UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8 LABORATORY
16194 W 45th Drive
GOLDEN, CO 80403-1790
Phone 303-312-7700

Ref: 8TMS-L

MEMORANDUM

SUBJECT: Analytical Results--- **Pavillion-2012 QC Samples / 1204021**

FROM: Jesse Kiernan, Organic Chemist
Vicente Marti, Organic and Inorganic Chemist
William H. Batschelet, PhD, Laboratory Quality Assurance Officer

THRU: Mark Burkhardt, PhD, Director
Laboratory Services Program

TO: Steve Vandegrift, Kerr Environmental Research Center
PE samples

Attached are the analytical results for Pavillion-2012 QC Samples 1204021. The table below shows the number of containers received , the work order number(s) assigned, and the date received:

	1204021	Total
12-Apr-2012	5	5

These samples were prepared, analyzed, and verified by the Region 8 Laboratory according to the requirements of the Laboratory Services Request (LSR) and procedures found in the laboratory Quality Assurance Manual (QSP-001) dated June 9, 2011.

EPAPAV0033448

Sample Receipt

All samples were received in acceptable condition except as noted in the Analyst Comments or Appendix A. The number of samples received and analyses are listed in Appendix B.

Sample Analysis

All sample results are reported on an as-received basis except as noted in the Analyst Comments. All samples were analyzed within holding times except as noted in Appendix A. All analyses met QC acceptance criteria except as noted in the Analyst Comments or Appendix A.

Field Measurements

All field measurements met QC acceptance criteria except as noted in the Analyst Comments or Appendix A.

QC Note

Routine sample quality control results such as blanks, matrix spikes, and laboratory duplicates, etc. are reported on the quality control pages of this report. Certain of the reported QC criteria may not be applicable or otherwise affect the data usability. Appendix C summarizes the guidelines used by the Region 8 Laboratory to qualify data. This is a general table and may or may not be applicable to this project.

Analyst Comments

METHOD : 8270 Pavillion Full List Analysis: (SOP ORGM-515)
ANALYST(S): VCM & DN

Analysis Notes:

Sample 1204021-01 (Base/Neutral Extractables): The acid surrogate 2,4,6-tribromophenol was below acceptance criteria. This is likely because the sample had to be diluted by a factor of 10 prior to analysis. All associated target compounds (both acid and base/neutral extractable) are qualified as estimated ("J" flagged).

METHOD: Volatile Organic Compounds by EPA Method 8260C (SOP ORGM-501)
ANALYST(S): VCM & DN

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QC Note:

The initial calibrations were not immediately verified by a second source calibration verification (ICV) standard containing all analytes. Instead, initial calibrations were followed by a mixture of QC samples purchased from ERA. These are identified as SRMs and are the equivalent to a laboratory control sample (LCS). The QC sample acceptance criteria provided by the manufacturer were used to evaluate acceptability. However, they contain a limited number of analytes. Because of the lack of appropriate ICVs, all sample results are qualified as estimated and are suitable for screening purposes only.

William H. Batschelet, PhD
Laboratory Quality Assurance Officer

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Analysis Notes:

Pentachloroethane is not reported due to initial calibration outside of acceptance criteria.

Project: Pavillion-2012 QC Samples **LSR No: 1204021** **Certificate of Analysis**

Extractable Petroleum Hydrocarbons by 8015 DRO

Station ID: DRO-Extractables **Date / Time Sampled:** 04/16/12 11:00 **Workorder** 1204021

EPA Tag No.: Extractables GCMS **Matrix:** Water **Lab Number:** 1204021-05 A

Method	Parameter	Results	Units	Qual-ifier	Report Limit	Dilution Factor	Analyzed	By	Batch
EPA 8015	**Diesel range organics**	**2690**	ug/L		200	10	04/28/2012	JAK	1200195
Surrogate: o-Terphenyl		*122 %*	*Limit 60-140*			*10*	*04/28/2012*	*JAK*	*1200195*

Volatile Organic Compounds by EPA Method 8260B

Volatile Organic Compounds by EPA Method 8260B

Station ID: Volatiles **Date / Time Sampled:** 04/23/12 07:00 **Workorder** 1204021
EPA Tag No.: Volatiles GCMS **Matrix:** Water **Lab Number:** 1204021-03 A

Method	Parameter	Results	Units	Qual-ifier	Report Limit	Dilution Factor	Analyzed	By	Batch
EPA 8260B	1,1,1,2-Tetrachloroethane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**1,1,1-Trichloroethane**	**28.4**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**1,1,2,2-Tetrachloroethane**	**50.0**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**1,1,2-Trichloroethane**	**35.0**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	1,1-Dichloroethane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**1,1-Dichloroethene**	**1.15**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	1,1-Dichloropropene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	1,2,3-Trichlorobenzene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	1,2,3-Trichloropropane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**1,2,4-Trichlorobenzene**	**68.1**	ug/L	J	2.50	10	04/24/2012	VCM	1200214
EPA 8260B	1,2,4-Trimethylbenzene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	1,2-Dibromo-3-chloropropane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	1,2-Dibromoethane (EDB)	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**1,2-Dichlorobenzene**	**78.3**	ug/L	J	2.50	10	04/24/2012	VCM	1200214
EPA 8260B	**1,2-Dichloroethane**	**22.6**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	1,2-Dichloropropane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	1,3,5-Trimethylbenzene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**1,3-Dichlorobenzene**	**67.6**	ug/L	J	2.50	10	04/24/2012	VCM	1200214
EPA 8260B	1,3-Dichloropropane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	1,3-Dimethyl adamantane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**1,4-Dichlorobenzene**	**66.9**	ug/L	J	2.50	10	04/24/2012	VCM	1200214
EPA 8260B	2,2-Dichloropropane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**2-Butanone**	**138**	ug/L	J	5.00	10	04/24/2012	VCM	1200214
EPA 8260B	2-Chlorotoluene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	2-Hexanone	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	4-Chlorotoluene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**4-Methyl-2-pentanone**	**81.7**	ug/L	J	2.50	10	04/24/2012	VCM	1200214
EPA 8260B	**Acetone**	**0.700**	ug/L	J	5.00	5	04/24/2012	VCM	1200214
EPA 8260B	Acrylonitrile	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	Adamantane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	Allyl chloride	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**Benzene**	**20.2**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	Bromobenzene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	Bromochloromethane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**Bromodichloromethane**	**20.8**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**Bromoform**	**30.2**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	Bromomethane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	Carbon disulfide	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**Carbon tetrachloride**	**34.2**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**Chlorobenzene**	**88.0**	ug/L	J	2.50	10	04/24/2012	VCM	1200214
EPA 8260B	**Chlorodibromomethane**	**119**	ug/L	J	2.50	10	04/24/2012	VCM	1200214

Volatile Organic Compounds by EPA Method 8260B

EPA 8260B	Chloroethane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**Chloroform**	**64.6**	ug/L	J	2.50	10	04/24/2012	VCM	1200214
EPA 8260B	Chloromethane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**cis-1,2-Dichloroethene**	**26.6**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**cis-1,3-Dichloropropene**	**45.0**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	Dibromomethane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	Dichlorodifluoromethane	< 5.00	ug/L	J	5.00	5	04/24/2012	VCM	1200214
EPA 8260B	Ethyl Ether	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**Ethylbenzene**	**47.6**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	Hexachlorobutadiene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	Hexachloroethane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	Iodomethane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	Isopropylbenzene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**m,p-Xylene**	**73.3**	ug/L	J	5.00	10	04/24/2012	VCM	1200214
EPA 8260B	Methacrylonitrile	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	Methyl Acrylate	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**Methyl tert-Butyl Ether**	**44.2**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**Methylene chloride**	**87.4**	ug/L	J	2.50	10	04/24/2012	VCM	1200214
EPA 8260B	**Naphthalene**	**29.8**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	n-Butyl Benzene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	n-Propyl Benzene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**o-Xylene**	**20.4**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	p-Isopropyltoluene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	sec-Butylbenzene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**Styrene**	**1.50**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	tert-Butylbenzene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**Tetrachloroethene**	**27.5**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**Toluene**	**36.6**	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	trans-1,2-Dichloroethene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	trans-1,3-Dichloropropene	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**Trichloroethene**	**72.4**	ug/L	J	2.50	10	04/24/2012	VCM	1200214
EPA 8260B	Trichlorofluoromethane	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	Vinyl chloride	< 1.25	ug/L	J	1.25	5	04/24/2012	VCM	1200214
EPA 8260B	**Xylenes (total)**	**93.7**	ug/L	J	10.0	10	04/24/2012	VCM	1200214
Surrogate:	*4-Bromofluorobenzene*	*83.8 %*	*Limit 75-120*			*1*	*04/24/2012*	*VCM*	*1200214*
Surrogate:	*Dibromofluoromethane*	*102 %*	*Limit 85-115*			*1*	*04/24/2012*	*VCM*	*1200214*
Surrogate:	*Toluene-d8*	*100 %*	*Limit 85-120*			*1*	*04/24/2012*	*VCM*	*1200214*

EPAPAV0033453

Semivolatile Organic Compounds by EPA Method 8270D

Station ID: Base/Neutral Extractables **Date / Time Sampled:** 04/15/12 11:00 **Workorder** 1204021
EPA Tag No.: Base/Neut. GCMS **Matrix:** Water **Lab Number:** 1204021-01 A

Method	Parameter	Results	Units	Qual-ifier	Report Limit	Dilution Factor	Analyzed	By	Batch
EPA 8270D	(R)-(+)-Limonene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1,2,4-Trichlorobenzene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**1,2-Dichlorobenzene**	**75.0**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1,2-Dinitrobenzene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**1,3-Dichlorobenzene**	**111**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1,3-Dimethyl adamantane	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1,3-Dinitrobenzene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1,4-Dichlorobenzene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1,4-Dinitrobenzene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1-Methylnaphthalene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	2,3,4,6-Tetrachlorophenol	< 20.0	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	2,3,5,6-Tetrachlorophenol	< 20.0	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	2,4,5-Trichlorophenol	< 20.0	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	2,4,6-Trichlorophenol	< 20.0	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	2,4-Dichlorophenol	< 20.0	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	2,4-Dimethylphenol	< 20.0	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	2,4-Dinitrophenol	< 30.0	ug/L		30.0	10	04/22/2012	VCM	1200204
EPA 8270D	2,4-Dinitrotoluene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	2,6-Dinitrotoluene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	2-Butoxyethanol	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	2-Butoxyethanol phosphate	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**2-Chloronaphthalene**	**27.4**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	2-Chlorophenol	< 20.0	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	**2-Methylnaphthalene**	**49.5**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	2-Methylphenol	< 20.0	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	2-Nitroaniline	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	2-Nitrophenol	< 20.0	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	3 & 4-Methylphenol	< 50.0	ug/L		50.0	10	04/22/2012	VCM	1200204
EPA 8270D	3,3´-Dichlorobenzidine	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	3-Nitroaniline	< 30.0	ug/L		30.0	10	04/22/2012	VCM	1200204
EPA 8270D	4,6-Dinitro-2-methylphenol	< 20.0	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	**4-Bromophenyl phenyl ether**	**26.7**	ug/L	J	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	4-Chloro-3-methylphenol	< 20.0	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	4-Chloroaniline	< 30.0	ug/L		30.0	10	04/22/2012	VCM	1200204
EPA 8270D	**4-Chlorophenyl phenyl ether**	**115**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	4-Nitroaniline	< 30.0	ug/L		30.0	10	04/22/2012	VCM	1200204
EPA 8270D	4-Nitrophenol	< 30.0	ug/L		30.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Acenaphthene**	**67.7**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Acenaphthylene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Adamantane	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Aniline	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Anthracene	< 10.0	ug/L	J	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Azobenzene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204

Semivolatile Organic Compounds by EPA Method 8270D

EPA 8270D	Benzo (a) anthracene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Benzo (a) pyrene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Benzo (b) fluoranthene**	**27.5**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Benzo (g,h,i) perylene**	**18.2**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Benzo (k) fluoranthene**	**57.6**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Benzoic acid	< 30.0	ug/L		30.0	10	04/22/2012	VCM	1200204
EPA 8270D	Benzyl alcohol	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Bis(2-chloroethoxy)methane**	**43.1**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Bis(2-chloroethyl)ether**	**161**	ug/L		20.0	20	04/22/2012	VCM	1200204
EPA 8270D	**Bis(2-chloroisopropyl)ether**	**36.5**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Bis-(2-Ethylhexyl) Adipate	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Bis(2-ethylhexyl)phthalate**	**74.3**	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Butyl benzyl phthalate**	**118**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Carbazole	< 30.0	ug/L	J	30.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Chrysene**	**31.3**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Dibenz (a,h) anthracene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Dibenzofuran**	**29.0**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Diethyl phthalate**	**117**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Dimethyl phthalate**	**135**	ug/L		20.0	20	04/22/2012	VCM	1200204
EPA 8270D	**Di-n-butyl phthalate**	**82.9**	ug/L	J	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Di-n-octyl phthalate**	**146**	ug/L		20.0	20	04/22/2012	VCM	1200204
EPA 8270D	Diphenylamine	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Fluoranthene**	**56.2**	ug/L	J	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Fluorene**	**62.5**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Hexachlorobenzene	< 10.0	ug/L	J	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Hexachlorobutadiene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Hexachlorocyclopentadiene**	**118**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Hexachloroethane**	**92.8**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Indeno (1,2,3-cd) pyrene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Isophorone**	**93.0**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Naphthalene**	**99.3**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Nitrobenzene**	**53.8**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	N-Nitrosodimethylamine	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**N-Nitrosodi-n-propylamine**	**86.1**	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Pentachlorophenol	< 20.0	ug/L	J	20.0	10	04/22/2012	VCM	1200204
EPA 8270D	Phenanthrene	< 10.0	ug/L	J	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Phenol	< 20.0	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Pyrene**	**40.1**	ug/L	J	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Pyridine	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Squalene	< 20.0	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	Terpiniol	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
Surrogate:	*2,4,6-Tribromophenol*	*34.8 %*	*Limit 40-125*			*10*	*04/22/2012*	*VCM*	*1200204*
Surrogate:	*2-Fluorobiphenyl*	*90.0 %*	*Limit 50-110*			*10*	*04/22/2012*	*VCM*	*1200204*
Surrogate:	*2-Fluorophenol*	*65.0 %*	*Limit 20-110*			*10*	*04/22/2012*	*VCM*	*1200204*

Semivolatile Organic Compounds by EPA Method 8270D

Surrogate: Nitrobenzene-d5	*94.0 %*	*Limit 40-110*	*10*	*04/22/2012*	*VCM*	*1200204*
Surrogate: Phenol-d6	*59.0 %*	*Limit 10-115*	*10*	*04/22/2012*	*VCM*	*1200204*
Surrogate: Terphenyl-dl4	*92.0 %*	*Limit 50-135*	*10*	*04/22/2012*	*VCM*	*1200204*

Semivolatile Organic Compounds by EPA Method 8270D

Station ID: Acid Extractables **Date / Time Sampled:** 04/15/12 11:00 **Workorder** 1204021
EPA Tag No.: Acids GCMS **Matrix:** Water **Lab Number:** 1204021-02 A

Method	Parameter	Results	Units	Qual-ifier	Report Limit	Dilution Factor	Analyzed	By	Batch
EPA 8270D	(R)-(+)-Limonene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1,2,4-Trichlorobenzene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1,2-Dichlorobenzene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1,2-Dinitrobenzene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1,3-Dichlorobenzene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1,3-Dimethyl adamantane	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1,3-Dinitrobenzene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1,4-Dichlorobenzene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1,4-Dinitrobenzene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	1-Methylnaphthalene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**2,3,4,6-Tetrachlorophenol**	**89.7**	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	2,3,5,6-Tetrachlorophenol	< 20.0	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	**2,4,5-Trichlorophenol**	**56.0**	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	**2,4,6-Trichlorophenol**	**50.5**	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	**2,4-Dichlorophenol**	**117**	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	**2,4-Dimethylphenol**	**159**	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	**2,4-Dinitrophenol**	**79.5**	ug/L		30.0	10	04/22/2012	VCM	1200204
EPA 8270D	2,4-Dinitrotoluene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	2,6-Dinitrotoluene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	2-Butoxyethanol	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	2-Butoxyethanol phosphate	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	2-Chloronaphthalene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**2-Chlorophenol**	**156**	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	2-Methylnaphthalene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**2-Methylphenol**	**153**	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	2-Nitroaniline	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**2-Nitrophenol**	**60.4**	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	**3 & 4-Methylphenol**	**103**	ug/L		50.0	10	04/22/2012	VCM	1200204
EPA 8270D	3,3´-Dichlorobenzidine	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	3-Nitroaniline	< 30.0	ug/L		30.0	10	04/22/2012	VCM	1200204
EPA 8270D	**4,6-Dinitro-2-methylphenol**	**128**	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	4-Bromophenyl phenyl ether	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**4-Chloro-3-methylphenol**	**150**	ug/L		20.0	10	04/22/2012	VCM	1200204
EPA 8270D	4-Chloroaniline	< 30.0	ug/L		30.0	10	04/22/2012	VCM	1200204
EPA 8270D	4-Chlorophenyl phenyl ether	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	4-Nitroaniline	< 30.0	ug/L		30.0	10	04/22/2012	VCM	1200204
EPA 8270D	**4-Nitrophenol**	**77.2**	ug/L		30.0	10	04/22/2012	VCM	1200204
EPA 8270D	Acenaphthene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Acenaphthylene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Adamantane	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Aniline	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Anthracene	< 10.0	ug/L		10.0	10	04/22/2012	VCM	1200204

Semivolatile Organic Compounds by EPA Method 8270D

EPA 8270D	Azobenzene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Benzo (a) anthracene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Benzo (a) pyrene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Benzo (b) fluoranthene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Benzo (g,h,i) perylene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Benzo (k) fluoranthene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Benzoic acid	< 30.0	ug/L	30.0	10	04/22/2012	VCM	1200204
EPA 8270D	Benzyl alcohol	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Bis(2-chloroethoxy)methane	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Bis(2-chloroethyl)ether	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Bis(2-chloroisopropyl)ether	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Bis-(2-Ethylhexyl) Adipate	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Bis(2-ethylhexyl)phthalate	< 20.0	ug/L	20.0	10	04/22/2012	VCM	1200204
EPA 8270D	Butyl benzyl phthalate	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Carbazole	< 30.0	ug/L	30.0	10	04/22/2012	VCM	1200204
EPA 8270D	Chrysene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Dibenz (a,h) anthracene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Dibenzofuran	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Diethyl phthalate	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Dimethyl phthalate	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Di-n-butyl phthalate	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Di-n-octyl phthalate	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Diphenylamine	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Fluoranthene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Fluorene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Hexachlorobenzene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Hexachlorobutadiene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Hexachlorocyclopentadiene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Hexachloroethane	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Indeno (1,2,3-cd) pyrene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Isophorone	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Naphthalene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Nitrobenzene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	N-Nitrosodimethylamine	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	N-Nitrosodi-n-propylamine	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Pentachlorophenol**	**57.7**	ug/L	20.0	10	04/22/2012	VCM	1200204
EPA 8270D	Phenanthrene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	**Phenol**	**163**	ug/L	20.0	10	04/22/2012	VCM	1200204
EPA 8270D	Pyrene	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Pyridine	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
EPA 8270D	Squalene	< 20.0	ug/L	20.0	10	04/22/2012	VCM	1200204
EPA 8270D	Terpiniol	< 10.0	ug/L	10.0	10	04/22/2012	VCM	1200204
Surrogate:	*2,4,6-Tribromophenol*	*92.4 %*	*Limit 40-125*		*10*	*04/22/2012*	*VCM*	*1200204*
Surrogate:	*2-Fluorobiphenyl*	*90.0 %*	*Limit 50-110*		*10*	*04/22/2012*	*VCM*	*1200204*
Surrogate:	*2-Fluorophenol*	*83.0 %*	*Limit 20-110*		*10*	*04/22/2012*	*VCM*	*1200204*
Surrogate:	*Nitrobenzene-d5*	*90.0 %*	*Limit 40-110*		*10*	*04/22/2012*	*VCM*	*1200204*
Surrogate:	*Phenol-d6*	*91.0 %*	*Limit 10-115*		*10*	*04/22/2012*	*VCM*	*1200204*
Surrogate:	*Terphenyl-dl4*	*88.0 %*	*Limit 50-135*		*10*	*04/22/2012*	*VCM*	*1200204*

Semivolatile Organic Compounds by EPA Method 8270D

Project: Pavillion-2012 QC Samples LSR No: 1204021 **Certificate of Analysis**

TVPH/BTEX/MTBE/Naphthalene by GC PID/FID

Station ID: GRO-Purgeables **Date / Time Sampled:** 04/11/12 11:00 **Workorder** 1204021

EPA Tag No.: Volatiles GCMS **Matrix:** Water **Lab Number:** 1204021-04 A

Method	Parameter	Results	Units	Qual-ifier	Report Limit	Dilution Factor	Analyzed	By	Batch
8021/8015	**Benzene**	**28.5**	ug/L		2.0	2	04/20/2012	JAK	1200138
8021/8015	**Ethyl Benzene**	**81.9**	ug/L		2.0	2	04/20/2012	JAK	1200138
8021/8015	**m,p-Xylene**	**178**	ug/L		4.0	2	04/20/2012	JAK	1200138
8021/8015	Methyl tert-Butyl Ether	< 2.0	ug/L		2.0	2	04/20/2012	JAK	1200138
8021/8015	**Naphthalene**	**18.6**	ug/L		4.0	2	04/20/2012	JAK	1200138
8021/8015	**o-Xylene**	**70.6**	ug/L		2.0	2	04/20/2012	JAK	1200138
8021/8015	**Toluene**	**201**	ug/L		2.0	2	04/20/2012	JAK	1200138
8021/8015	**TPH as Gasoline**	**2540**	ug/L		40.0	2	04/20/2012	JAK	1200138
Surrogate: Bromofluorobenzene		*114 %*	*Limit 70-130*			*1*	*04/20/2012*	*JAK*	*1200138*

Note: "J" Qualifier indicates an estimated value.

EPAPAV0033461

Extractable Petroleum Hydrocarbons by 8015 DRO - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1200195 - EPA 3520C									
Method Blank (1200195-BLK1)				Prepared: 04/18/12 Analyzed: 04/27/12					
Diesel range organics	< 20.0	20.0	ug/L						
Surrogate: o-Terphenyl	*5.49*		*"*	*5.00*		*110*	*60-140*		
Reference (1200195-SRM1)				Prepared: 04/18/12 Analyzed: 04/27/12					
Diesel range organics	116	20.0	ug/L	132		88.5	24-130		
Surrogate: o-Terphenyl	*5.21*		*"*	*5.00*		*104*	*60-140*		

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1200214 - Default Prep VOC									
Method Blank (1200214-BLK1)				Prepared & Analyzed: 04/23/12					
1,1,1,2-Tetrachloroethane	< 0.250	0.250	ug/L						
1,1,1-Trichloroethane	< 0.250	0.250	"						
1,1,2,2-Tetrachloroethane	< 0.250	0.250	"						
1,1,2-Trichloroethane	< 0.250	0.250	"						
1,1-Dichloroethane	< 0.250	0.250	"						
1,1-Dichloroethene	< 0.250	0.250	"						
1,1-Dichloropropene	< 0.250	0.250	"						
1,2,3-Trichlorobenzene	< 0.250	0.250	"						
1,2,3-Trichloropropane	< 0.250	0.250	"						
1,2,4-Trichlorobenzene	< 0.250	0.250	"						
1,2,4-Trimethylbenzene	< 0.250	0.250	"						
1,2-Dibromo-3-chloropropane	< 0.250	0.250	"						
1,2-Dibromoethane (EDB)	< 0.250	0.250	"						
1,2-Dichlorobenzene	< 0.250	0.250	"						
1,2-Dichloroethane	< 0.250	0.250	"						
1,2-Dichloropropane	< 0.250	0.250	"						
1,3,5-Trimethylbenzene	< 0.250	0.250	"						
1,3-Dichlorobenzene	< 0.250	0.250	"						
1,3-Dichloropropane	< 0.250	0.250	"						
1,3-Dimethyl adamantane	< 0.250	0.250	"						
1,4-Dichlorobenzene	< 0.250	0.250	"						
2,2-Dichloropropane	< 0.250	0.250	"						
2-Butanone	< 0.500	0.500	"						
2-Chlorotoluene	< 0.250	0.250	"						
2-Hexanone	< 0.250	0.250	"						
4-Chlorotoluene	< 0.250	0.250	"						
4-Methyl-2-pentanone	< 0.250	0.250	"						
Acetone	< 1.00	1.00	"						
Acrylonitrile	< 0.250	0.250	"						
Adamantane	< 0.250	0.250	"						
Allyl chloride	< 0.250	0.250	"						
Benzene	< 0.250	0.250	"						
Bromobenzene	< 0.250	0.250	"						
Bromochloromethane	< 0.250	0.250	"						
Bromodichloromethane	< 0.250	0.250	"						
Bromoform	< 0.250	0.250	"						
Bromomethane	< 0.250	0.250	"						
Carbon disulfide	< 0.250	0.250	"						
Carbon tetrachloride	< 0.250	0.250	"						
Chlorobenzene	< 0.250	0.250	"						
Chlorodibromomethane	< 0.250	0.250	"						
Chloroethane	< 0.250	0.250	"						
Chloroform	< 0.250	0.250	"						
Chloromethane	< 0.250	0.250	"						
cis-1,2-Dichloroethene	< 0.250	0.250	"						
cis-1,3-Dichloropropene	< 0.250	0.250	"						
Dibromomethane	< 0.250	0.250	"						
Dichlorodifluoromethane	< 1.00	1.00	"						
Ethyl Ether	< 0.250	0.250	"						
Ethylbenzene	< 0.250	0.250	"						
Hexachlorobutadiene	< 0.250	0.250	"						
Hexachloroethane	< 0.250	0.250	"						
Iodomethane	< 0.250	0.250	"						
Isopropylbenzene	< 0.250	0.250	"						

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1200214 - Default Prep VOC									
Method Blank (1200214-BLK1)				Prepared & Analyzed: 04/23/12					
m,p-Xylene	< 0.500	0.500	ug/L						
Methacrylonitrile	< 0.250	0.250	"						
Methyl Acrylate	< 0.250	0.250	"						
Methyl tert-Butyl Ether	< 0.250	0.250	"						
Methylene chloride	< 0.250	0.250	"						
Naphthalene	< 0.250	0.250	"						
n-Butyl Benzene	< 0.250	0.250	"						
n-Propyl Benzene	< 0.250	0.250	"						
o-Xylene	< 0.250	0.250	"						
Pentachloroethane	< 10.0	10.0	"						
p-Isopropyltoluene	< 0.250	0.250	"						
sec-Butylbenzene	< 0.250	0.250	"						
Styrene	< 0.250	0.250	"						
tert-Butylbenzene	< 0.250	0.250	"						
Tetrachloroethene	< 0.250	0.250	"						
Toluene	< 0.250	0.250	"						
trans-1,2-Dichloroethene	< 0.250	0.250	"						
trans-1,3-Dichloropropene	< 0.250	0.250	"						
Trichloroethene	< 0.250	0.250	"						
Trichlorofluoromethane	< 0.250	0.250	"						
Vinyl chloride	< 0.250	0.250	"						
Xylenes (total)	< 1.00	1.00	"						
Surrogate: 4-Bromofluorobenzene	*4.27*		*"*	*4.00*		*107*	*75-120*		
Surrogate: Dibromofluoromethane	*3.91*		*"*	*4.00*		*97.8*	*85-115*		
Surrogate: Toluene-d8	*3.97*		*"*	*4.00*		*99.2*	*85-120*		
Reference (1200214-SRM1)				Prepared: 04/23/12 Analyzed: 04/24/12					
1,1,1,2-Tetrachloroethane	< 2.50	2.50	ug/L	0.00			0-130		
1,1,1-Trichloroethane	6.80	2.50	"	6.44		106	72-124		
1,1,2,2-Tetrachloroethane	< 2.50	2.50	"	0.00			0-155		
1,1,2-Trichloroethane	3.30	2.50	"	3.03		109	77-125		
1,1-Dichloroethane	17.7	2.50	"	16.6		107	77-136		
1,1-Dichloroethene	20.6	2.50	"	18.1		114	69-130		
1,1-Dichloropropene	< 2.50	2.50	"	0.00			0-200		
1,2,3-Trichlorobenzene	32.5	2.50	"	26.0		125	65-126		
1,2,3-Trichloropropane	29.8	2.50	"	25.4		117	66-135		
1,2,4-Trichlorobenzene	7.20	2.50	"	6.84		105	64-126		
1,2,4-Trimethylbenzene	< 2.50	2.50	"	0.00			0-200		
1,2-Dibromo-3-chloropropane	< 2.50	2.50	"	0.00			0-200		
1,2-Dibromoethane (EDB)	< 2.50	2.50	"	0.00			0-200		
1,2-Dichlorobenzene	20.3	2.50	"	18.3		111	76-122		
1,2-Dichloroethane	9.60	2.50	"	8.78		109	77-125		
1,2-Dichloropropane	15.9	2.50	"	15.0		106	77-123		
1,3,5-Trimethylbenzene	15.5	2.50	"	14.6		106	76-125		
1,3-Dichlorobenzene	27.7	2.50	"	25.0		111	77-124		
1,3-Dichloropropane	37.1	2.50	"	33.2		112	78-125		
1,4-Dichlorobenzene	7.70	2.50	"	6.72		115	72-123		
2,2-Dichloropropane	12.2	2.50	"	12.0		102	62-132		
2-Butanone	< 5.00	5.00	"	0.00			0-200		
2-Chlorotoluene	1.60	2.50	"	0.00			0-130		
2-Hexanone	< 2.50	2.50	"	0.00			0-146		
4-Chlorotoluene	< 2.50	2.50	"	0.00			0-130		
4-Methyl-2-pentanone	< 2.50	2.50	"	0.00			0-200		

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1200214 - Default Prep VOC									
Reference (1200214-SRM1)				Prepared: 04/23/12 Analyzed: 04/24/12					
Acetone	2.50	10.0	ug/L	0.00			0-162		
Acrylonitrile	< 2.50	2.50	"	0.00			0-130		
Benzene	15.2	2.50	"	14.0		109	78-121		
Bromobenzene	43.2	2.50	"	36.2		119	75-130		
Bromochloromethane	52.7	2.50	"	45.5		116	77-126		
Bromodichloromethane	12.9	2.50	"	12.2		106	78-127		
Bromoform	28.1	2.50	"	33.6		83.6	73-129		
Bromomethane	5.90	2.50	"	6.00		98.3	40-148		
Carbon disulfide	< 2.50	2.50	"	0.00			0-200		
Carbon tetrachloride	6.30	2.50	"	5.76		109	69-126		
Chlorobenzene	6.30	2.50	"	5.88		107	78-122		
Chlorodibromomethane	28.0	2.50	"	28.6		97.9	77-125		
Chloroethane	< 2.50	2.50	"	0.00			0-130		
Chloroform	24.6	2.50	"	21.9		112	78-124		
Chloromethane	< 2.50	2.50	"	0.00			0-200		
cis-1,2-Dichloroethene	35.5	2.50	"	31.9		111	75-123		
cis-1,3-Dichloropropene	50.6	2.50	"	45.7		111	71-123		
Dibromomethane	23.6	2.50	"	17.8		133	72-129		
Dichlorodifluoromethane	< 10.0	10.0	"	0.00			0-130		
Ethylbenzene	16.4	2.50	"	15.4		106	76-124		
Hexachlorobutadiene	< 2.50	2.50	"	0.00			0-130		
Isopropylbenzene	31.6	2.50	"	27.7		114	73-124		
m,p-Xylene	22.3	5.00	"	21.3		105	70-130		
Methyl tert-Butyl Ether	24.9	2.50	"	22.9		109	73-129		
Methylene chloride	18.7	2.50	"	17.9		104	69-128		
Naphthalene	25.9	2.50	"	22.4		116	69-125		
n-Butyl Benzene	8.60	2.50	"	7.70		112	69-125		
n-Propyl Benzene	11.8	2.50	"	9.84		120	74-124		
o-Xylene	10.3	2.50	"	9.97		103	75-124		
p-Isopropyltoluene	< 2.50	2.50	"	0.00			0-130		
sec-Butylbenzene	16.8	2.50	"	15.9		106	74-127		
Styrene	13.5	2.50	"	14.0		96.4	75-126		
tert-Butylbenzene	< 2.50	2.50	"	0.00			0-200		
Tetrachloroethene	6.70	2.50	"	11.0		60.9	68-121		
Toluene	9.00	2.50	"	8.39		107	77-122		
trans-1,2-Dichloroethene	7.00	2.50	"	6.67		105	74-136		
trans-1,3-Dichloropropene	35.0	2.50	"	34.3		102	70-127		
Trichloroethene	8.80	2.50	"	8.59		102	74-120		
Trichlorofluoromethane	51.0	2.50	"	39.2		130	66-140		
Vinyl chloride	11.9	2.50	"	8.60		138	59-147		
Surrogate: 4-Bromofluorobenzene	*4.24*		*"*	*4.00*		*106*	*75-120*		
Surrogate: Dibromofluoromethane	*3.99*		*"*	*4.00*		*99.8*	*85-115*		
Surrogate: Toluene-d8	*4.02*		*"*	*4.00*		*100*	*85-120*		

EPAPAV0033465

Semivolatile Organic Compounds by EPA Method 8270D - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1200204 - 3520									
Method Blank (1200204-BLK1)				Prepared: 04/19/12 Analyzed: 04/21/12					
(R)-(+)-Limonene	< 1.00	1.00	ug/L						
1,2,4-Trichlorobenzene	< 1.00	1.00	"						
1,2-Dichlorobenzene	< 1.00	1.00	"						
1,2-Dinitrobenzene	< 1.00	1.00	"						
1,3-Dichlorobenzene	< 1.00	1.00	"						
1,3-Dimethyl adamantane	< 1.00	1.00	"						
1,3-Dinitrobenzene	< 1.00	1.00	"						
1,4-Dichlorobenzene	< 1.00	1.00	"						
1,4-Dinitrobenzene	< 1.00	1.00	"						
1-Methylnaphthalene	< 1.00	1.00	"						
2,3,4,6-Tetrachlorophenol	< 2.00	2.00	"						
2,3,5,6-Tetrachlorophenol	< 2.00	2.00	"						
2,4,5-Trichlorophenol	< 2.00	2.00	"						
2,4,6-Trichlorophenol	< 2.00	2.00	"						
2,4-Dichlorophenol	< 2.00	2.00	"						
2,4-Dimethylphenol	< 2.00	2.00	"						
2,4-Dinitrophenol	< 3.00	3.00	"						
2,4-Dinitrotoluene	< 1.00	1.00	"						
2,6-Dinitrotoluene	< 1.00	1.00	"						
2-Butoxyethanol	< 1.00	1.00	"						
2-Butoxyethanol phosphate	< 1.00	1.00	"						
2-Chloronaphthalene	< 1.00	1.00	"						
2-Chlorophenol	< 2.00	2.00	"						
2-Methylnaphthalene	< 1.00	1.00	"						
2-Methylphenol	< 2.00	2.00	"						
2-Nitroaniline	< 1.00	1.00	"						
2-Nitrophenol	< 2.00	2.00	"						
3 & 4-Methylphenol	< 5.00	5.00	"						
3,3'-Dichlorobenzidine	< 1.00	1.00	"						
3-Nitroaniline	< 3.00	3.00	"						
4,6-Dinitro-2-methylphenol	< 2.00	2.00	"						
4-Bromophenyl phenyl ether	< 1.00	1.00	"						
4-Chloro-3-methylphenol	< 2.00	2.00	"						
4-Chloroaniline	< 3.00	3.00	"						
4-Chlorophenyl phenyl ether	< 1.00	1.00	"						
4-Nitroaniline	< 3.00	3.00	"						
4-Nitrophenol	< 3.00	3.00	"						
Acenaphthene	< 1.00	1.00	"						
Acenaphthylene	< 1.00	1.00	"						
Adamantane	< 1.00	1.00	"						
Aniline	< 1.00	1.00	"						
Anthracene	< 1.00	1.00	"						
Azobenzene	< 1.00	1.00	"						
Benzo (a) anthracene	< 1.00	1.00	"						
Benzo (a) pyrene	< 1.00	1.00	"						
Benzo (b) fluoranthene	< 1.00	1.00	"						
Benzo (g,h,i) perylene	< 1.00	1.00	"						
Benzo (k) fluoranthene	< 1.00	1.00	"						
Benzoic acid	< 3.00	3.00	"						
Benzyl alcohol	< 1.00	1.00	"						
Bis(2-chloroethoxy)methane	< 1.00	1.00	"						
Bis(2-chloroethyl)ether	< 1.00	1.00	"						
Bis(2-chloroisopropyl)ether	< 1.00	1.00	"						
Bis-(2-Ethylhexyl) Adipate	< 1.00	1.00	"						

Semivolatile Organic Compounds by EPA Method 8270D - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1200204 - 3520									
Method Blank (1200204-BLK1)				Prepared: 04/19/12 Analyzed: 04/21/12					
Bis(2-ethylhexyl)phthalate	< 2.00	2.00	ug/L						
Butyl benzyl phthalate	< 1.00	1.00	"						
Carbazole	< 3.00	3.00	"						
Chrysene	< 1.00	1.00	"						
Dibenz (a,h) anthracene	< 1.00	1.00	"						
Dibenzofuran	< 1.00	1.00	"						
Diethyl phthalate	< 1.00	1.00	"						
Dimethyl phthalate	< 1.00	1.00	"						
Di-n-butyl phthalate	< 1.00	1.00	"						
Di-n-octyl phthalate	< 1.00	1.00	"						
Diphenylamine	< 1.00	1.00	"						
Fluoranthene	< 1.00	1.00	"						
Fluorene	< 1.00	1.00	"						
Hexachlorobenzene	< 1.00	1.00	"						
Hexachlorobutadiene	< 1.00	1.00	"						
Hexachlorocyclopentadiene	< 1.00	1.00	"						
Hexachloroethane	< 1.00	1.00	"						
Indeno (1,2,3-cd) pyrene	< 1.00	1.00	"						
Isophorone	< 1.00	1.00	"						
Naphthalene	< 1.00	1.00	"						
Nitrobenzene	< 1.00	1.00	"						
N-Nitrosodimethylamine	< 1.00	1.00	"						
N-Nitrosodi-n-propylamine	< 1.00	1.00	"						
Pentachlorophenol	< 2.00	2.00	"						
Phenanthrene	< 1.00	1.00	"						
Phenol	< 2.00	2.00	"						
Pyrene	< 1.00	1.00	"						
Pyridine	< 1.00	1.00	"						
Squalene	< 2.00	2.00	"						
Terpiniol	< 1.00	1.00	"						
Surrogate: 2,4,6-Tribromophenol	*15.5*		*"*	*25.0*		*61.9*	*40-125*		
Surrogate: 2-Fluorobiphenyl	*2.90*		*"*	*5.00*		*58.0*	*50-110*		
Surrogate: 2-Fluorophenol	*5.32*		*"*	*10.0*		*53.2*	*20-110*		
Surrogate: Nitrobenzene-d5	*2.95*		*"*	*5.00*		*59.0*	*40-110*		
Surrogate: Phenol-d6	*5.41*		*"*	*10.0*		*54.1*	*10-115*		
Surrogate: Terphenyl-dl4	*3.78*		*"*	*5.00*		*75.6*	*50-135*		

Semivolatile Organic Compounds by EPA Method 8270D - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1200204 - 3520									
Method Blank Spike (1200204-BS1)				Prepared: 04/19/12 Analyzed: 04/22/12					
(R)-(+)-Limonene	3.92	1.00	ug/L	5.00		78.4	60-130		
1,2,4-Trichlorobenzene	4.00	1.00	"	5.00		80.0	35-105		
1,2-Dichlorobenzene	4.01	1.00	"	5.00		80.2	35-100		
1,2-Dinitrobenzene	4.39	1.00	"	5.00		87.8	45-110		
1,3-Dichlorobenzene	3.94	1.00	"	5.00		78.8	30-100		
1,3-Dimethyl adamantane	3.79	1.00	"	5.00		75.8	60-130		
1,3-Dinitrobenzene	4.31	1.00	"	5.00		86.2	45-110		
1,4-Dichlorobenzene	3.94	1.00	"	5.00		78.8	30-100		
1,4-Dinitrobenzene	4.32	1.00	"	5.00		86.4	45-110		
1-Methylnaphthalene	4.30	1.00	"	5.00		86.0	45-105		
2,3,4,6-Tetrachlorophenol	8.64	2.00	"	10.0		86.4	50-110		
2,3,5,6-Tetrachlorophenol	8.49	2.00	"	10.0		84.9	50-110		
2,4,5-Trichlorophenol	8.47	2.00	"	10.0		84.7	50-110		
2,4,6-Trichlorophenol	8.56	2.00	"	10.0		85.6	50-115		
2,4-Dichlorophenol	8.43	2.00	"	10.0		84.3	50-105		
2,4-Dimethylphenol	7.02	2.00	"	10.0		70.2	30-110		
2,4-Dinitrophenol	6.86	3.00	"	10.0		68.6	15-140		
2,4-Dinitrotoluene	4.40	1.00	"	5.00		88.0	50-120		
2,6-Dinitrotoluene	4.38	1.00	"	5.00		87.6	50-115		
2-Butoxyethanol	4.50	1.00	"	5.00		90.0	60-130		
2-Butoxyethanol phosphate	4.22	1.00	"	5.00		84.4	60-130		
2-Chloronaphthalene	4.34	1.00	"	5.00		86.8	50-105		
2-Chlorophenol	8.40	2.00	"	10.0		84.0	35-105		
2-Methylnaphthalene	4.33	1.00	"	5.00		86.6	45-105		
2-Methylphenol	8.93	2.00	"	10.0		89.3	40-110		
2-Nitroaniline	4.34	1.00	"	5.00		86.8	50-115		
2-Nitrophenol	8.15	2.00	"	10.0		81.5	40-115		
3 & 4-Methylphenol	17.0	5.00	"	20.0		85.0	30-110		
3,3'-Dichlorobenzidine	1.33	1.00	"	5.00		26.6	0-110		
3-Nitroaniline	9.74	3.00	"	12.5		77.9	20-125		
4,6-Dinitro-2-methylphenol	8.22	2.00	"	10.0		82.2	40-130		
4-Bromophenyl phenyl ether	4.49	1.00	"	5.00		89.8	50-115		
4-Chloro-3-methylphenol	8.67	2.00	"	10.0		86.7	45-110		
4-Chloroaniline	13.6	3.00	"	12.5		109	15-110		
4-Chlorophenyl phenyl ether	4.43	1.00	"	5.00		88.6	50-110		
4-Nitroaniline	10.5	3.00	"	12.5		84.0	35-120		
4-Nitrophenol	10.3	3.00	"	12.5		82.6	0-125		
Acenaphthene	4.36	1.00	"	5.00		87.2	45-110		
Acenaphthylene	4.42	1.00	"	5.00		88.4	50-105		
Adamantane	3.78	1.00	"	5.00		75.6	60-130		
Aniline	1.16	1.00	"	5.00		23.2	0-110		
Anthracene	4.43	1.00	"	5.00		88.6	55-110		
Azobenzene	4.43	1.00	"	5.00		88.6	50-115		
Benzo (a) anthracene	4.54	1.00	"	5.00		90.8	55-110		
Benzo (a) pyrene	3.81	1.00	"	5.00		76.2	55-110		
Benzo (b) fluoranthene	4.49	1.00	"	5.00		89.8	45-120		
Benzo (g,h,i) perylene	4.01	1.00	"	5.00		80.2	40-125		
Benzo (k) fluoranthene	4.48	1.00	"	5.00		89.6	45-125		
Benzoic acid	8.60	3.00	"	10.0		86.0	20-115		
Benzyl alcohol	4.08	1.00	"	5.00		81.6	50-150		
Bis(2-chloroethoxy)methane	4.34	1.00	"	5.00		86.8	45-105		
Bis(2-chloroethyl)ether	4.24	1.00	"	5.00		84.8	35-110		
Bis(2-chloroisopropyl)ether	4.44	1.00	"	5.00		88.8	25-130		
Bis-(2-Ethylhexyl) Adipate	4.46	1.00	"	5.00		89.2	40-125		

Semivolatile Organic Compounds by EPA Method 8270D - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1200204 - 3520									
Method Blank Spike (1200204-BS1)				Prepared: 04/19/12 Analyzed: 04/22/12					
Bis(2-ethylhexyl)phthalate	4.97	2.00	ug/L	5.00		99.4	40-125		
Butyl benzyl phthalate	4.52	1.00	"	5.00		90.4	45-115		
Carbazole	10.3	3.00	"	12.5		82.6	50-115		
Chrysene	4.52	1.00	"	5.00		90.4	55-110		
Dibenz (a,h) anthracene	4.03	1.00	"	5.00		80.6	40-125		
Dibenzofuran	4.46	1.00	"	5.00		89.2	55-105		
Diethyl phthalate	4.73	1.00	"	5.00		94.6	40-120		
Dimethyl phthalate	4.65	1.00	"	5.00		93.0	25-125		
Di-n-butyl phthalate	4.70	1.00	"	5.00		94.0	55-115		
Di-n-octyl phthalate	4.41	1.00	"	5.00		88.2	35-135		
Diphenylamine	3.86	1.00	"	5.00		77.2	55-115		
Fluoranthene	4.83	1.00	"	5.00		96.6	55-115		
Fluorene	4.50	1.00	"	5.00		90.0	50-110		
Hexachlorobenzene	4.39	1.00	"	5.00		87.8	50-110		
Hexachlorobutadiene	3.83	1.00	"	5.00		76.6	25-105		
Hexachlorocyclopentadiene	1.05	1.00	"	5.00		21.0	0-95		
Hexachloroethane	3.93	1.00	"	5.00		78.6	30-95		
Indeno (1,2,3-cd) pyrene	3.95	1.00	"	5.00		79.0	45-125		
Isophorone	4.72	1.00	"	5.00		94.4	50-110		
Naphthalene	4.21	1.00	"	5.00		84.2	40-100		
Nitrobenzene	4.52	1.00	"	5.00		90.4	45-110		
N-Nitrosodimethylamine	4.32	1.00	"	5.00		86.4	25-110		
N-Nitrosodi-n-propylamine	4.55	1.00	"	5.00		91.0	35-130		
Pentachlorophenol	8.47	2.00	"	10.0		84.7	40-115		
Phenanthrene	4.54	1.00	"	5.00		90.8	50-115		
Phenol	8.55	2.00	"	10.0		85.5	20-115		
Pyrene	4.78	1.00	"	5.00		95.6	50-130		
Pyridine	< 1.00	1.00	"	5.00			0-150		
Squalene	3.85	2.00	"	5.00		77.0	60-130		
Terpiniol	4.70	1.00	"	5.00		94.0	60-130		
Surrogate: 2,4,6-Tribromophenol	*22.5*		*"*	*25.0*		*90.0*	*40-125*		
Surrogate: 2-Fluorobiphenyl	*4.24*		*"*	*5.00*		*84.8*	*50-110*		
Surrogate: 2-Fluorophenol	*8.46*		*"*	*10.0*		*84.6*	*20-110*		
Surrogate: Nitrobenzene-d5	*4.45*		*"*	*5.00*		*89.0*	*40-110*		
Surrogate: Phenol-d6	*8.85*		*"*	*10.0*		*88.5*	*10-115*		
Surrogate: Terphenyl-dl4	*4.64*		*"*	*5.00*		*92.8*	*50-135*		

EPAPAV0033469

TVPH/BTEX/MTBE/Naphthalene by GC PID/FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1200138 - EPA 5030B-R8									
Method Blank (1200138-BLK1)				Prepared & Analyzed: 04/19/12					
Benzene	< 1.0	1.0	ug/L						
Ethyl Benzene	< 1.0	1.0	"						
m,p-Xylene	< 2.0	2.0	"						
Methyl tert-Butyl Ether	< 1.0	1.0	"						
Naphthalene	< 2.0	2.0	"						
o-Xylene	< 1.0	1.0	"						
Toluene	< 1.0	1.0	"						
TPH as Gasoline	< 20.0	20.0	"						
Surrogate: Bromofluorobenzene	*51.5*		*"*	*50.0*		*103*	*70-130*		
Reference (1200138-SRM1)				Prepared & Analyzed: 04/19/12					
TPH as Gasoline	2940	40.0	ug/L	2860		103	70-130		
Surrogate: Bromofluorobenzene	*56.8*		*"*	*50.0*		*114*	*70-130*		
Reference (1200138-SRM2)				Prepared & Analyzed: 04/19/12					
Benzene	27.1	2.0	ug/L	29.6		91.6	69-118		
Ethyl Benzene	155	2.0	"	156		99.7	62-140		
m,p-Xylene	85.8	4.0	"	82.2		104	62-142		
Methyl tert-Butyl Ether	48.7	1.0	"	50.0		97.4	70-130		
Naphthalene	45.3	2.0	"	50.0		90.6	70-130		
o-Xylene	66.8	2.0	"	66.8		100	62-142		
Toluene	89.7	2.0	"	92.9		96.5	71-128		
Surrogate: Bromofluorobenzene	*53.9*		*"*	*50.0*		*108*	*70-130*		

NOTE:
%REC is percent recovery, Result (less sample contribution) divided by the Spike Level
RPD is the Relative Percent Difference (difference between the Result and the Source Result) divided by their average

ERA
A Waters Company

16341 Table Mountain Parkway
Golden, CO 80403
Telephone: (303) 431-8454
Toll Free: (800) 372-0122
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Order Confirmation

mcneil.mary-sue@epa.gov
Contact Name Mary Sue McNeil
Contact Phone (580) 436-8711
Contact Fax (580) 436-8528

Order # 1-4LF8IO
Account E593301
Date 04-09-2012

Bill To USEPA Region 8 Lab
PO Box 1198
Ada, OK 74820

Attn: Mary Sue McNeil

Ship To USEPA Region 8 Lab
16194 W 45th Dr
Golden, CO 80403

Attn: Mark Burkhardt

PO # / CC Type	Processed By	Customer Service Representative	Shipping Method	Payment Terms
Visa	Heidi Senft	Jennifer Watson	Customer Pickup	NET 30

QTY	Ship Date	Cat #	Description	Study/ Prod Type	Unit Price	Disc	S/H	Surcharge QR	WV	Ext. Price
1	4/9/2012	711	Base/Neutrals, PriorityPollutnT™	QC	$123.00			$30.75		$153.75
1	4/9/2012	712	Acids, PriorityPollutnT™	QC	$103.00			$25.75		$128.75
1	4/9/2012	710	Volatiles, PriorityPollutnT™	QC	$124.00			$31.00		$155.00
1	4/9/2012	762	Gasoline Range Organics (GRO) in Water, QC	QC	$114.00			$28.50		$142.50
1	4/9/2012	764	Diesel Range Organics (DRO) in Water, QC	QC	$114.00			$28.50		$142.50

8260 PAV 2011
8270 Free Full
Diesel Low 1000mL
Gasoline Low

Project:
Pavillion-2012
QC Samples
Work Order #
#1204021

Pavillion 2012
Rec'd 11/April/12
11:00 - Kenneth Dahlin

Subtotal	$722.50
Trade Discount	$0.00
Handling	$0.00
Freight	$0.00
COD Surcharge	$0.00
Tax	$0.00
Order Total	**$722.50**

Page 1 of 1

Appendix A - Exceptions Report

Lab Number	Sample Name	Analysis	Analyte Name	Explanation
1204021-01	Base/Neutral Extractables	8270 Frac Full	2,4,6-Tribromophenol	Surrogate standard acceptance criteria not met
1204021-01	Base/Neutral Extractables	8270 Frac Full	4-Bromophenyl phenyl ether	Surrogate standard acceptance criteria not met
1204021-01	Base/Neutral Extractables	8270 Frac Full	Anthracene	Surrogate standard acceptance criteria not met
1204021-01	Base/Neutral Extractables	8270 Frac Full	Carbazole	Surrogate standard acceptance criteria not met
1204021-01	Base/Neutral Extractables	8270 Frac Full	Di-n-butyl phthalate	Surrogate standard acceptance criteria not met
1204021-01	Base/Neutral Extractables	8270 Frac Full	Fluoranthene	Surrogate standard acceptance criteria not met
1204021-01	Base/Neutral Extractables	8270 Frac Full	Hexachlorobenzene	Surrogate standard acceptance criteria not met
1204021-01	Base/Neutral Extractables	8270 Frac Full	Pentachlorophenol	Surrogate standard acceptance criteria not met
1204021-01	Base/Neutral Extractables	8270 Frac Full	Phenanthrene	Surrogate standard acceptance criteria not met
1204021-01	Base/Neutral Extractables	8270 Frac Full	Pyrene	Surrogate standard acceptance criteria not met
1204021-03	Volatiles	8260 PAV 2011	*ALL*	QA/QC acceptance criteria not met.
1204021-03	Volatiles	8260 PAV 2011	2-Butanone	Outside quantitation range.
1204021-03	Volatiles	8260 PAV 2011	Chlorodibromomethane	Outside quantitation range.
1204021-03	Volatiles	8260 PAV 2011	Tetrachloroethene	Control sample acceptance criteria not met

Appendix B - Samples and Analysis

Work Order #	# Samples	Analysis	Method Name	Lab SOP
1204021	1	8260 PAV 2011	EPA 8260B	ORGM-501v11_8260
1204021	2	8270 Frac Full	EPA 8270D	ORGM-515v11_8270
1204021	1	Diesel-Low-1000ml	EPA 8015	ORGM-508v10_Diesel
1204021	1	Gasoline-Low	8021/8015	ORGM-506v10_BTEX

Appendix C - Data Assessment Guidelines

QC Check (Symbol)	Flagging Criteria
Initial Calibration **(ICAL)**	All failing analytes for all samples are qualified as estimated.
Initial Calibration Verification **(ICV)** or Standard Reference Material **(SRM)**	High failure: All detections for failing analytes for all samples are qualified as estimated. Low failure: All failing analytes for all samples are qualified as estimated.
Continuing Calibration Verification **(CCV)**	High failure: All detections for failing analytes for all associated samples are qualified as estimated. Low failure: All failing analytes for all associated samples are qualified as estimated.
Continuing Calibration Blank **(CCB)**	All detections for failing analytes for all associated samples where the concentration in the blank is > 1/10 the amount measured in the sample **OR** the blank contamination otherwise affects the sample results are qualified as estimated.
Blanks **(BLK)** Preparation Blank, Method, Trip, Storage, etc.	All detections for failing analytes for all samples where the concentration in the blank is > 1/10 the amount measured in the sample **OR** the blank contamination otherwise affects the sample results are qualified as estimated.
Lab Control Sample **(LCS)** or Standard Reference Material **(SRM)** or Blank Spike **(BS)**	High failure: All detections for failing analytes for all associated samples are qualified as estimated. Low failure: All failing analytes for all associated samples are qualified as estimated.
Matrix Spike **(MS)**	High failure: All detections for failing analytes in the parent sample are qualified as estimated. Low failure: All failing analytes in the parent sample are qualified as estimated. *No qualification if the native concentration is ≥ 4x the spike concentration.*
Matrix Spike Duplicate **(MSD)**	%R Failure: Same as matrix spike. RPD Failure: All failing analytes in the parent sample are qualified as estimated.
Duplicate Sample **(DUP)**	All failing analytes in the parent sample are qualified as estimated.
Serial Dilution **(SD)**	All failing analytes in the parent sample are qualified as estimated. *No qualification if native concentration is ≤ 50x the RL.*
Detection Limit Standard **(CRA)** or **(CRL)**	All failing analytes for all samples where the concentration is < 5x the value of the detection limit standard are qualified as estimated.
Internal Standard **(IS)**	All analytes associated with the failing IS are qualified as estimated.
Surrogate Spike **(SURR)**	High failure: All detections for all analytes associated with the failing surrogate are qualified as estimated. Low failure: All analytes associated with the failing surrogate are qualified as estimated. *If obvious chromatographic interference with the surrogate is present, qualification may not be necessary and will be based on the professional judgment of the analyst.*

Note: The J Qualifier is used to indicate an estimated value.

1204021

Date Due: 05/27/2012

TAT: 45

Report To: PE samples
Kerr Environmental Research Center
Ada, OK 74821

Client Contact:

580-436-8681
(580) 436-8528

LSR #: 1204021

Invoice To: PE samples
8TMS-L
Golden, CO 80403

Invoice Contact:

303-312-7705

☐ **FAX** Date/Initials: _____

☐ **EMAIL** Date/Initials: _____

☐ **EDF** Date/Initials: _____

Mail Instructions:

Report Instructions:

Proofing

Report	Date/Initials:	_____
Sub Report	Date/Initials:	_____
Invoice	Date/Initials:	_____

Format Correct?	_____	_____	Test Name vs. C.O.C. & Benchsheet
Report to: vs. LSR	_____	_____	Hold times
Attention: vs. LSR	_____	_____	Method vs. Benchsheet
Phone: vs. LSR	_____	_____	Units vs. Benchsheet
Project Name & Number, PO Number vs. LSR	_____	_____	Reporting Limit vs. Benchsheet
Sample ID: vs. C.O.C.	_____	_____	Date Analyzed
Sample Type: vs. C.O.C.	_____	_____	Results vs. Benchsheet
Date/Time Sampled vs. C.O.C.	_____	_____	Qualifiers
Date/Time Received vs. C.O.C.	_____	_____	Primary vs. Secondary Results

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