	0.84	
1,1,2-Trichloroethane	<0.78 ug/L	0.78	0.78	
1,1,2-Trichloroethane (RPD)	0 %			0 - 20
2-Hexanone (RPD)	0 %			0 - 20
2-Hexanone	<9.5 ug/L	9.5	9.5	
Tetrachloroethene	<0.96 ug/L	0.96	0.96	
Tetrachloroethene (RPD)	0 %			0 - 20
1,3-Dichloropropane (RPD)	0 %			0 - 20
1,3-Dichloropropane	<0.94 ug/L	0.94	0.94	
Dibromochloromethane	<1.25 ug/L	1.25	1.25	

Dibromochloromethane (RPD)	0 %			0 - 20
1,2-Dibromoethane (EDB) (RPD)	0 %			0 - 20
1,2-Dibromoethane (EDB)	<0.68 ug/L	0.68	0.68	
Chlorobenzene	<0.62 ug/L	0.62	0.62	
Chlorobenzene (RPD)	0 %			0 - 20
Ethylbenzene (RPD)	0 %			0 - 20
Ethylbenzene	<0.51 ug/L	0.51	0.51	
1,1,1,2-Tetrachloroethane (RPD)	0 %			0 - 20
1,1,1,2-Tetrachloroethane	<0.57 ug/L	0.57	0.57	
m,p-Xylene (RPD)	0 %			0 - 20
m,p-Xylene	<1.2 ug/L	1.2	1.2	
o-Xylene	<0.5 ug/L	0.5	0.5	
o-Xylene (RPD)	0 %			0 - 20
Styrene (RPD)	0 %			0 - 20
Styrene	<0.53 ug/L	0.53	0.53	
Bromoform (RPD)	0 %			0 - 20
Bromoform	<1.56 ug/L	1.56	1.56	
Isopropylbenzene	<0.59 ug/L	0.59	0.59	
Isopropylbenzene (RPD)	0 %			0 - 20
1,1,1,2,2-Tetrachloroethane (RPD)	0 %			0 - 20
1,1,1,2,2-Tetrachloroethane	<0.39 ug/L	0.39	0.39	
1,2,3-Trichloropropane (RPD)	0 %			0 - 20
1,2,3-Trichloropropane	<1.83 ug/L	1.83	1.83	
n-Propylbenzene (RPD)	0 %			0 - 20
n-Propylbenzene	<0.49 ug/L	0.49	0.49	
Bromobenzene	<0.5 ug/L	0.5	0.5	
Bromobenzene (RPD)	0 %			0 - 20
1,3,5-Trimethylbenzene	<0.3 ug/L	0.3	0.3	
1,3,5-Trimethylbenzene (RPD)	0 %			0 - 20
2-Chlorotoluene (RPD)	0 %			0 - 20
2-Chlorotoluene	<0.66 ug/L	0.66	0.66	
4-Chlorotoluene (RPD)	0 %			0 - 20
4-Chlorotoluene	<0.8 ug/L	0.8	0.8	
tert-Butylbenzene	<0.85 ug/L	0.85	0.85	
tert-Butylbenzene (RPD)	0 %			0 - 20
1,2,4-Trimethylbenzene (RPD)	0 %			0 - 20
1,2,4-Trimethylbenzene	<0.46 ug/L	0.46	0.46	
sec-Butylbenzene	<0.63 ug/L	0.63	0.63	
sec-Butylbenzene (RPD)	0 %			0 - 20
p-Isopropyltoluene (RPD)	0 %			0 - 20

p-Isopropyltoluene	<0.59 ug/L	0.59	0.59	
1,3-Dichlorobenzene (RPD)	0 %			0 - 20
1,3-Dichlorobenzene	<0.7 ug/L	0.7	0.7	
1,4-Dichlorobenzene	<0.53 ug/L	0.53	0.53	
1,4-Dichlorobenzene (RPD)	0 %			0 - 20
n-Butylbenzene	<0.72 ug/L	0.72	0.72	
n-Butylbenzene (RPD)	0 %			0 - 20
1,2-Dichlorobenzene (RPD)	0 %			0 - 20
1,2-Dichlorobenzene	<0.7 ug/L	0.7	0.7	
1,2-Dibromo-3-chloropropane	<0.86 ug/L	0.86	0.86	
1,2-Dibromo-3-chloropropane (RPD)	0 %			0 - 20
1,2,4-Trichlorobenzene (RPD)	0 %			0 - 20
1,2,4-Trichlorobenzene	<1.14 ug/L	1.14	1.14	
Naphthalene	<1.53 ug/L	1.53	1.53	
Naphthalene (RPD)	0 %			0 - 20
1,2,3-Trichlorobenzene	<1.3 ug/L	1.3	1.3	
1,2,3-Trichlorobenzene (RPD)	0 %			0 - 20
Dilution Factor	1			
Analyzed By	Jeff Ruehr			
Analysis Date/Time	7/31/2013 12:27 PM			

TW36-04	LIMS ID: 2013-2635
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Volatiles - water MS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Dibromofluoromethane (% Recovery)	103 %			70 - 130	
1,2-Dichloroethane-d4 (% Recovery)	101 %			70 - 130	
Toluene-d8 (% Recovery)	99.5 %			70 - 130	
4-Bromofluorobenzene (% Recovery)	104 %			70 - 130	
1,1-Dichloroethene (% Recovery)	104 %			70 - 130	
Benzene (% Recovery)	105 %			70 - 130	
Trichloroethene (% Recovery)	106 %			70 - 130	
Toluene (% Recovery)	96.5 %			70 - 130	
Chlorobenzene (% Recovery)	99.2 %			70 - 130	
Dilution Factor	1				
Analyzed By	Jeff Ruehr				
Analysis Date/Time	7/31/2013 12:52 PM				

TW36-04	LIMS ID: 2013-2635
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Volatiles - water MSD

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Dibromofluoromethane (% Recovery)	107 %			70 - 130	
1,2-Dichloroethane-d4 (% Recovery)	104 %			70 - 130	
Toluene-d8 (% Recovery)	97.4 %			70 - 130	
4-Bromofluorobenzene (% Recovery)	108 %			70 - 130	
1,1-Dichloroethene (% Recovery)	106 %			70 - 130	
1,1-Dichloroethene (RPD)	1.5 %				0 - 20
Benzene (RPD)	1.6 %				0 - 20
Benzene (% Recovery)	107 %			70 - 130	
Trichloroethene (% Recovery)	107 %			70 - 130	
Trichloroethene (RPD)	1.6 %				0 - 20
Toluene (% Recovery)	95.8 %			70 - 130	
Toluene (RPD)	0.7 %				0 - 20
Chlorobenzene (% Recovery)	100 %			70 - 130	
Chlorobenzene (RPD)	1.2 %				0 - 20
Dilution Factor	1				
Analyzed By	Jeff Ruehr				
Analysis Date/Time	7/31/2013 1:17 PM				

LCS	LIMS ID: 13080207-LCS-01
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Volatiles - water LCS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Dibromofluoromethane (% Recovery)	107 %			70 - 130	
1,2-Dichloroethane-d4 (% Recovery)	108 %			70 - 130	
Toluene-d8 (% Recovery)	103 %			70 - 130	
4-Bromofluorobenzene (% Recovery)	109 %			70 - 130	
Dichlorodifluoromethane (% Recovery)	95.0 %			60 - 130	
Chloromethane (% Recovery)	101 %			60 - 130	
Vinyl chloride (% Recovery)	103 %			60 - 130	
Bromomethane (% Recovery)	100 %			60 - 130	
Chloroethane (% Recovery)	104 %			60 - 130	
Trichlorofluoromethane (% Recovery)	101 %			60 - 130	
1,1-Dichloroethene (% Recovery)	103 %			60 - 130	
Acetone (% Recovery)	110 %			60 - 130	
Methylene chloride (% Recovery)	104 %			60 - 130	
Methyl tert-butyl ether (% Recovery)	107 %			60 - 130	
trans-1,2-Dichloroethene (% Recovery)	102 %			60 - 130	

1,1-Dichloroethane (% Recovery)	106 %	60 - 130
Methyl ethyl ketone (% Recovery)	109 %	60 - 130
cis-1,2-Dichloroethene (% Recovery)	104 %	60 - 130
2,2-Dichloropropane (% Recovery)	106 %	60 - 130
Bromochloromethane (% Recovery)	105 %	60 - 130
Chloroform (% Recovery)	105 %	60 - 130
1,1,1-Trichloroethane (% Recovery)	104 %	60 - 130
1,1-Dichloropropene (% Recovery)	103 %	60 - 130
Carbon tetrachloride (% Recovery)	103 %	60 - 130
Benzene (% Recovery)	103 %	60 - 130
1,2-Dichloroethane (% Recovery)	106 %	60 - 130
Trichloroethene (% Recovery)	105 %	60 - 130
1,2-Dichloropropane (% Recovery)	101 %	60 - 130
Dibromomethane (% Recovery)	103 %	60 - 130
Bromodichloromethane (% Recovery)	102 %	60 - 130
cis-1,3-Dichloropropene (% Recovery)	102 %	60 - 130
Methyl isobutyl ketone (% Recovery)	104 %	60 - 130
Toluene (% Recovery)	102 %	60 - 130
trans-1,3-Dichloropropene (% Recovery)	100 %	60 - 130
1,1,2-Trichloroethane (% Recovery)	99.4 %	60 - 130
2-Hexanone (% Recovery)	97.7 %	60 - 130
Tetrachloroethene (% Recovery)	98.3 %	60 - 130
1,3-Dichloropropane (% Recovery)	99.5 %	60 - 130
Dibromochloromethane (% Recovery)	101 %	60 - 130
1,2-Dibromoethane (EDB) (% Recovery)	102 %	60 - 130
Chlorobenzene (% Recovery)	103 %	60 - 130
Ethylbenzene (% Recovery)	99.9 %	60 - 130
1,1,1,2-Tetrachloroethane (% Recovery)	99.8 %	60 - 130
m,p-Xylene (% Recovery)	98.9 %	60 - 130
o-Xylene (% Recovery)	98.7 %	60 - 130
Styrene (% Recovery)	100 %	60 - 130
Bromoform (% Recovery)	103 %	60 - 130
Isopropylbenzene (% Recovery)	106 %	60 - 130
1,1,2,2-Tetrachloroethane (% Recovery)	108 %	60 - 130
1,2,3-Trichloropropane (% Recovery)	113 %	60 - 130
n-Propylbenzene (% Recovery)	104 %	60 - 130
Bromobenzene (% Recovery)	107 %	60 - 130
1,3,5-Trimethylbenzene (% Recovery)	105 %	60 - 130
2-Chlorotoluene (% Recovery)	110 %	60 - 130
4-Chlorotoluene (% Recovery)	105 %	60 - 130

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tert-Butylbenzene (% Recovery)	104 %	60 - 130
1,2,4-Trimethylbenzene (% Recovery)	103 %	60 - 130
sec-Butylbenzene (% Recovery)	106 %	60 - 130
p-Isopropyltoluene (% Recovery)	102 %	60 - 130
1,3-Dichlorobenzene (% Recovery)	103 %	60 - 130
1,4-Dichlorobenzene (% Recovery)	104 %	60 - 130
n-Butylbenzene (% Recovery)	100 %	60 - 130
1,2-Dichlorobenzene (% Recovery)	106 %	60 - 130
1,2-Dibromo-3-chloropropane (% Recovery)	106 %	60 - 130
1,2,4-Trichlorobenzene (% Recovery)	102 %	60 - 130
Naphthalene (% Recovery)	107 %	60 - 130
1,2,3-Trichlorobenzene (% Recovery)	102 %	60 - 130
Dilution Factor	1	
Analyzed By	Jeff Ruehr	
Analysis Date/Time	7/31/2013 9:06	

Analytical Quality Control Results Report

Batch: 13080601	ICP Metals - water (Diss.)
TW36-04	LIMS ID: 2013-2635

ICP Metals - water (Dissolved) DUP

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Aluminum	<4000 ug/L	4000	4000		
Aluminum (RPD)	42.0 %				0 - 20
Antimony (RPD)	0 %				0 - 20
Antimony	<1000 ug/L	200	1000		
Arsenic	<100 ug/L	40	100		
Arsenic (RPD)	0 %				0 - 20
Barium (RPD)	140 %				0 - 20
Barium	<400 ug/L	80	400		
Beryllium	<20 ug/L	8	20		
Beryllium (RPD)	0 %				0 - 20
Boron (RPD)	0.6 %				0 - 20
Boron	<1000 ug/L	400	1000		
Cadmium (RPD)	200 %				0 - 20
Cadmium	<20 ug/L	10	20		
Calcium	34.0 mg/L	6	6		
Calcium (RPD)	4.5 %				0 - 20
Chromium (RPD)	0 %				0 - 20
Chromium	<100 ug/L	10	100		
Cobalt	<100 ug/L	10	100		
Cobalt (RPD)	45.0 %				0 - 20
Copper (RPD)	169 %				0 - 20
Copper	<100 ug/L	40	100		
Iron	<4000 ug/L	1000	4000		
Iron (RPD)	0 %				0 - 20
Lead (RPD)	66.7 %				0 - 20
Lead	<60 ug/L	4	60		
Magnesium	56.5 mg/L	2	4		
Magnesium (RPD)	15.3 %				0 - 20
Manganese (RPD)	1.8 %				0 - 20
Manganese	730 ug/L	14	60		
Nickel	<100 ug/L	30	100		
Nickel (RPD)	45 %				0 - 20
Potassium (RPD)	0 %				0 - 20

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Potassium	<4 mg/L	2	4	
Selenium (RPD)	0 %			0 - 20
Selenium	<200 ug/L	40	200	
Silicon Dioxide	35.0 mg/L	2	10	
Silicon Dioxide (RPD)	1.8 %			0 - 20
Silver	<100 ug/L	4	100	
Silver (RPD)	0 %			0 - 20
Sodium (RPD)	4.2 %			0 - 20
Sodium	318 mg/L	2	4	
Thallium (RPD)	0 %			0 - 20
Thallium	<100 ug/L	1	100	
Vanadium (RPD)	0 %			0 - 20
Vanadium	<100 ug/L	60	100	
Zinc	<200 ug/L	60	200	
Zinc (RPD)	0.9 %			0 - 20
Hardness	318 mg/L	200	200	
Hardness (RPD)	12 %			0 - 20
Dilution Factor	200			
Analyzed By	Robert Graddy			
Analysis Date/Time	Aug 5 2013 4:40PM			

Analytical Quality Control Results Report

Batch: 13080602	ICP Metals - water (total)
TW36-04	LIMS ID: 2013-2635

ICP Metals - water (Total) DUP

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Aluminum	6030 ug/L	4000	4000		
Aluminum (RPD)	2.4 %				0 - 20
Antimony (RPD)	0 %				0 - 20
Antimony	<2000 ug/L	1000	2000		
Arsenic	<200 ug/L	100	200		
Arsenic (RPD)	0 %				0 - 20
Barium (RPD)	10.1 %				0 - 20
Barium	<2000 ug/L	400	2000		
Beryllium	<100 ug/L	20	100		
Beryllium (RPD)	0 %				0 - 20
Boron (RPD)	13.5 %				0 - 20
Boron	<5000 ug/L	1000	5000		
Cadmium (RPD)	0 %				0 - 20
Cadmium	<200 ug/L	60	200		
Calcium	24.2 mg/L	8	8		
Calcium (RPD)	2.0 %				0 - 20
Chromium (RPD)	0 %				0 - 20
Chromium	<200 ug/L	60	200		
Cobalt	<200 ug/L	100	200		
Cobalt (RPD)	21.2 %				0 - 20
Copper (RPD)	45.2 %				0 - 20
Copper	<200 ug/L	100	200		
Iron	<4000 ug/L	2000	4000		
Iron (RPD)	2.0 %				0 - 20
Lead (RPD)	16.7 %				0 - 20
Lead	<200 ug/L	20	200		
Magnesium	34.8 mg/L	20	20		
Magnesium (RPD)	5.0 %				0 - 20
Manganese	480 ug/L	40	200		
Manganese (RPD)	3.8 %				0 - 20
Nickel (RPD)	81 %				0 - 20
Nickel	<500 ug/L	100	500		
Potassium	<200 mg/L	10	200		

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Potassium (RPD)	1.4 %			0 - 20
Selenium (RPD)	0 %			0 - 20
Selenium	<400 ug/L	100	400	
Silver	<1000 ug/L	200	1000	
Silver (RPD)	0 %			0 - 20
Sodium (RPD)	2.8 %			0 - 20
Sodium	190 mg/L	4	8	
Thallium	<500 ug/L	10	500	
Thallium (RPD)	0 %			0 - 20
Vanadium (RPD)	0 %			0 - 20
Vanadium	<500 ug/L	200	500	
Zinc	<600 ug/L	400	600	
Zinc (RPD)	7.2 %			0 - 20
Dilution Factor	200			
Analyzed By	Robert Graddy			
Analysis Date/Time	Aug 5 2013 4:52PM			