



02/11/2004

Attn:

Re: Continental File Number:
Continental Order Number:
P.O./Project No:

Dear

Enclosed is the Quality Control (QC) Report for the referenced order number. The standard QC Report includes a QC Batch Summary, Method Blank, LCS and MS/MSD data prepared and/or analyzed in the same QC batch as that of the client's samples and surrogate data for each sample that required organic analysis. A general description of the data contained in the QC Report is presented below.

QUALITY CONTROL BATCH

Each batch of twenty or fewer samples of the same matrix, prepared and analyzed by the same method, is assigned a Quality Control (QC) batch number. Within each QC batch, a method blank, laboratory control sample and a matrix spike/matrix spike duplicate are prepared and analyzed. The QC batch number for each sample is provided on the Laboratory Report. An index of the QC batch numbers for each sample in a client's order is provided on the QC Report.

METHOD BLANK DATA

A method blank is a matrix similar to that of the sample which has been prepared and analyzed by the same method as the sample. The method blank is used to assure that the preparation and analysis method have not introduced contamination.

LABORATORY CONTROL SAMPLE DATA

A Laboratory Control Sample (LCS) is a matrix similar to that of the sample which has been spiked with a known concentration of analyte(s) and prepared and analyzed by the same method as the sample. The LCS percent recovery is a measure of the accuracy of the preparation and analysis method.

SURROGATE DATA

A surrogate is a compound that is similar to the analytes of interest, but is not normally found in environmental samples. A surrogate is added to the sample prior to preparation and analysis. The surrogate percent recovery is a measure of the effectiveness of the preparation and analysis method on the individual sample.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE DATA

A matrix spike is an aliquot of a sample spiked with the analyte(s) of interest and prepared and analyzed by the same method as the sample. The Matrix Spike (MS) percent recovery is a measure of the effectiveness of the preparation and analysis method on the specific sample matrix. The Matrix Spike Duplicate (MSD) is a duplicate preparation and analysis of the MS. The MS and MSD are used to calculate the relative percent difference, which is a measure of the precision of the preparation and analysis method. The QC Report provides the analytical results for each MS and MSD analysis performed either on samples from the client's order or on samples from the same QC batch as that of each client sample in the order.



ACCURACY AND PRECISION LIMITS

The accuracy and precision limits are method or laboratory determined limits indicating acceptable accuracy or precision for a given matrix. The accuracy limits are expressed with units of percent recovery. The precision limits are expressed with units of relative percent difference (RPD).

DATE PREPARED

The date prepared is the date the sample was extracted or digested in preparation for analysis. If the extraction or digestion is performed as part of the analysis, "N/A" is reported for the date prepared. The date prepared for each sample is provided on the Laboratory Report.

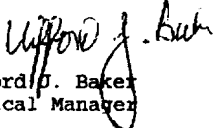
DATE ANALYZED


The date analyzed is the date the analysis was performed on the sample. The date analyzed for each sample is provided on the Laboratory Report.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted.

If you have any questions regarding this data, please contact me or your Continental Project Manager at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.


Clifford D. Baker
Technical Manager


Melisa D. McElwee
Project Manager



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Analytical Services, Inc.
Quality Control Report
Batch Summary

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Client:

Date Reported: 02/11/2004
Date Sample Received: 01/23/2004
Continental File No:
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Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
MS100	GC/MS Priority Pollutant Vol.	1MS1029	BLK1MS1029	LCS1MS1029	04011184MS
Lab numbers associated with this batch: 04011492 04011496 04011500					
SL333	Mercury, Total	040127-2	040127BLK2	040127LCS2	04010813MS
Lab numbers associated with this batch: 04011490 04011494 04011498					
SL306	Cadmium, Total	040202-1	040202BLK1	040202LCS1	04011463MS
SL308	Chromium, Total	040202-1	040202BLK1	040202LCS1	04011463MS
SL313	Copper, Total	040202-1	040202BLK1	040202LCS1	04011463MS
SL311	Lead, Total (ICP)	040202-1	040202BLK1	040202LCS1	04011463MS
SL336	Nickel, Total	040202-1	040202BLK1	040202LCS1	04011463MS
Lab numbers associated with this batch: 04011490 04011494 04011498					
SL353	Silver, Total	040202-1	040202BLK1	040202LCS1	04011463MS
Lab numbers associated with this batch: 04011490 04011494					
SL369	Zinc, Total	040202-1	040202BLK1	040202LCS1	04011463MS
Lab numbers associated with this batch: 04011490 04011494 04011498					
SL353	Silver, Total	040204-2	040204BLK2	040204LCS2	04020112MS
Lab numbers associated with this batch: 04011498					
GL158	Cyanide, Total	040130-1	040130BLK1	040130LCS1	04011459MS
Lab numbers associated with this batch: 04011489 04011493					
GL158	Cyanide, Total	040204-1	040204BLK1	040204LCS1	04011546RS 04011497MS
Lab numbers associated with this batch: 04011497					
GL213	Phenolic Compounds	040202-2	040202BLK2	040202LCS2	04011794MS
Lab numbers associated with this batch: 04011491 04011495 04011499					

- Quality Control Report Continued -





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Analytical Services, Inc.

Quality Control Report

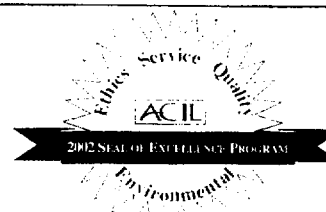
Method Blank, LCS, MS/MSD Data

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Client:

Date Reported: 02/11/2004
Date Sample Received: 01/23/2004
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Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Spiked Sample (% Recovery)		Limits	Spike Level	Units	Spiked Sample Precision Data		
					MS	MSD				RPD	Limit	
QC Batch: 040127-2	For samples prepared on: 01/27/2004				Spiked sample: 04010813							
Mercury, Total	ND(0.0002)	101	85.3-118	0.01	mg/L	114	110	86.1-122	0.005	mg/L	3.6	8.7
QC Batch: 040130-1	For sample analyzed on: 01/30/2004				Spiked sample: 04011459							
Cyanide, Total	ND(0.02)	93.9	83.4-112	0.2	mg/L	76.6	80.0	73.3-120	0.2	mg/L	4.3	10.9
QC Batch: 040202-1	For samples prepared on: 02/02/2004				Spiked sample: 04011463							
Cadmium, Total	ND(0.003)	104	91.3-106	0.5	mg/L	101	99.7	87.4-107	0.5	mg/L	1.3	3.9
Chromium, Total	ND(0.010)	103	88.8-108	0.5	mg/L	103	102	84.6-109	0.5	mg/L	1.0	5.9
Copper, Total	ND(0.020)	98.8	90.3-108	0.5	mg/L	103	104	87.6-113	0.5	mg/L	1.0	5.8
Lead, Total (ICP)	ND(0.005)	103.	89.6-105	0.5	mg/L	101	101	84.9-108	0.5	mg/L	0.0	4.9
Nickel, Total	ND(0.040)	101	91.0-105	0.5	mg/L	101	99.5	86.9-106	0.5	mg/L	1.5	3.9
Silver, Total	ND(0.010)	101	91.5-106	0.1	mg/L	106	104	90.5-110	0.1	mg/L	1.9	5.3
Zinc, Total	ND(0.020)	97.6	89.0-104	0.5	mg/L	98.1	96.6	84.8-108	0.5	mg/L	1.5	6.4
QC Batch: 040202-2	For sample analyzed on: 02/02/2004				Spiked sample: 04011794							
Phenolic Compounds	ND(0.005)	96.6	86.9-116	0.05	mg/L	76.2	143. K	51.0-152	0.05	mg/L	60.9	19.6
QC Batch: 040204-1	For sample analyzed on: 02/04/2004				Spiked sample: 04011497+							
Cyanide, Total	ND(0.02)	94.2	83.4-112	0.2	mg/L	87.2	82.2	73.3-120	0.2	mg/L	5.9	10.9
QC Batch: 040204-1	For sample analyzed on: 02/04/2004				Spiked sample: 04011546R							
Cyanide, Total	ND(0.02)	94.2	83.4-112	0.2	mg/L	0.0 K	0.0 K	73.3-120	0.2	mg/L	**	10.9
QC Batch: 040204-2	For samples prepared on: 02/04/2004				Spiked sample: 04020112							
Silver, Total	ND(0.010)	104	91.5-106	0.1	mg/L	101	103	90.5-110	0.1	mg/L	2.0	5.3
QC Batch: IMS1029	For sample analyzed on: 01/29/2004				Spiked sample: 04011164							
GC/MS Priority Pollutant Vol.												
1,1,1-Trichloroethane	ND(5.0)	102.	79.7-127	50	µg/L	98.8	96.1	81.1-127	50.0	µg/L	2.8	8.9
1,1,2,2-Tetrachloroethane	ND(5.0)	94.9	67.9-130	50	µg/L	81.9	99.3	67.5-140	50.0	µg/L	19.2	15.8
1,1,2-Trichloroethane	ND(5.0)	95.0	71.5-126	50	µg/L	97.0	105.	70.8-136	50.0	µg/L	7.9	13.6
1,1-Dichloroethane	ND(5.0)	102.	77.2-128	50	µg/L	106.	104.	80.4-134	50.0	µg/L	1.9	9.4
> 1,1-Dichloroethylene	ND(5.0)	109.	78.3-129	50	µg/L	119.	113.	74.0-133	50.0	µg/L	5.2	13.0
1,2-Dichloroethane	ND(5.0)	90.3	74.8-126	50	µg/L	79.9	82.4	74.2-131	50.0	µg/L	3.1	12.0
1,2-Dichloroethylene (Trans)	ND(5.0)	101.	75.9-126	50	µg/L	113.	110.	79.0-129	50.0	µg/L	2.7	9.5
1,2-Dichloropropane	ND(5.0)	105.	78.0-119	50	µg/L	90.9	91.8	81.6-124	50.0	µg/L	1.0	8.5
1,3-Dichloropropene (Trans)	ND(5.0)	99.1	72.5-131	50	µg/L	96.7	106.	68.5-133	50.0	µg/L	9.2	12.5
2-Chloroethylvinyl Ether	ND(5.0) BV	91.2 BV	46.2-148	100	µg/L	0.0 BV	0.0 BV	#	100	µg/L	**	#
Acrolein	ND(25) IV	118. IV	22.0-151	100	µg/L	79.3 IV	103. IV	6.00-156	100	µg/L	26.0	43.7
Acrylonitrile	ND(25)	105.	33.4-162	100	µg/L	82.8	102.	26.7-184	100	µg/L	20.8	18.5
> Benzene	ND(5.0)	103.	80.3-128	50	µg/L	102.	103.	80.2-129	50.0	µg/L	1.0	8.7
Bromodichloromethane	ND(5.0)	103.	79.5-124	50	µg/L	87.2	90.8	77.9-128	50.0	µg/L	4.0	9.8
Bromoform	ND(5.0)	97.4	65.9-147	50	µg/L	84.3	93.8	61.1-145	50.0	µg/L	10.7	17.0
Bromomethane	ND(5.0)	138.	48.7-150	50	µg/L	186.	131.	43.2-158	50.0	µg/L	34.7	21.6
Carbon Tetrachloride	ND(5.0)	100.	74.2-137	50	µg/L	96.5	95.4	74.4-129	50.0	µg/L	1.1	11.7
> Chlorobenzene	ND(5.0)	93.3	83.6-120	50	µg/L	108.	104.	82.5-118	50.0	µg/L	3.8	7.9
Chloroethane	ND(5.0)	118.	56.7-156	50	µg/L	149.	120.	55.2-155	50.0	µg/L	21.6	12.2
Chloroform	ND(5.0)	100.	73.1-127	50	µg/L	98.0	98.2	76.3-133	50.0	µg/L	0.2	10.7
Chloromethane	ND(5.0)	85.2	57.1-147	50	µg/L	129.	123.	55.0-152	50.0	µg/L	4.8	16.0
Dibromochloromethane	ND(5.0)	100.	73.1-137	50	µg/L	95.6	106.	71.7-134	50.0	µg/L	10.3	12.7
Ethylbenzene	ND(5.0)	100.	81.2-130	50	µg/L	109.	107.	80.8-123	50.0	µg/L	1.9	10.1
Nethylene Chloride	ND(5.0)	99.0	69.6-128	50	µg/L	110.	106.	71.3-137	50.0	µg/L	3.7	11.0





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Analytical Services, Inc.
Quality Control Report
Method Blank, LCS, MS/MSD Data

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Client:

Date Reported: 02/11/2004
Date Sample Received: 01/23/2004
Continental File No:
Continental Order No:

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Spike		Limits	Spike Level	Units	Spiked Sample Precision Data		
					Units	MS				MSD	RPD	Limit
QC Batch: 1MS1029				For sample analyzed on: 01/29/2004				Spiked sample: 04011184				
Tetrachloroethylene	ND(5.0)	98.1	78.0-130	50	µg/L	118.	113.	73.0-126	50.0	µg/L	4.3	11.5
> Toluene	ND(5.0)	94.3	82.6-124	50	µg/L	114.	113.	81.3-124	50.0	µg/L	0.9	9.0
> Trichloroethylene	ND(5.0)	105.	83.3-122	50	µg/L	96.6	96.7	79.9-126	50.0	µg/L	0.1	8.9
Vinyl Chloride	ND(2.0)	106.	69.2-144	50	µg/L	144.	124.	62.5-150	50.0	µg/L	14.9	12.9
1,2-Dichloroethylene (Cis)	ND(5.0)	97.7	75.6-123	50	µg/L	103.	103.	78.3-133	50.0	µg/L	0.0	9.9
1,3-Dichloropropene (Cis)	ND(5.0)	105.	74.7-134	50	µg/L	83.6	88.8	72.4-132	50.0	µg/L	6.0	10.3
Surrogates:												
1,2-Dichloroethane-d4	106.	107.	80.8-123	50	µg/L	92.5	93.3	80.8-123	50.0	µg/L		
Toluene-d8	112.	109.	88.2-117	50	µg/L	121. X	117.	88.2-117	50.0	µg/L		
4-BFB(MS)	107.	103.	80.5-119	50	µg/L	103.	100.	80.5-119	50.0	µg/L		

Standard Footnotes:

K = This analysis did not meet quality control criteria.

EV = Using the recommended analytical procedure, this analyte routinely yields low and/or variable recoveries. The stated reporting limit or concentration is an estimated value.

IV = The initial calibration verification (ICV) standard for this analyte was above the method or SOP limit. The reported sample concentration may be biased low.

- Limits not available.

** - RPD cannot be calculated.

> - This analyte is designated as a representative spike compound for this analysis. Recoveries for any additional analytes are provided for information only.

+ - The MS/MSD sample analyses were performed on this sample from this Continental order number.

-Quality Control Report Continued-





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Analytical Services, Inc.

Quality Control Report
Sample Surrogate Data

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Client:

Date Reported: 02/11/2004
Date Sample Received: 01/23/2004
Continental File No:
Continental Order No:

Surrogate	Date Prepared	Date Analyzed	Spike Level	Units	% Recovery	Acceptable % Limits
Lab Number: 04011492						
Sample Description:206-04 SP1						
GC/MS Priority Pollutant Vol.						
1,2-Dichloroethane-d4	NA	01/30/2004	50	µg/L	103.	80.8-123
Toluene-d8	NA	01/30/2004	50	µg/L	109.	88.2-117
4-BFB(MS)	NA	01/30/2004	50	µg/L	107.	80.5-119
Lab Number: 04011495						
Sample Description:207-04 SP2						
GC/MS Priority Pollutant Vol.						
1,2-Dichloroethane-d4	NA	01/30/2004	50	µg/L	117.	80.8-123
Toluene-d8	NA	01/30/2004	50	µg/L	107.	88.2-117
4-BFB(MS)	NA	01/30/2004	50	µg/L	109.	80.5-119
Lab Number: 04011500						
Sample Description:208-04 SP3						
GC/MS Priority Pollutant Vol.						
1,2-Dichloroethane-d4	NA	01/30/2004	50	µg/L	114.	80.8-123
Toluene-d8	NA	01/30/2004	50	µg/L	109.	88.2-117
4-BFB(MS)	NA	01/30/2004	50	µg/L	108.	80.5-119

-Quality Control Report Continued-

