MEMORANDUM **(LABORATORY DATA REPORT)**

Shaw Environmental and Infrastructure, Inc.
Contract No. EP-C-08-034

		In reply refer to:	11-TDP022
To:	C. Paul D. Miller	**From:** **Lab:**	Tracy Pardue Headspace GC/MS_ABEL
Thru:	J. Cox S. Kumar	**Date:**	May 3, 2011
Technical Directive No.: **Task No.:**	7OA724SF 23993	**Originator:** **Copies:**	R. Wilkin R. Wilkin S. Vandegrift J. Cox T. Pardue

Project Plan/Sample Site:	Pavillion Groundwater		
Date Collected:	4/14-20/2011	**Shaw Sample Set No.:**	6030
Date Received:	4/21/2011	**Time Received:**	02:00PM
Date Logged In:	4/21/2011	**Sample Matrix:**	water/unknown
Date Analyzed:	4/27-29/2011	**Analysis Type:**	Headspace GC/MS
No. Samples Analyzed:	13	**Sample Preparation:**	N/A

Method(s) Used : RSKSOP-259/1 "Determination of Volatile Organic Compounds (Fuel Oxygenates, Aromatic and Chlorinated Hydrocarbons) In Water Using Automated Headspace Gas Chromatography/Mass Spectrometry.

Comments: All QC results met criteria established in RSKSOP-259/1.

Shaw Environmental and Infrastructure, Inc.
Analytical Technical Directive Results Report **Analytical Results**

Laboratory/Instrument: Headspace GC/MS/ABEL **Report Date:** 5/3/11

Technical Directive: 7OA724SF

Method: RSKSOP 259/1

Analyst: Tracy Pardue

				Lab Sample ID	6030-1	6030-1 Laboratory Duplicate	6030-2
				GCMS Tracking ID	PGDW20-0411	PGDW20-0411 LD	PGDW26-0411
				Date Collected	4/18/2011	4/18/2011	4/18/2011
				Date Analyzed	4/27/2011	4/27/2011	4/27/2011
				Field Sample ID	PGDW20-0411	PGDW20-0411	PGDW26-0411
Analytes	**CAS #**	**Unit**	**MDL**	**QL**	**Data**	**Data**	**Data**
vinyl chloride	75-01-4	ug/L	0.14	1.0	ND	ND (RPD = NA)	ND
1,1-dichloroethene	75-35-4	ug/L	0.07	0.5	ND	ND (RPD = NA)	ND
methylene chloride	75-09-2	ug/L	0.19	0.5	ND	ND (RPD = NA)	ND
trans-1,2-dichloroethene	75-65-0	ug/L	0.05	0.5	ND	ND (RPD = NA)	ND
1,1-dichloroethane	75-34-3	ug/L	0.15	0.5	ND	ND (RPD = NA)	ND
cis-1,2-dichloroethene	156-59-2	ug/L	0.07	0.5	ND	ND (RPD = NA)	ND
chloroform	67-66-3	ug/L	0.03	0.5	ND	ND (RPD = NA)	ND
1,1,1-trichloroethane	71-55-6	ug/L	0.04	0.5	ND	ND (RPD = NA)	ND
carbon tetrachloride	56-23-5	ug/L	0.03	0.5	ND	ND (RPD = NA)	ND
1,2-dichloroethane	107-06-2	ug/L	0.07	0.5	ND	ND (RPD = NA)	ND
trichloroethene	79-01-6	ug/L	0.03	0.5	ND	ND (RPD = NA)	ND
1,1,2-trichloroethane	79-00-5	ug/L	0.09	0.5	ND	ND (RPD = NA)	ND
tetrachloroethene	127-18-4	ug/L	0.04	0.5	ND	ND (RPD = NA)	ND
chlorobenzene	108-90-7	ug/L	0.06	0.5	ND	ND (RPD = NA)	ND
1,3-dichlorobenzene	541-73-1	ug/L	0.04	0.5	ND	ND (RPD = NA)	ND
1,4-dichlorobenzene	106-46-7	ug/L	0.03	0.5	ND	ND (RPD = NA)	ND
1,2-dichlorobenzene	95-50-1	ug/L	0.11	1.0	ND	ND (RPD = NA)	ND
ethanol	64-17-5	ug/L	24.7	100	ND	ND (RPD = NA)	ND
isopropanol	67-63-0	ug/L	11.4	100	ND	ND (RPD = NA)	ND
n-propanol	71-23-8	ug/L	13.5	100	ND	ND (RPD = NA)	ND
isobutanol	78-83-1	ug/L	15.6	100	ND	ND (RPD = NA)	ND
n-butanol	71-36-3	ug/L	15.5	100	ND	ND (RPD = NA)	ND
tert-butyl alcohol	75-65-0	ug/L	1.72	5.0	ND	ND (RPD = NA)	ND
methyl tert-butyl ether	1634-04-4	ug/L	0.11	0.5	ND	ND (RPD = NA)	ND
di-isopropyl ether	108-20-3	ug/L	0.11	0.5	ND	ND (RPD = NA)	ND
ethyl tert-butyl ether	637-92-3	ug/L	0.03	0.5	ND	ND (RPD = NA)	ND
benzene	71-43-2	ug/L	0.06	0.5	ND	ND (RPD = NA)	ND
tert-amyl methyl ether	994-05-8	ug/L	0.06	0.5	ND	ND (RPD = NA)	ND
2,5-dimethylfuran	625-86-5	µg/L	0.03	0.5	ND	ND (RPD = NA)	ND
toluene	108-88-3	ug/L	0.03	0.5	ND	ND (RPD = NA)	ND
1,2-dibromoethane	106-93-4	ug/L	0.09	1.0	ND	ND (RPD = NA)	ND
ethyl benzene	100-41-4	µg/L	0.03	0.5	ND	ND (RPD = NA)	ND
m+p xylene	108-38-3_106-42-3	µg/L	0.08	0.5	ND	ND (RPD = NA)	ND
o-xylene	95-47-6	µg/L	0.03	0.5	ND	ND (RPD = NA)	ND
1,3,5-Trimethylbenzene	108-67-8	µg/L	0.04	1.0	ND	ND (RPD = NA)	ND
1,2,4-Trimethylbenzene	95-63-6	µg/L	0.02	1.0	ND	ND (RPD = NA)	ND
1,2,3-Trimethylbenzene	526-73-8	µg/L	0.04	1.0	ND	ND (RPD = NA)	ND
naphthalene	91-20-3	µg/L	0.03	1.0	ND	ND (RPD = NA)	ND
p-bromofluorobenzene surrogate % rec.	460-00-4	µg/L	-	-	103%	105%	101%
dichlorobenzene_d4 surrogate % rec.	2199-69-1	µg/L	-	-	103%	102%	103%
dilution factor	-	-	-	-	1	1	1

Comments:
The data quality objectives (DQO) of RSKSOP-259/1 have been met. The MDL's and QL's reported represent those completed March 2011, but not yet updated in RSKSOP 259/1.

Notes:
1. If the parameter was detected above the quantitation limit (**QL**), the numeric result is reported; **BQL** denotes that the parameter was not detected at or above the quantitation limit; **BQL ( )** denotes that the parameter was detected above the method detection limit (**MDL**) but below **QL** and the estimated numeric result is reported in parenthesis; **ND** denotes that the parameter was not detected at all. All the results are corrected with dilution factors (**DF**), if applicable.
2. **" -"** denotes that the information is not available or the analyte is not analyzed.

Shaw Environmental and Infrastructure, Inc.
Analytical Technical Directive Results Report **Analytical Results**

Laboratory/Instrument: Headspace GC/MS/ABEL **Report Date:** 5/3/11

Technical Directive: 7OA724SF

Method: RSKSOP 259/1

Analyst: Tracy Pardue

				Lab Sample ID	6030-3	6030-4	6030-5
				GCMS Tracking ID	PGDW30-0411	PGDW32-0411	PGDW32d-0411
				Date Collected	4/18/2011	4/18/2011	4/18/2011
				Date Analyzed	4/27/2011	4/27/2011	4/27/2011
				Field Sample ID	PGDW30-0411	PGDW32-0411	PGDW32d-0411
Analytes	**CAS #**	**Unit**	**MDL**	**QL**	**Data**	**Data**	**Data**
vinyl chloride	75-01-4	ug/L	0.14	1.0	ND	ND	ND
1,1-dichloroethene	75-35-4	ug/L	0.07	0.5	ND	ND	ND
methylene chloride	75-09-2	ug/L	0.19	0.5	ND	ND	ND
trans-1,2-dichloroethene	75-65-0	ug/L	0.05	0.5	ND	ND	ND
1,1-dichloroethane	75-34-3	ug/L	0.15	0.5	ND	ND	ND
cis-1,2-dichloroethene	156-59-2	ug/L	0.07	0.5	ND	ND	ND
chloroform	67-66-3	ug/L	0.03	0.5	ND	ND	ND
1,1,1-trichloroethane	71-55-6	ug/L	0.04	0.5	ND	ND	ND
carbon tetrachloride	56-23-5	ug/L	0.03	0.5	ND	ND	ND
1,2-dichloroethane	107-06-2	ug/L	0.07	0.5	ND	ND	ND
trichloroethene	79-01-6	ug/L	0.03	0.5	ND	ND	ND
1,1,2-trichloroethane	79-00-5	ug/L	0.09	0.5	ND	ND	ND
tetrachloroethene	127-18-4	ug/L	0.04	0.5	ND	ND	ND
chlorobenzene	108-90-7	ug/L	0.06	0.5	ND	ND	ND
1,3-dichlorobenzene	541-73-1	ug/L	0.04	0.5	ND	ND	ND
1,4-dichlorobenzene	106-46-7	ug/L	0.03	0.5	ND	ND	ND
1,2-dichlorobenzene	95-50-1	ug/L	0.11	1.0	ND	ND	ND
ethanol	64-17-5	ug/L	24.7	100	ND	ND	ND
isopropanol	67-63-0	ug/L	11.4	100	ND	ND	ND
n-propanol	71-23-8	ug/L	13.5	100	ND	ND	ND
isobutanol	78-83-1	ug/L	15.6	100	ND	ND	ND
n-butanol	71-36-3	ug/L	15.5	100	ND	ND	ND
tert-butyl alcohol	75-65-0	ug/L	1.72	5.0	ND	ND	ND
methyl tert-butyl ether	1634-04-4	ug/L	0.11	0.5	ND	ND	ND
di-isopropyl ether	108-20-3	ug/L	0.11	0.5	ND	ND	ND
ethyl tert-butyl ether	637-92-3	ug/L	0.03	0.5	ND	ND	ND
benzene	71-43-2	ug/L	0.06	0.5	ND	ND	ND
tert-amyl methyl ether	994-05-8	ug/L	0.06	0.5	ND	ND	ND
2,5-dimethylfuran	625-86-5	µg/L	0.03	0.5	ND	ND	ND
toluene	108-88-3	ug/L	0.03	0.5	ND	ND	ND
1,2-dibromoethane	106-93-4	ug/L	0.09	1.0	ND	ND	ND
ethyl benzene	100-41-4	µg/L	0.03	0.5	ND	ND	ND
m+p xylene	108-38-3_106-42-3	µg/L	0.08	0.5	ND	ND	ND
o-xylene	95-47-6	µg/L	0.03	0.5	ND	ND	ND
1,3,5-Trimethylbenzene	108-67-8	µg/L	0.04	1.0	ND	ND	ND
1,2,4-Trimethylbenzene	95-63-6	µg/L	0.02	1.0	ND	ND	ND
1,2,3-Trimethylbenzene	526-73-8	µg/L	0.04	1.0	ND	BQL (0.352)	BQL (0.352)
naphthalene	91-20-3	µg/L	0.03	1.0	ND	ND	ND
p-bromofluorobenzene surrogate % rec.	460-00-4	µg/L	-	-	101%	99.9%	102%
dichlorobenzene_d4 surrogate % rec.	2199-69-1	µg/L	-	-	100%	102%	102%
dilution factor	-	-	-	-	1	1	1

Comments:
The data quality objectives (DQO) of RSKSOP-259/1 have been met. The MDL's and QL's reported represent those completed March 2011, but not yet updated in RSKSOP 259/1.

Notes:
1. If the parameter was detected above the quantitation limit (**QL**), the numeric result is reported; **BQL** denotes that the parameter was not detected at or above the quantitation limit; **BQL ( )** denotes that the parameter was detected above the method detection limit (**MDL**) but below **QL** and the estimated numeric result is reported in parenthesis; **ND** denotes that the parameter was not detected at all. All the results are corrected with dilution factors (**DF**), if applicable.
2. **" -"** denotes that the information is not available or the analyte is not analyzed.

Shaw Environmental and Infrastructure, Inc.
Analytical Technical Directive Results Report **Analytical Results**

Laboratory/Instrument: Headspace GC/MS/ABEL **Report Date:** 5/3/11

Technical Directive: 7OA724SF

Method: RSKSOP 259/1

Analyst: Tracy Pardue

				Lab Sample ID	6030-6	6030-7	6030-9
				GCMS Tracking ID	EPAMW02-0411	EPAMW02d-0411	Trip Blank
				Date Collected	4/19/2011	4/19/2011	4/14/2011
				Date Analyzed	4/27&28*/2011	4/27&28*/2011	4/27/2011
				Field Sample ID	EPAMW02-0411	EPAMW02d-0411	Trip Blank
Analytes	**CAS #**	**Unit**	**MDL**	**QL**	**Data**	**Data**	**Data**
vinyl chloride	75-01-4	ug/L	0.14	1.0	ND	ND	ND
1,1-dichloroethene	75-35-4	ug/L	0.07	0.5	ND	ND	ND
methylene chloride	75-09-2	ug/L	0.19	0.5	ND	ND	ND
trans-1,2-dichloroethene	75-65-0	ug/L	0.05	0.5	ND	ND	ND
1,1-dichloroethane	75-34-3	ug/L	0.15	0.5	ND	ND	ND
cis-1,2-dichloroethene	156-59-2	ug/L	0.07	0.5	ND	ND	ND
chloroform	67-66-3	ug/L	0.03	0.5	ND	ND	ND
1,1,1-trichloroethane	71-55-6	ug/L	0.04	0.5	ND	ND	ND
carbon tetrachloride	56-23-5	ug/L	0.03	0.5	ND	ND	ND
1,2-dichloroethane	107-06-2	ug/L	0.07	0.5	ND	ND	ND
trichloroethene	79-01-6	ug/L	0.03	0.5	ND	ND	ND
1,1,2-trichloroethane	79-00-5	ug/L	0.09	0.5	ND	ND	ND
tetrachloroethene	127-18-4	ug/L	0.04	0.5	ND	ND	ND
chlorobenzene	108-90-7	ug/L	0.06	0.5	ND	ND	ND
1,3-dichlorobenzene	541-73-1	ug/L	0.04	0.5	ND	ND	ND
1,4-dichlorobenzene	106-46-7	ug/L	0.03	0.5	ND	ND	ND
1,2-dichlorobenzene	95-50-1	ug/L	0.11	1.0	ND	ND	ND
ethanol	64-17-5	ug/L	24.7	100	ND	ND	ND
isopropanol	67-63-0	ug/L	11.4	100	581	553	ND
n-propanol	71-23-8	ug/L	13.5	100	ND	ND	ND
isobutanol	78-83-1	ug/L	15.6	100	ND	ND	ND
n-butanol	71-36-3	ug/L	15.5	100	ND	ND	ND
tert-butyl alcohol	75-65-0	ug/L	1.72	5.0	4470*	4580*	ND
methyl tert-butyl ether	1634-04-4	ug/L	0.11	0.5	ND	ND	ND
di-isopropyl ether	108-20-3	ug/L	0.11	0.5	ND	ND	ND
ethyl tert-butyl ether	637-92-3	ug/L	0.03	0.5	ND	ND	ND
benzene	71-43-2	ug/L	0.06	0.5	183	191	ND
tert-amyl methyl ether	994-05-8	ug/L	0.06	0.5	ND	ND	ND
2,5-dimethylfuran	625-86-5	µg/L	0.03	0.5	ND	ND	ND
toluene	108-88-3	ug/L	0.03	0.5	482	464	BQL (0.228)
1,2-dibromoethane	106-93-4	ug/L	0.09	1.0	ND	ND	ND
ethyl benzene	100-41-4	µg/L	0.03	0.5	68.7	62.0	ND
m+p xylene	108-38-3_106-42-3	µg/L	0.08	0.5	630	554	BQL (0.229)
o-xylene	95-47-6	µg/L	0.03	0.5	175	160	ND
1,3,5-Trimethylbenzene	108-67-8	µg/L	0.04	1.0	43.6	35.0	ND
1,2,4-Trimethylbenzene	95-63-6	µg/L	0.02	1.0	84.1	67.2	ND
1,2,3-Trimethylbenzene	526-73-8	µg/L	0.04	1.0	28.8	23.8	ND
naphthalene	91-20-3	µg/L	0.03	1.0	4.61	3.87	ND
p-bromofluorobenzene surrogate % rec.	460-00-4	µg/L	-	-	102%	106%	103%
dichlorobenzene_d4 surrogate % rec.	2199-69-1	µg/L	-	-	111%	111%	101%
dilution factor	-	-	-	-	1 & 100*	1 & 100*	1

Comments:
The data quality objectives (DQO) of RSKSOP-259/1 have been met. The MDL's and QL's reported represent those completed March 2011, but not yet updated in RSKSOP 259/1.

Notes:
1. If the parameter was detected above the quantitation limit (**QL**), the numeric result is reported; **BQL** denotes that the parameter was not detected at or above the quantitation limit; **BQL ( )** denotes that the parameter was detected above the method detection limit (**MDL**) but below **QL** and the estimated numeric result is reported in parenthesis; **ND** denotes that the parameter was not detected at all. All the results are corrected with dilution factors (**DF**), if applicable.
2. **" -"** denotes that the information is not available or the analyte is not analyzed.

Shaw Environmental and Infrastructure, Inc.
Analytical Technical Directive Results Report **Analytical Results**

Laboratory/Instrument: Headspace GC/MS/ABEL **Report Date:** 5/3/11

Technical Directive: 7OA724SF

Method: RSKSOP 259/1

Analyst: Tracy Pardue

				Lab Sample ID	6030-11	6030-12	6030-13
				GCMS Tracking ID	PGDW05-0411	PGDW45-0411	EPAMW01-0411
				Date Collected	4/19/2011	4/19/2011	4/20/2011
				Date Analyzed	4/27/2011	4/27/2011	4/28/2011
				Field Sample ID	PGDW05-0411	PGDW45-0411	EPAMW01-0411
Analytes	**CAS #**	**Unit**	**MDL**	**QL**	**Data**	**Data**	**Data**
vinyl chloride	75-01-4	ug/L	0.14	1.0	ND	ND	ND
1,1-dichloroethene	75-35-4	ug/L	0.07	0.5	ND	ND	ND
methylene chloride	75-09-2	ug/L	0.19	0.5	ND	ND	ND
trans-1,2-dichloroethene	75-65-0	ug/L	0.05	0.5	ND	ND	ND
1,1-dichloroethane	75-34-3	ug/L	0.15	0.5	ND	ND	ND
cis-1,2-dichloroethene	156-59-2	ug/L	0.07	0.5	ND	ND	ND
chloroform	67-66-3	ug/L	0.03	0.5	ND	ND	ND
1,1,1-trichloroethane	71-55-6	ug/L	0.04	0.5	ND	ND	ND
carbon tetrachloride	56-23-5	ug/L	0.03	0.5	ND	ND	ND
1,2-dichloroethane	107-06-2	ug/L	0.07	0.5	ND	ND	ND
trichloroethene	79-01-6	ug/L	0.03	0.5	ND	ND	ND
1,1,2-trichloroethane	79-00-5	ug/L	0.09	0.5	ND	ND	ND
tetrachloroethene	127-18-4	ug/L	0.04	0.5	ND	ND	ND
chlorobenzene	108-90-7	ug/L	0.06	0.5	ND	ND	ND
1,3-dichlorobenzene	541-73-1	ug/L	0.04	0.5	ND	ND	ND
1,4-dichlorobenzene	106-46-7	ug/L	0.03	0.5	ND	ND	ND
1,2-dichlorobenzene	95-50-1	ug/L	0.11	1.0	ND	ND	ND
ethanol	64-17-5	ug/L	24.7	100	ND	ND	ND
isopropanol	67-63-0	ug/L	11.4	100	ND	ND	212
n-propanol	71-23-8	ug/L	13.5	100	ND	ND	ND
isobutanol	78-83-1	ug/L	15.6	100	ND	ND	ND
n-butanol	71-36-3	ug/L	15.5	100	ND	ND	ND
tert-butyl alcohol	75-65-0	ug/L	1.72	5.0	ND	ND	ND
methyl tert-butyl ether	1634-04-4	ug/L	0.11	0.5	ND	ND	ND
di-isopropyl ether	108-20-3	ug/L	0.11	0.5	ND	ND	ND
ethyl tert-butyl ether	637-92-3	ug/L	0.03	0.5	ND	ND	ND
benzene	71-43-2	ug/L	0.06	0.5	ND	ND	ND
tert-amyl methyl ether	994-05-8	ug/L	0.06	0.5	ND	ND	ND
2,5-dimethylfuran	625-86-5	µg/L	0.03	0.5	ND	ND	ND
toluene	108-88-3	ug/L	0.03	0.5	ND	ND	0.592
1,2-dibromoethane	106-93-4	ug/L	0.09	1.0	ND	ND	ND
ethyl benzene	100-41-4	µg/L	0.03	0.5	ND	ND	BQL (0.208)
m+p xylene	108-38-3_106-42-3	µg/L	0.08	0.5	BQL (0.155)	ND	BQL (0.487)
o-xylene	95-47-6	µg/L	0.03	0.5	ND	ND	BQL (0.273)
1,3,5-Trimethylbenzene	108-67-8	µg/L	0.04	1.0	ND	ND	BQL (0.379)
1,2,4-Trimethylbenzene	95-63-6	µg/L	0.02	1.0	ND	ND	BQL (0.494)
1,2,3-Trimethylbenzene	526-73-8	µg/L	0.04	1.0	ND	ND	BQL (0.331)
naphthalene	91-20-3	µg/L	0.03	1.0	ND	ND	ND
p-bromofluorobenzene surrogate % rec.	460-00-4	µg/L	-	-	101%	98.2%	100%
dichlorobenzene_d4 surrogate % rec.	2199-69-1	µg/L	-	-	106%	99.1%	102%
dilution factor	-	-	-	-	1	1	1

Comments:
The data quality objectives (DQO) of RSKSOP-259/1 have been met. The MDL's and QL's reported represent those completed March 2011, but not yet updated in RSKSOP 259/1.

Notes:
1. If the parameter was detected above the quantitation limit (**QL**), the numeric result is reported; **BQL** denotes that the parameter was not detected at or above the quantitation limit; **BQL ( )** denotes that the parameter was detected above the method detection limit (**MDL**) but below **QL** and the estimated numeric result is reported in parenthesis; **ND** denotes that the parameter was not detected at all. All the results are corrected with dilution factors (**DF**), if applicable.
2. **" -"** denotes that the information is not available or the analyte is not analyzed.

Shaw Environmental and Infrastructure, Inc.
Analytical Technical Directive Results Report **Analytical Results**

Laboratory/Instrument: Headspace GC/MS/ABEL **Report Date:** 5/3/11

Technical Directive: 7OA724SF

Method: RSKSOP 259/1

Analyst: Tracy Pardue

				Lab Sample ID	6030-14	6030-15
				GCMS Tracking ID	PGDW41-0411	Field Blank
				Date Collected	4/20/2011	4/18/2011
				Date Analyzed	4/28/2011	4/28/2011
				Field Sample ID	PGDW41-0411	Blank
Analytes	**CAS #**	**Unit**	**MDL**	**QL**	**Data**	**Data**
vinyl chloride	75-01-4	ug/L	0.14	1.0	ND	ND
1,1-dichloroethene	75-35-4	ug/L	0.07	0.5	ND	ND
methylene chloride	75-09-2	ug/L	0.19	0.5	ND	ND
trans-1,2-dichloroethene	75-65-0	ug/L	0.05	0.5	ND	ND
1,1-dichloroethane	75-34-3	ug/L	0.15	0.5	ND	ND
cis-1,2-dichloroethene	156-59-2	ug/L	0.07	0.5	ND	ND
chloroform	67-66-3	ug/L	0.03	0.5	ND	ND
1,1,1-trichloroethane	71-55-6	ug/L	0.04	0.5	ND	ND
carbon tetrachloride	56-23-5	ug/L	0.03	0.5	ND	ND
1,2-dichloroethane	107-06-2	ug/L	0.07	0.5	ND	ND
trichloroethene	79-01-6	ug/L	0.03	0.5	ND	ND
1,1,2-trichloroethane	79-00-5	ug/L	0.09	0.5	ND	ND
tetrachloroethene	127-18-4	ug/L	0.04	0.5	ND	ND
chlorobenzene	108-90-7	ug/L	0.06	0.5	ND	ND
1,3-dichlorobenzene	541-73-1	ug/L	0.04	0.5	ND	ND
1,4-dichlorobenzene	106-46-7	ug/L	0.03	0.5	ND	ND
1,2-dichlorobenzene	95-50-1	ug/L	0.11	1.0	ND	ND
ethanol	64-17-5	ug/L	24.7	100	ND	ND
isopropanol	67-63-0	ug/L	11.4	100	ND	ND
n-propanol	71-23-8	ug/L	13.5	100	ND	ND
isobutanol	78-83-1	ug/L	15.6	100	ND	ND
n-butanol	71-36-3	ug/L	15.5	100	ND	ND
tert-butyl alcohol	75-65-0	ug/L	1.72	5.0	ND	ND
methyl tert-butyl ether	1634-04-4	ug/L	0.11	0.5	ND	ND
di-isopropyl ether	108-20-3	ug/L	0.11	0.5	ND	ND
ethyl tert-butyl ether	637-92-3	ug/L	0.03	0.5	ND	ND
benzene	71-43-2	ug/L	0.06	0.5	ND	ND
tert-amyl methyl ether	994-05-8	ug/L	0.06	0.5	ND	ND
2,5-dimethylfuran	625-86-5	µg/L	0.03	0.5	ND	ND
toluene	108-88-3	ug/L	0.03	0.5	ND	ND
1,2-dibromoethane	106-93-4	ug/L	0.09	1.0	ND	ND
ethyl benzene	100-41-4	µg/L	0.03	0.5	ND	ND
m+p xylene	108-38-3_106-42-3	µg/L	0.08	0.5	ND	ND
o-xylene	95-47-6	µg/L	0.03	0.5	ND	ND
1,3,5-Trimethylbenzene	108-67-8	µg/L	0.04	1.0	ND	ND
1,2,4-Trimethylbenzene	95-63-6	µg/L	0.02	1.0	ND	ND
1,2,3-Trimethylbenzene	526-73-8	µg/L	0.04	1.0	ND	ND
naphthalene	91-20-3	µg/L	0.03	1.0	ND	ND
p-bromofluorobenzene surrogate % rec.	460-00-4	µg/L	-	-	82.6%	100%
dichlorobenzene_d4 surrogate % rec.	2199-69-1	µg/L	-	-	78.0%	101%
dilution factor	-	-	-	-	1	1

Comments:
The data quality objectives (DQO) of RSKSOP-259/1 have been met. The MDL's and QL's reported represent those completed March 2011, but not yet updated in RSKSOP 259/1.

Notes:
1. If the parameter was detected above the quantitation limit (**QL**), the numeric result is reported; **BQL** denotes that the parameter was not detected at or above the quantitation limit; **BQL ( )** denotes that the parameter was detected above the method detection limit (**MDL**) but below **QL** and the estimated numeric result is reported in parenthesis; **ND** denotes that the parameter was not detected at all. All the results are corrected with dilution factors (**DF**), if applicable.
2. **" -"** denotes that the information is not available or the analyte is not analyzed.

Shaw Environmental and Infrastructure, Inc. **Quality Control Data Summary**
Analytical Technical Directive Results Report

Laboratory/Instrument: Headspace GC/MS/ABEL **Report Date:** 5/3/11

Technical Directive: 7OA724SF

Method: RSKSOP 259/1

Analyst: Tracy Pardue

			QC Sample ID		BLANK			BLANK		
			Additional ID			MB			MB	
			Date Prepared		4/26/11			4/27/11		
			Date Analyzed		4/27/11			4/28/11		
Analytes										
Names	CAS #	Unit	MDL	QL	Data	True Values	% Rec.	Data	True Values	% Rec.
vinyl chloride	75-01-4	ug/L	0.14	1.0	ND	-	-	ND	-	-
1,1-dichloroethene	75-35-4	ug/L	0.07	0.5	ND	-	-	ND	-	-
methylene chloride	75-09-2	ug/L	0.19	0.5	ND	-	-	ND	-	-
trans-1,2-dichloroethene	75-65-0	ug/L	0.05	0.5	ND	-	-	ND	-	-
1,1-dichloroethane	75-34-3	ug/L	0.15	0.5	ND	-	-	ND	-	-
cis-1,2-dichloroethene	156-59-2	ug/L	0.07	0.5	ND	-	-	ND	-	-
chloroform	67-66-3	ug/L	0.03	0.5	ND	-	-	ND	-	-
1,1,1-trichloroethane	71-55-6	ug/L	0.04	0.5	ND	-	-	ND	-	-
carbon tetrachloride	56-23-5	ug/L	0.03	0.5	ND	-	-	ND	-	-
1,2-dichloroethane	107-06-2	ug/L	0.07	0.5	ND	-	-	ND	-	-
trichloroethene	79-01-6	ug/L	0.03	0.5	ND	-	-	ND	-	-
1,1,2-trichloroethane	79-00-5	µg/L	0.09	0.5	ND	-	-	ND	-	-
tetrachloroethene	127-18-4	ug/L	0.04	0.5	ND	-	-	ND	-	-
chlorobenzene	108-90-7	ug/L	0.06	0.5	ND	-	-	ND	-	-
1,3-dichlorobenzene	541-73-1	ug/L	0.04	0.5	ND	-	-	ND	-	-
1,4-dichlorobenzene	106-46-7	ug/L	0.03	0.5	ND	-	-	ND	-	-
1,2-dichlorobenzene	95-50-1	ug/L	0.11	1.0	ND	-	-	ND	-	-
ethanol	64-17-5	ug/L	24.7	100	ND	-	-	ND	-	-
isopropanol	67-63-0	ug/L	11.4	100	ND	-	-	ND	-	-
n-propanol	71-23-8	µg/L	13.5	100	ND	-	-	ND	-	-
isobutanol	78-83-1	µg/L	15.6	100	ND	-	-	ND	-	-
n-butanol	71-36-3	ug/L	15.5	100	ND	-	-	ND	-	-
tert-butyl alcohol	75-65-0	ug/L	1.72	5.0	ND	-	-	ND	-	-
methyl tert-butyl ether	1634-04-4	ug/L	0.11	0.5	ND	-	-	ND	-	-
di-isopropyl ether	108-20-3	ug/L	0.11	0.5	ND	-	-	ND	-	-
ethyl tert-butyl ether	637-92-3	ug/L	0.03	0.5	ND	-	-	ND	-	-
benzene	71-43-2	ug/L	0.06	0.5	ND	-	-	ND	-	-
tert-amyl methyl ether	994-05-8	ug/L	0.06	0.5	ND	-	-	ND	-	-
2,5-dimethylfuran	625-86-5	µg/L	0.03	0.5	ND	-	-	ND	-	-
toluene	108-88-3	ug/L	0.03	0.5	ND	-	-	ND	-	-
1,2-dibromoethane	106-93-4	ug/L	0.09	1.0	ND	-	-	ND	-	-
ethyl benzene	100-41-4	ug/L	0.03	0.5	ND	-	-	ND	-	-
m+p xylene	108-38-3_106-42-3	ug/L	0.08	0.5	ND	-	-	ND	-	-
o-xylene	95-47-6	ug/L	0.03	0.5	ND	-	-	ND	-	-
1,3,5-Trimethylbenzene	108-67-8	ug/L	0.04	1.0	ND	-	-	ND	-	-
1,2,4-Trimethylbenzene	95-63-6	ug/L	0.02	1.0	ND	-	-	ND	-	-
1,2,3-Trimethylbenzene	526-73-8	ug/L	0.04	1.0	ND	-	-	ND	-	-
naphthalene	91-20-3	ug/L	0.03	1.0	ND	-	-	ND	-	-
p-bromofluorobenzene surrogate % rec.	460-00-4	ug/L	-	-	99.7	100	99.7%	99.5	100	99.5%
dichlorobenzene_d4 surrogate % rec.	2199-69-1	ug/L	-	-	99.3	100	99.3%	97.2	100	97.2%
dilution factor	-	-	-	-	-	1	-	-	1	-

Comments:
All QC results met criteria established in RSKSOP-259/1.

Notes:
1. **MB** - Method Blank. **CCC** - Continuing Calibration Check. A calibration standard analyzed within the batch of samples. **LCS** - Laboratory Control Spike. A laboratory blank spiked with analytes at known concentrations. **MS** - Matrix Spike. A field sample spiked with known concentrations of analytes. The field sample id is identified. **SS** - Samples obtained from a second source. **DUP** - Field sample duplicate analysis. A sample selected by the lab analyst to analyze as a duplicate. It is reported in the sample result section. **% REC** - Percent Recovery. Calculated as the percentage of the results to the true values. It equals to % accuracy for CCC.

2. **" -"** denotes that the information is not available or the analyte is not analyzed.

Shaw Environmental and Infrastructure, Inc. **Quality Control Data Summary**
Analytical Technical Directive Results Report

Laboratory/Instrument: Headspace GC/MS/ABEL **Report Date:** 5/3/11

Technical Directive: 7OA724SF

Method: RSKSOP 259/1

Analyst: Tracy Pardue

			QC Sample ID		BLANK			CCC 500 µg/L		
			Additional ID			MB			CCC	
			Date Prepared		4/28/11			4/26/11		
			Date Analyzed		4/29/11			4/27/11		
Analytes										
Names	**CAS #**	**Unit**	**MDL**	**QL**	**Data**	**True Values**	**% Rec.**	**Data**	**True Values**	**% Rec.**
vinyl chloride	75-01-4	ug/L	0.14	1.0	ND	-	-	515	500	103%
1,1-dichloroethene	75-35-4	ug/L	0.07	0.5	ND	-	-	517	500	103%
methylene chloride	75-09-2	ug/L	0.19	0.5	ND	-	-	526	500	105%
trans-1,2-dichloroethene	75-65-0	ug/L	0.05	0.5	ND	-	-	499	500	99.8%
1,1-dichloroethane	75-34-3	ug/L	0.15	0.5	ND	-	-	479	500	95.8%
cis-1,2-dichloroethene	156-59-2	ug/L	0.07	0.5	ND	-	-	502	500	100%
chloroform	67-66-3	ug/L	0.03	0.5	ND	-	-	487	500	97.4%
1,1,1-trichloroethane	71-55-6	ug/L	0.04	0.5	ND	-	-	476	500	95.2%
carbon tetrachloride	56-23-5	ug/L	0.03	0.5	ND	-	-	517	500	103%
1,2-dichloroethane	107-06-2	ug/L	0.07	0.5	ND	-	-	504	500	101%
trichloroethene	79-01-6	ug/L	0.03	0.5	ND	-	-	537	500	107%
1,1,2-trichloroethane	79-00-5	µg/L	0.09	0.5	ND	-	-	-	-	-
tetrachloroethene	127-18-4	ug/L	0.04	0.5	ND	-	-	517	500	103%
chlorobenzene	108-90-7	ug/L	0.06	0.5	ND	-	-	533	500	107%
1,3-dichlorobenzene	541-73-1	ug/L	0.04	0.5	ND	-	-	498	500	99.6%
1,4-dichlorobenzene	106-46-7	ug/L	0.03	0.5	ND	-	-	496	500	99.2%
1,2-dichlorobenzene	95-50-1	ug/L	0.11	1.0	ND	-	-	487	500	97.4%
ethanol	64-17-5	ug/L	24.7	100	ND	-	-	499	500	99.8%
isopropanol	67-63-0	ug/L	11.4	100	ND	-	-	478	500	95.6%
n-propanol	71-23-8	µg/L	13.5	100	ND	-	-	502	500	100%
isobutanol	78-83-1	µg/L	15.6	100	ND	-	-	482	500	96.4%
n-butanol	71-36-3	ug/L	15.5	100	ND	-	-	416	500	83.2%
tert-butyl alcohol	75-65-0	ug/L	1.72	5.0	ND	-	-	485	500	97.0%
methyl tert-butyl ether	1634-04-4	ug/L	0.11	0.5	ND	-	-	482	500	96.4%
di-isopropyl ether	108-20-3	ug/L	0.11	0.5	ND	-	-	527	500	105%
ethyl tert-butyl ether	637-92-3	ug/L	0.03	0.5	ND	-	-	555	500	111%
benzene	71-43-2	ug/L	0.06	0.5	ND	-	-	493	500	98.6%
tert-amyl methyl ether	994-05-8	ug/L	0.06	0.5	ND	-	-	492	500	98.4%
2,5-dimethylfuran	625-86-5	µg/L	0.03	0.5	ND	-	-	449	500	89.8%
toluene	108-88-3	ug/L	0.03	0.5	ND	-	-	514	500	103%
1,2-dibromoethane	106-93-4	ug/L	0.09	1.0	ND	-	-	481	500	96.2%
ethyl benzene	100-41-4	ug/L	0.03	0.5	ND	-	-	515	500	103%
m+p xylene	108-38-3_106-42-3	ug/L	0.08	0.5	ND	-	-	1050	1000	105%
o-xylene	95-47-6	ug/L	0.03	0.5	ND	-	-	529	500	106%
1,3,5-Trimethylbenzene	108-67-8	ug/L	0.04	1.0	ND	-	-	513	500	103%
1,2,4-Trimethylbenzene	95-63-6	ug/L	0.02	1.0	ND	-	-	514	500	103%
1,2,3-Trimethylbenzene	526-73-8	ug/L	0.04	1.0	ND	-	-	521	500	104%
naphthalene	91-20-3	ug/L	0.03	1.0	ND	-	-	480	500	96.0%
p-bromofluorobenzene surrogate % rec.	460-00-4	ug/L	-	-	102	100	102%	101	100	101%
dichlorobenzene_d4 surrogate % rec.	2199-69-1	ug/L	-	-	102	100	102%	103	100	103%
dilution factor	-	-	-	-	-	1	-	-	1	-

Comments:
All QC results met criteria established in RSKSOP-259/1.

Notes:
1. **MB** - Method Blank. **CCC** - Continuing Calibration Check. A calibration standard analyzed within the batch of samples. **LCS** - Laboratory Control Spike. A laboratory blank spiked with analytes at known concentrations. **MS** - Matrix Spike. A field sample spiked with known concentrations of analytes. The field sample id is identified. **SS** - Samples obtained from a second source. **DUP** - Field sample duplicate analysis. A sample selected by the lab analyst to analyze as a duplicate. It is reported in the sample result section. **% REC** - Percent Recovery. Calculated as the percentage of the results to the true values. It equals to % accuracy for CCC.

2. **" -"** denotes that the information is not available or the analyte is not analyzed.

Shaw Environmental and Infrastructure, Inc. **Quality Control Data Summary**
Analytical Technical Directive Results Report

Laboratory/Instrument: Headspace GC/MS/ABEL **Report Date:** 5/3/11

Technical Directive: 7OA724SF

Method: RSKSOP 259/1

Analyst: Tracy Pardue

			QC Sample ID		CCC 500 µg/L			CCC 500 µg/L		
			Additional ID			CCC			CCC	
			Date Prepared		4/27/11			4/28/11		
			Date Analyzed		4/28/11			4/29/11		
Analytes										
Names	**CAS #**	**Unit**	**MDL**	**QL**	**Data**	**True Values**	**% Rec.**	**Data**	**True Values**	**% Rec.**
vinyl chloride	75-01-4	ug/L	0.14	1.0	496	500	99.2%	512	500	102%
1,1-dichloroethene	75-35-4	ug/L	0.07	0.5	511	500	102%	525	500	105%
methylene chloride	75-09-2	ug/L	0.19	0.5	527	500	105%	538	500	108%
trans-1,2-dichloroethene	75-65-0	ug/L	0.05	0.5	509	500	102%	512	500	102%
1,1-dichloroethane	75-34-3	ug/L	0.15	0.5	482	500	96.4%	490	500	98.0%
cis-1,2-dichloroethene	156-59-2	ug/L	0.07	0.5	504	500	101%	512	500	102%
chloroform	67-66-3	ug/L	0.03	0.5	485	500	97.0%	488	500	97.6%
1,1,1-trichloroethane	71-55-6	ug/L	0.04	0.5	467	500	93.4%	478	500	95.6%
carbon tetrachloride	56-23-5	ug/L	0.03	0.5	495	500	99.0%	513	500	103%
1,2-dichloroethane	107-06-2	ug/L	0.07	0.5	500	500	100%	508	500	102%
trichloroethene	79-01-6	ug/L	0.03	0.5	525	500	105%	538	500	108%
1,1,2-trichloroethane	79-00-5	µg/L	0.09	0.5	-	-	-	-	-	-
tetrachloroethene	127-18-4	ug/L	0.04	0.5	502	500	100%	519	500	104%
chlorobenzene	108-90-7	ug/L	0.06	0.5	530	500	106%	541	500	108%
1,3-dichlorobenzene	541-73-1	ug/L	0.04	0.5	495	500	99.0%	508	500	102%
1,4-dichlorobenzene	106-46-7	ug/L	0.03	0.5	491	500	98.2%	502	500	100%
1,2-dichlorobenzene	95-50-1	ug/L	0.11	1.0	488	500	97.6%	504	500	101%
ethanol	64-17-5	ug/L	24.7	100	509	500	102%	456	500	91.2%
isopropanol	67-63-0	ug/L	11.4	100	521	500	104%	488	500	97.6%
n-propanol	71-23-8	µg/L	13.5	100	546	500	109%	497	500	99.4%
isobutanol	78-83-1	µg/L	15.6	100	456	500	91.2%	445	500	89.0%
n-butanol	71-36-3	ug/L	15.5	100	467	500	93.4%	433	500	86.6%
tert-butyl alcohol	75-65-0	ug/L	1.72	5.0	446	500	89.2%	464	500	92.8%
methyl tert-butyl ether	1634-04-4	ug/L	0.11	0.5	486	500	97.2%	499	500	99.8%
di-isopropyl ether	108-20-3	ug/L	0.11	0.5	523	500	105%	526	500	105%
ethyl tert-butyl ether	637-92-3	ug/L	0.03	0.5	553	500	111%	562	500	112%
benzene	71-43-2	ug/L	0.06	0.5	485	500	97.0%	490	500	98.0%
tert-amyl methyl ether	994-05-8	ug/L	0.06	0.5	492	500	98.4%	504	500	101%
2,5-dimethylfuran	625-86-5	µg/L	0.03	0.5	441	500	88.2%	447	500	89.4%
toluene	108-88-3	ug/L	0.03	0.5	513	500	103%	514	500	103%
1,2-dibromoethane	106-93-4	ug/L	0.09	1.0	465	500	93.0%	479	500	95.8%
ethyl benzene	100-41-4	ug/L	0.03	0.5	511	500	102%	517	500	103%
m+p xylene	108-38-3_106-42-3	ug/L	0.08	0.5	1030	1000	103%	1050	1000	105%
o-xylene	95-47-6	ug/L	0.03	0.5	518	500	104%	522	500	104%
1,3,5-Trimethylbenzene	108-67-8	ug/L	0.04	1.0	509	500	102%	519	500	104%
1,2,4-Trimethylbenzene	95-63-6	ug/L	0.02	1.0	505	500	101%	516	500	103%
1,2,3-Trimethylbenzene	526-73-8	ug/L	0.04	1.0	513	500	103%	518	500	104%
naphthalene	91-20-3	ug/L	0.03	1.0	465	500	93.0%	474	500	94.8%
p-bromofluorobenzene surrogate % rec.	460-00-4	ug/L	-	-	101	100	101%	101	100	101%
dichlorobenzene_d4 surrogate % rec.	2199-69-1	ug/L	-	-	100	100	100%	102	100	102%
dilution factor	-	-	-	-	-	1	-	-	1	-

Comments:
All QC results met criteria established in RSKSOP-259/1.

Notes:
1. **MB** - Method Blank. **CCC** - Continuing Calibration Check. A calibration standard analyzed within the batch of samples. **LCS** - Laboratory Control Spike. A laboratory blank spiked with analytes at known concentrations. **MS** - Matrix Spike. A field sample spiked with known concentrations of analytes. The field sample id is identified. **SS** - Samples obtained from a second source. **DUP** - Field sample duplicate analysis. A sample selected by the lab analyst to analyze as a duplicate. It is reported in the sample result section. **% REC** - Percent Recovery. Calculated as the percentage of the results to the true values. It equals to % accuracy for CCC.

2. **" -"** denotes that the information is not available or the analyte is not analyzed.

Shaw Environmental and Infrastructure, Inc. **Quality Control Data Summary**
Analytical Technical Directive Results Report

Laboratory/Instrument: Headspace GC/MS/ABEL **Report Date:** 5/3/11

Technical Directive: 7OA724SF

Method: RSKSOP 259/1

Analyst: Tracy Pardue

			QC Sample ID		SS 500 µg/L			SS 500 µg/L		
			Additional ID			SS			SS	
			Date Prepared		4/26/11			4/27/11		
			Date Analyzed		4/27/11			4/28/11		
Analytes										
Names	CAS #	Unit	MDL	QL	Data	True Values	% Rec.	Data	True Values	% Rec.
vinyl chloride	75-01-4	ug/L	0.14	1.0	477	500	95.4%	474	500	94.8%
1,1-dichloroethene	75-35-4	ug/L	0.07	0.5	502	500	100%	501	500	100%
methylene chloride	75-09-2	ug/L	0.19	0.5	524	500	105%	530	500	106%
trans-1,2-dichloroethene	75-65-0	ug/L	0.05	0.5	500	500	100%	509	500	102%
1,1-dichloroethane	75-34-3	ug/L	0.15	0.5	465	500	93.0%	474	500	94.8%
cis-1,2-dichloroethene	156-59-2	ug/L	0.07	0.5	498	500	99.6%	510	500	102%
chloroform	67-66-3	ug/L	0.03	0.5	484	500	96.8%	493	500	98.6%
1,1,1-trichloroethane	71-55-6	ug/L	0.04	0.5	485	500	97.0%	481	500	96.2%
carbon tetrachloride	56-23-5	ug/L	0.03	0.5	508	500	102%	496	500	99.2%
1,2-dichloroethane	107-06-2	ug/L	0.07	0.5	502	500	100%	513	500	103%
trichloroethene	79-01-6	ug/L	0.03	0.5	524	500	105%	526	500	105%
1,1,2-trichloroethane	79-00-5	µg/L	0.09	0.5	-	-	-	-	-	-
tetrachloroethene	127-18-4	ug/L	0.04	0.5	517	500	103%	504	500	101%
chlorobenzene	108-90-7	ug/L	0.06	0.5	535	500	107%	541	500	108%
1,3-dichlorobenzene	541-73-1	ug/L	0.04	0.5	501	500	100%	507	500	101%
1,4-dichlorobenzene	106-46-7	ug/L	0.03	0.5	492	500	98.4%	511	500	102%
1,2-dichlorobenzene	95-50-1	ug/L	0.11	1.0	498	500	99.6%	507	500	101%
ethanol	64-17-5	ug/L	24.7	100	426	500	85.2%	496	500	99.2%
isopropanol	67-63-0	ug/L	11.4	100	514	500	103%	513	500	103%
n-propanol	71-23-8	µg/L	13.5	100	561	500	112%	517	500	103%
isobutanol	78-83-1	µg/L	15.6	100	491	500	98.2%	461	500	92.2%
n-butanol	71-36-3	ug/L	15.5	100	484	500	96.8%	460	500	92.0%
tert-butyl alcohol	75-65-0	ug/L	1.72	5.0	491	500	98.2%	502	500	100%
methyl tert-butyl ether	1634-04-4	ug/L	0.11	0.5	496	500	99.2%	504	500	101%
di-isopropyl ether	108-20-3	ug/L	0.11	0.5	534	500	107%	535	500	107%
ethyl tert-butyl ether	637-92-3	ug/L	0.03	0.5	567	500	113%	569	500	114%
benzene	71-43-2	ug/L	0.06	0.5	501	500	100%	502	500	100%
tert-amyl methyl ether	994-05-8	ug/L	0.06	0.5	502	500	100%	505	500	101%
2,5-dimethylfuran	625-86-5	µg/L	0.03	0.5	460	500	92.0%	455	500	91.0%
toluene	108-88-3	ug/L	0.03	0.5	524	500	105%	522	500	104%
1,2-dibromoethane	106-93-4	ug/L	0.09	1.0	-	-	-	-	-	-
ethyl benzene	100-41-4	ug/L	0.03	0.5	521	500	104%	526	500	105%
m+p xylene	108-38-3_106-42-3	ug/L	0.08	0.5	1070	1000	107%	1060	1000	106%
o-xylene	95-47-6	ug/L	0.03	0.5	541	500	108%	537	500	107%
1,3,5-Trimethylbenzene	108-67-8	ug/L	0.04	1.0	527	500	105%	528	500	106%
1,2,4-Trimethylbenzene	95-63-6	ug/L	0.02	1.0	527	500	105%	525	500	105%
1,2,3-Trimethylbenzene	526-73-8	ug/L	0.04	1.0	534	500	107%	530	500	106%
naphthalene	91-20-3	ug/L	0.03	1.0	487	500	97.4%	488	500	97.6%
p-bromofluorobenzene surrogate % rec.	460-00-4	ug/L	-	-	99.8	100	99.8%	101	100	101%
dichlorobenzene_d4 surrogate % rec.	2199-69-1	ug/L	-	-	103	100	103%	102	100	102%
dilution factor	-	-	-	-	-	1	-	-	1	-

Comments:
All QC results met criteria established in RSKSOP-259/1.

Notes:
1. **MB** - Method Blank. **CCC** - Continuing Calibration Check. A calibration standard analyzed within the batch of samples. **LCS** - Laboratory Control Spike. A laboratory blank spiked with analytes at known concentrations. **MS** - Matrix Spike. A field sample spiked with known concentrations of analytes. The field sample id is identified. **SS** - Samples obtained from a second source. **DUP** - Field sample duplicate analysis. A sample selected by the lab analyst to analyze as a duplicate. It is reported in the sample result section. **% REC** - Percent Recovery. Calculated as the percentage of the results to the true values. It equals to % accuracy for CCC.

2. **" -"** denotes that the information is not available or the analyte is not analyzed.

Shaw Environmental and Infrastructure, Inc. **Quality Control Data Summary**
Analytical Technical Directive Results Report

Laboratory/Instrument: Headspace GC/MS/ABEL **Report Date:** 5/3/11

Technical Directive: 7OA724SF

Method: RSKSOP 259/1

Analyst: Tracy Pardue

			QC Sample ID		SS 500 µg/L			PGDW26-0411		
			Additional ID			SS			MS	
			Date Prepared		4/28/11			4/27/11		
			Date Analyzed		4/29/11			4/28/11		
Analytes										
Names	**CAS #**	**Unit**	**MDL**	**QL**	**Data**	**True Values**	**% Rec.**	**Data**	**True Values**	**% Rec.**
vinyl chloride	75-01-4	ug/L	0.14	1.0	468	500	93.6%	602	ND (500)	120%
1,1-dichloroethene	75-35-4	ug/L	0.07	0.5	504	500	101%	601	ND (500)	120%
methylene chloride	75-09-2	ug/L	0.19	0.5	533	500	107%	430	ND (500)	86.0%
trans-1,2-dichloroethene	75-65-0	ug/L	0.05	0.5	504	500	101%	534	ND (500)	107%
1,1-dichloroethane	75-34-3	ug/L	0.15	0.5	469	500	93.8%	472	ND (500)	94.4%
cis-1,2-dichloroethene	156-59-2	ug/L	0.07	0.5	503	500	101%	450	ND (500)	90.0%
chloroform	67-66-3	ug/L	0.03	0.5	486	500	97.2%	431	ND (500)	86.2%
1,1,1-trichloroethane	71-55-6	ug/L	0.04	0.5	485	500	97.0%	533	ND (500)	107%
carbon tetrachloride	56-23-5	ug/L	0.03	0.5	501	500	100%	582	ND (500)	116%
1,2-dichloroethane	107-06-2	ug/L	0.07	0.5	501	500	100%	367	ND (500)	73.4%
trichloroethene	79-01-6	ug/L	0.03	0.5	531	500	106%	559	ND (500)	112%
1,1,2-trichloroethane	79-00-5	µg/L	0.09	0.5	-	-	-	-	-	-
tetrachloroethene	127-18-4	ug/L	0.04	0.5	513	500	103%	576	ND (500)	115%
chlorobenzene	108-90-7	ug/L	0.06	0.5	538	500	108%	491	ND (500)	98.2%
1,3-dichlorobenzene	541-73-1	ug/L	0.04	0.5	505	500	101%	440	ND (500)	88.0%
1,4-dichlorobenzene	106-46-7	ug/L	0.03	0.5	502	500	100%	428	ND (500)	85.6%
1,2-dichlorobenzene	95-50-1	ug/L	0.11	1.0	499	500	99.8%	397	ND (500)	79.4%
ethanol	64-17-5	ug/L	24.7	100	439	500	87.8%	-	-	-
isopropanol	67-63-0	ug/L	11.4	100	514	500	103%	-	-	-
n-propanol	71-23-8	µg/L	13.5	100	506	500	101%	-	-	-
isobutanol	78-83-1	µg/L	15.6	100	465	500	93.0%	-	-	-
n-butanol	71-36-3	ug/L	15.5	100	457	500	91.4%	-	-	-
tert-butyl alcohol	75-65-0	ug/L	1.72	5.0	477	500	95.4%	-	-	-
methyl tert-butyl ether	1634-04-4	ug/L	0.11	0.5	492	500	98.4%	-	-	-
di-isopropyl ether	108-20-3	ug/L	0.11	0.5	528	500	106%	-	-	-
ethyl tert-butyl ether	637-92-3	ug/L	0.03	0.5	556	500	111%	-	-	-
benzene	71-43-2	ug/L	0.06	0.5	492	500	98.4%	-	-	-
tert-amyl methyl ether	994-05-8	ug/L	0.06	0.5	498	500	99.6%	-	-	-
2,5-dimethylfuran	625-86-5	µg/L	0.03	0.5	446	500	89.2%	-	-	-
toluene	108-88-3	ug/L	0.03	0.5	514	500	103%	-	-	-
1,2-dibromoethane	106-93-4	ug/L	0.09	1.0	-	-	-	-	-	-
ethyl benzene	100-41-4	ug/L	0.03	0.5	511	500	102%	-	-	-
m+p xylene	108-38-3_106-42-3	ug/L	0.08	0.5	1050	1000	105%	-	-	-
o-xylene	95-47-6	ug/L	0.03	0.5	525	500	105%	-	-	-
1,3,5-Trimethylbenzene	108-67-8	ug/L	0.04	1.0	516	500	103%	-	-	-
1,2,4-Trimethylbenzene	95-63-6	ug/L	0.02	1.0	522	500	104%	-	-	-
1,2,3-Trimethylbenzene	526-73-8	ug/L	0.04	1.0	517	500	103%	-	-	-
naphthalene	91-20-3	ug/L	0.03	1.0	476	500	95.2%	-	-	-
p-bromofluorobenzene surrogate % rec.	460-00-4	ug/L	-	-	100	100	100%	83.0	100	83.0%
dichlorobenzene_d4 surrogate % rec.	2199-69-1	ug/L	-	-	102	100	102%	80.0	100	80.0%
dilution factor	-	-	-	-	-	1	-	-	1	-

Comments:
All QC results met criteria established in RSKSOP-259/1.

Notes:
1. **MB** - Method Blank. **CCC** - Continuing Calibration Check. A calibration standard analyzed within the batch of samples. **LCS** - Laboratory Control Spike. A laboratory blank spiked with analytes at known concentrations. **MS** - Matrix Spike. A field sample spiked with known concentrations of analytes. The field sample id is identified. **SS** - Samples obtained from a second source. **DUP** - Field sample duplicate analysis. A sample selected by the lab analyst to analyze as a duplicate. It is reported in the sample result section. **% REC** - Percent Recovery. Calculated as the percentage of the results to the true values. It equals to % accuracy for CCC.

2. **" -"** denotes that the information is not available or the analyte is not analyzed.

Shaw Environmental and Infrastructure, Inc. **Quality Control Data Summary**
Analytical Technical Directive Results Report

Laboratory/Instrument: Headspace GC/MS/ABEL **Report Date:** 5/3/11

Technical Directive: 7OA724SF

Method: RSKSOP 259/1

Analyst: Tracy Pardue

			QC Sample ID		PGDW30-0411			PGDW41-0411		
			Additional ID			MS			MS	
			Date Prepared		4/27/11			4/27/11		
			Date Analyzed		4/28/11			4/28/11		
Analytes		Unit	MDL	QL	Data	True Values	% Rec.	Data	True Values	% Rec.
Names	CAS #									
vinyl chloride	75-01-4	ug/L	0.14	1.0	-	-	-	-	-	-
1,1-dichloroethene	75-35-4	ug/L	0.07	0.5	-	-	-	-	-	-
methylene chloride	75-09-2	ug/L	0.19	0.5	-	-	-	-	-	-
trans-1,2-dichloroethene	75-65-0	ug/L	0.05	0.5	-	-	-	-	-	-
1,1-dichloroethane	75-34-3	ug/L	0.15	0.5	-	-	-	-	-	-
cis-1,2-dichloroethene	156-59-2	ug/L	0.07	0.5	-	-	-	-	-	-
chloroform	67-66-3	ug/L	0.03	0.5	-	-	-	-	-	-
1,1,1-trichloroethane	71-55-6	ug/L	0.04	0.5	-	-	-	-	-	-
carbon tetrachloride	56-23-5	ug/L	0.03	0.5	-	-	-	-	-	-
1,2-dichloroethane	107-06-2	ug/L	0.07	0.5	-	-	-	-	-	-
trichloroethene	79-01-6	ug/L	0.03	0.5	-	-	-	-	-	-
1,1,2-trichloroethane	79-00-5	µg/L	0.09	0.5	-	-	-	-	-	-
tetrachloroethene	127-18-4	ug/L	0.04	0.5	-	-	-	-	-	-
chlorobenzene	108-90-7	ug/L	0.06	0.5	-	-	-	-	-	-
1,3-dichlorobenzene	541-73-1	ug/L	0.04	0.5	-	-	-	-	-	-
1,4-dichlorobenzene	106-46-7	ug/L	0.03	0.5	-	-	-	-	-	-
1,2-dichlorobenzene	95-50-1	ug/L	0.11	1.0	-	-	-	-	-	-
ethanol	64-17-5	ug/L	24.7	100	482	ND (500)	96.4%	-	-	-
isopropanol	67-63-0	ug/L	11.4	100	510	ND (500)	102%	-	-	-
n-propanol	71-23-8	µg/L	13.5	100	473	ND (500)	94.6%	-	-	-
isobutanol	78-83-1	µg/L	15.6	100	469	ND (500)	93.8%	-	-	-
n-butanol	71-36-3	ug/L	15.5	100	457	ND (500)	91.4%	-	-	-
tert-butyl alcohol	75-65-0	ug/L	1.72	5.0	-	-	-	476	ND (500)	95.2%
methyl tert-butyl ether	1634-04-4	ug/L	0.11	0.5	-	-	-	498	ND (500)	99.6%
di-isopropyl ether	108-20-3	ug/L	0.11	0.5	-	-	-	536	ND (500)	107%
ethyl tert-butyl ether	637-92-3	ug/L	0.03	0.5	-	-	-	563	ND (500)	113%
benzene	71-43-2	ug/L	0.06	0.5	-	-	-	494	ND (500)	98.8%
tert-amyl methyl ether	994-05-8	ug/L	0.06	0.5	-	-	-	506	ND (500)	101%
2,5-dimethylfuran	625-86-5	µg/L	0.03	0.5	-	-	-	445	ND (500)	89.0%
toluene	108-88-3	ug/L	0.03	0.5	-	-	-	518	ND (500)	104%
1,2-dibromoethane	106-93-4	ug/L	0.09	1.0	-	-	-	479	ND (500)	95.8%
ethyl benzene	100-41-4	ug/L	0.03	0.5	-	-	-	521	ND (500)	104%
m+p xylene	108-38-3_106-42-3	ug/L	0.08	0.5	-	-	-	1060	ND (1000)	106%
o-xylene	95-47-6	ug/L	0.03	0.5	-	-	-	528	ND (500)	106%
1,3,5-Trimethylbenzene	108-67-8	ug/L	0.04	1.0	-	-	-	524	ND (500)	105%
1,2,4-Trimethylbenzene	95-63-6	ug/L	0.02	1.0	-	-	-	524	ND (500)	105%
1,2,3-Trimethylbenzene	526-73-8	ug/L	0.04	1.0	-	-	-	524	ND (500)	105%
naphthalene	91-20-3	ug/L	0.03	1.0	-	-	-	479	ND (500)	95.8%
p-bromofluorobenzene surrogate % rec.	460-00-4	ug/L	-	-	101	100	101%	99.7	100	99.7%
dichlorobenzene_d4 surrogate % rec.	2199-69-1	ug/L	-	-	99.6	100	99.6%	101	100	101%
dilution factor	-	-	-	-	-	1	-	-	1	-

Comments:
All QC results met criteria established in RSKSOP-259/1.

Notes:
1. **MB** - Method Blank. **CCC** - Continuing Calibration Check. A calibration standard analyzed within the batch of samples. **LCS** - Laboratory Control Spike. A laboratory blank spiked with analytes at known concentrations. **MS** - Matrix Spike. A field sample spiked with known concentrations of analytes. The field sample id is identified. **SS** - Samples obtained from a second source. **DUP** - Field sample duplicate analysis. A sample selected by the lab analyst to analyze as a duplicate. It is reported in the sample result section. **% REC** - Percent Recovery. Calculated as the percentage of the results to the true values. It equals to % accuracy for CCC.

2. **" -"** denotes that the information is not available or the analyte is not analyzed.