

Sample Findings Summary

Site: CWL GWM

AR/COC: 612854, 612855, 612856,
612857, 612858

Data Type: Organic, Metals

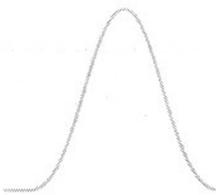
	VOC	75-05-8 (acetonitrile)	107-02-8 (acrolein)	78-83-1 (isobutyl alcohol)	107-12-0 (propionitrile)	67-64-1 (acetone)	75-27-4 (bromodichloromethane) ug/L	75-25-2 (bromoform) ug/L	67-66-3 (chloroform) ug/L	124-48-1 (dibromochloromethane) ug/L						
088556-001 CWL-BW3		UJ,I4	UJ,I4	UJ,I4	UJ,I4	UJ,C3										
088557-001 CWL-TB1		UJ,I4	UJ,I4	UJ,I4	UJ,I4	UJ,C3										
088558-001 CWL-BW4A		UJ,I4	UJ,I4	UJ,I4	UJ,I4	UJ,C3										
088559-001 CWL-TB2		UJ,I4	UJ,I4	UJ,I4	UJ,I4	UJ,C3										
088560-001 CWL-MW4		UJ,I4	UJ,I4	UJ,I4	UJ,I4	UJ,C3										
088561-001 CWL-FB1		UJ,I4	UJ,I4	UJ,I4	UJ,I4	UJ,C3										
088562-001 CWL-TB3		UJ,I4	UJ,I4	UJ,I4	UJ,I4	UJ,C3										
088563-001 CWL-EB1		UJ,I4	UJ,I4	UJ,I4	UJ,I4	UJ,C3										
088564-001 CWL-TB4		UJ,I4	UJ,I4	UJ,I4	UJ,I4	UJ,C3										
088565-001 CWL-MW6U		UJ,I4	UJ,I4	UJ,I4	UJ,I4	UJ,C3										
088566-001 CWL-MW6U		UJ,I4	UJ,I4	UJ,I4	UJ,I4	UJ,C3										
088567-001 CWL-FB2		UJ,I4	UJ,I4	UJ,I4	UJ,I4	UJ,C3	2.7U, B2	1.2U, B2	1.2U, B2	3.4U, B2						
088568-001 CWL-TB5		UJ,I4	UJ,I4	UJ,I4	UJ,I4	UJ,C3										
088569-001 CWL-EB2		UJ,I4	UJ,I4	UJ,I4	UJ,I4	UJ,C3										
088570-001 CWL-TB6		UJ,I4	UJ,I4	UJ,I4	UJ,I4	UJ,C3										

Validated By:

Kevin A Lambert

Kevin A. Lambert

Date: 06/11/10



Memorandum

Date: June 11, 2010
To: File
From: Kevin Lambert
Subject: GC/MS Organic Data Review and Validation – SNL
Site: CWL GWM
AR/COC: 612854, 612855, 612856, 612857, and 612858
SDG: 250538
Laboratory: GEL
Project/Task: 146422.10.11.01
Analysis: VOCs

See the attached Data Validation Worksheets for supporting documentation on the data review and validation. Data are evaluated using SNL/NM SMO AOP 00-03 Rev 2.

Summary

Fifteen samples were prepared and analyzed with accepted procedures using method EPA 8260B (VOCs). All compounds were successfully analyzed. Problems were identified with the data package that result in the qualification of data.

1. The initial calibration response factors (RFs) for acetonitrile, acrolein, isobutyl alcohol, and propionitrile were <0.05 but ≥ 0.01 . All associated sample results were non-detects and will be **qualified "UJ, I4."**
2. The calibration verification percent difference for acetone was $>40\%$ but $\leq 60\%$ with negative bias. The associated sample results were non-detects and will be **qualified "UJ,C3."**
3. In the equipment blank (EB), sample 250538-011, associated with samples -014, -016, and -018, bromodichloromethane, bromoform, chloroform, and dibromochloromethane were detected at concentrations $>$ the practical quantitation limits (PQLs). The bromodichloromethane, bromoform, chloroform, and dibromochloromethane results for sample -018 were detects $<5X$ the EB concentrations but $>$ the PQLs and will be **qualified respectively "2.7U,B2," "1.2U,B2," 1.2U,B2," and "3.4U,B2"** at the reported values (ug/L). All other associated sample results were non-detects and will not be qualified.

Data are acceptable and reported QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times

The samples were extracted and analyzed within the prescribed holding times and properly preserved.

Instrument Tune

All instrument tune requirements were met.

Calibration

The initial calibration and continuing calibration data met QC acceptance criteria except as noted above in the summary section and as follows.

The calibration verification percent differences for 2-butanone, 2-hexanone, and 4-methyl-2-pentanone were $>20\%$ but $\leq 40\%$ with negative bias (see VOC Organic Worksheet). All associated sample results were non-detects, and no other calibration infractions occurred for these analytes. Therefore, the associated sample results will not be qualified.

Blanks

No target analytes were detected in the blanks except as noted above in the summary section and as follows.

In the field blank (FB), sample -009, associated with sample -007, bromodichloromethane, bromoform, chloroform, and dibromochloromethane were detected at concentrations $>$ the PQLs. All associated sample results were non-detects and will not be qualified.

In the FB, sample -018, associated with samples -014 and 016, bromodichloromethane, bromoform, chloroform, and dibromochloromethane were detected at concentrations $>$ the PQLs. However, it should be noted that the associated sample results for the FB have already been qualified non-detect due to EB contamination and, thus, do not affect the field sample results.

Surrogates

All surrogate recoveries met QC acceptance criteria.

Internal Standards

All internal standards met QC acceptance criteria.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

The MS/MSD analyses met QC acceptance criteria.

Laboratory Control Sample (LCS)

All LCS recoveries met QC acceptance criteria.

Detection Limits/Dilutions

All detection limits were properly reported. The samples were not diluted.

Tentatively Identified Compounds (TICs)

TIC reports were not required.

Other QC

Trip blanks, FBs, EB, and field duplicate pair were submitted on the AR/COC(s). There are no "required" review criteria for field duplicate analyses comparability; no data will be qualified as a result. It should be noted that the EB on AR/COC# 612858 is associated with samples on AR/COC# 612859 from another SNL SDG.

No other specific issues that affect data quality were identified.

Memorandum

Date: June 11, 2010

To: File

From: Kevin Lambert

Subject: Inorganic Data Review and Validation – SNL
Site: CWL GWM
AR/COC: 612854, 612855, 612856, 612857, and 612858
SDG: 250538
Laboratory: GEL
Project/Task: 146422.10.11.01
Analysis: Metals

See the attached Data Validation Worksheets for supporting documentation on the data review and validation. This validation was performed according to SNL/NM ER Project AOP 00-03 Rev 2.

Summary

Seven samples were prepared and analyzed with approved procedures using methods EPA 6020 (ICP-MS metals) and EPA 7470A (CVAA mercury). Data were reported for all required analytes. Problems were identified with the data package that result in the qualification of data.

1. ICP-MS metals:

The Tl CRI recovery associated with sample 250538-002 and the Cu CRI recovery associated with all samples were >130%. The Tl result for sample -002 and the Cu results for samples -002, -005, and -008 were detects at <5X the practical quantitation limit (PQL) and will be **qualified “J+,DL2.”** All other associated sample results were non-detects and will not be qualified.

Tl was detected in a continuing calibration blank (CCB) associated with sample -002 at a concentration \geq the method detection limit (MDL) but < the PQL. The associated sample result was a detect <5X the CCB result and will be **qualified “0.0025U,B3”** at 5X the CCB value (mg/L). However, it should be noted that Tl result has already been qualified due to poor CRI recovery and will be **qualified “0.0025UJ”** with all appropriate reason code(s).

The original Cu result and/or replicate Cu result were > the PQL but <5X the PQL, and the difference between the original and replicate Cu result was > the PQL. The Cu results for samples -002, -005, and -008 were detects and will be **qualified “J,RP2.”** However, it should be noted that the associated Cu results have already been qualified due to poor CRI

recovery and will be **qualified “J+”** with all appropriate reason code(s). All other associated Cu results were non-detects and will be **qualified “UJ, RP2.”**

Data are acceptable and reported QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times and Preservation

The samples were analyzed within the prescribed holding times and properly preserved.

Calibration

All initial and continuing calibration QC acceptance criteria were met.

Reporting Limit Verification

All CRA/CRI recoveries met QC acceptance criteria.

Blanks

No target analytes were detected in the blanks except as noted above in the summary section and as follows.

Cu was detected in the method blank (MB) at concentration \geq the MDL but $<$ the PQL. The associated sample results were either non-detects or detects $>5X$ the MB result and will not be qualified.

Matrix Spike (MS)

All MS recoveries met QC acceptance criteria except as follows.

ICP-MS metals:

The MS had a Ca and Na concentrations $>4X$ the analyte spike concentrations and the MS recoveries did not meet QC acceptance criteria. However, according to AOP criteria, Ca and Na are not required MS analytes. No sample data will be qualified as a result.

Laboratory Replicate

The replicate analyses met all QC acceptance criteria except as noted above in the summary section.

Laboratory Control Sample (LCS)

All LCS recoveries met QC acceptance criteria.

Detection Limits/Dilutions

All detection limits were properly reported. No samples were diluted except as follows.

ICP-MS metals:

All samples were diluted $5X$ for several target analytes due to high concentrations and repeated instrument QC failures when analyzing undiluted results.

All associated batch QC samples were analyzed at dilution factors that resulted in relative dilution factors to the samples that were $\leq 5X$. No sample data will be qualified as a result.

ICP Interference Check Sample (ICS A and AB)

The results of the ICS A and AB analyses were not evaluated because the concentrations of Al, Ca, Fe, and Mg in the samples were $<$ those in the ICS solutions. No sample data will be qualified as a result.

ICP Serial Dilution

The serial dilution analyses met all QC acceptance criteria.

Other QC

An EB and field duplicate pair were submitted on the AR/COC(s). There are no "required" review criteria for field duplicate analyses comparability; no data will be qualified as a result. It should be noted that the EB on AR/COC# 612858 is associated with samples on AR/COC# 612859 from another SNL SDG.

No other specific issues that affect data quality were identified.

Site: CWL GWM

AR/COC: 612859, 612860, 612861, and 612862

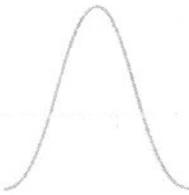
Organic, Metals

Sample ID	EPA 8260B (VOCs):							EPA 6020 (ICP-MS):	7440-28-0 (TI)	7440-62-2 (V)	7429-90-5 (Al)	EPA 7470A (CVAA):						
	74-87-3 (chloromethane)	67-66-3 (chloroform)	75-05-8 (acetonitrile)	107-02-8 (acrolein)	78-83-1 (isobutyl alcohol)	107-12-0 (propionitrile)												
088571-001 CWL-MW5U	1.0U,B2 (µg/L)		UJ,I4	UJ,I4	UJ,I4	UJ,I4						All Acceptance criteria met. No sample data will be qualified.						
088572-001 CWL-MW5U			UJ,I4	UJ,I4	UJ,I4	UJ,I4												
088573-001 CWL-FB3			UJ,I4	UJ,I4	UJ,I4	UJ,I4												
088574-001 CWL-TB7			UJ,I4	UJ,I4	UJ,I4	UJ,I4												
088575-001 CWL-MW6L			UJ,I4	UJ,I4	UJ,I4	UJ,I4												
088576-001 CWL-FB4			UJ,I4	UJ,I4	UJ,I4	UJ,I4												
088577-001 CWL-TB8			UJ,I4	UJ,I4	UJ,I4	UJ,I4												
088578-001 CWL-MW5L	1.0U,B2 (µg/L)		UJ,I4	UJ,I4	UJ,I4	UJ,I4												
088579-001 CWL-FB5			UJ,I4	UJ,I4	UJ,I4	UJ,I4												
088580-001 CWL-TB9			UJ,I4	UJ,I4	UJ,I4	UJ,I4												
088581-001 CWL-MW2BL	1.0U,B2 (µg/L)		UJ,I4	UJ,I4	UJ,I4	UJ,I4												
088582-001 CWL-FB6			UJ,I4	UJ,I4	UJ,I4	UJ,I4												
088583-001 CWL-TB10			UJ,I4	UJ,I4	UJ,I4	UJ,I4												
088571-009 CWL-MW5U								0.0043U,B3 (mg/L)	R,MS3	R,MS3								
088572-009 CWL-MW5U									R,MS3	R,MS3								
088575-009 CWL-MW6L									R,MS3									
088578-009 CWL-MW5L									R,MS3									
088581-009 CWL-MW2BL									R,MS3	R,MS3								

Validated By:

David Schwartz

Date: 05/26/10 (Revised 7-26-10 DJS)



Memorandum – Revised (2)

DATE: July 26, 2010
TO: File
FROM: David Schwent
SUBJECT: Organic GC/MS Data Review and Validation - SNL
Site: CWL GWM
AR/COC: 612859, 612860, 612861, and 612862
SDG: 250927
Laboratory: GEL
Project/Task No: 146422.10.11.01

See the attached Data Validation Worksheets for supporting documentation on the data review and validation. This validation was performed according to SNL/NM ER Project AOP 00-03 Rev 2.

Summary

All samples were prepared and analyzed with approved procedures using method EPA 8260B (VOCs). Problems were identified with the data package that result in the qualification of data.

Blanks: In the equipment blank (EB) (sample 250538-020) and the field blank (FB) (sample 250927-005), associated with samples 250927-001 and -003, chloromethane was detected at concentrations method detection limit (MDL) but < the practical quantitation limit (PQL). The associated result of sample -001 was a detect <5X the EB and FB concentrations and < the PQL and will be qualified "1.0U,B2" at the value of the PQL ($\mu\text{g/L}$).

Blanks: In the FB (sample 250927-013), associated with sample -011, chloroform was detected at a concentration > the PQL. The associated result of sample -011 was a detect <5X the FB concentration and < the PQL and will be qualified "1.0U,B2" at the value of the PQL ($\mu\text{g/L}$).

Blanks: In the FB (sample 250927-017), associated with sample -015, chloroform was detected at a concentration > the PQL. The associated result of sample -015 was a detect <5X the FB concentration and < the PQL and will be qualified "1.0U,B2" at the value of the PQL ($\mu\text{g/L}$).

Calibration: The initial calibration response factors (RFs) of acetonitrile, acrolein, isobutyl alcohol, and propionitrile were <0.05 but ≥ 0.01 . All associated sample results were non-detects (NDs) and will be qualified "UJ,I4."

Data are acceptable. QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times/Preservation

All samples were analyzed within the prescribed holding times and properly preserved.

Instrument Tune

All instrument tune requirements were met.

Calibration

All initial and continuing calibration QC acceptance criteria were met, except the following. The initial calibration verification (ICV) percent difference (%D) of pentachloroethane was >20% but ≤40% with negative bias. However, all associated sample results were NDs and no other calibration QC acceptance criteria were exceeded. Therefore, no sample data will be qualified as a result. The ICV and/or continuing calibration verification (CCV) %Ds of five target analytes were >20% with positive bias (see VOC Data Validation Worksheet). However, all associated sample results were NDs and will not be qualified.

Blanks

No target analytes were detected in the blanks, except as noted above in the summary section and the following. In the EB (sample 250538-020) and one or more of the FBs, samples 250927-005, -009, -013, and -017, bromodichloromethane, bromoform, chloroform, chloromethane, and dibromochloromethane were detected at concentrations > the MDLs. However, all associated sample results, except the results qualified above in the summary section, were NDs and will not be qualified.

Internal Standards (ISs)

All IS area and RT QC acceptance criteria were met.

Surrogates

All surrogate recovery and retention time QC acceptance criteria were met.

Laboratory Control Sample (LCS)

All LCS QC acceptance criteria were met.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

All MS/MSD (PS/PSD) QC acceptance criteria were met.

Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not requested.

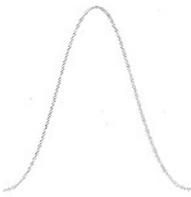
Detection Limits/Dilutions

All detection limits were reported correctly. No samples required dilution.

Other QC

No field duplicates (FDs) were submitted on the AR/COCs.

No other specific issues were identified that affect data quality.



Memorandum

DATE: May 26, 2010
TO: File
FROM: David Schwent
SUBJECT: Inorganic Data Review and Validation - SNL
Site: CWL GWM
AR/COC: 612859, 612860, 612861, and 612862
SDG: 250927
Laboratory: GEL
Project/Task No: 146422.10.11.01

See the attached Data Validation Worksheets for supporting documentation on the data review and validation. This validation was performed according to SNL/NM ER Project AOP 00-03 Rev 2.

Summary

The samples were prepared and analyzed with accepted procedures using methods EPA 6020 (ICP-MS) and EPA 7470A (CVAA). Problems were identified with the data package that result in the qualification of data.

ICP-MS Analysis:

Blanks: Tl was detected in the initial calibration blank (ICB) and continuing calibration blank (CCB) at concentrations > the method detection limit (MDL) but < the practical quantitation limit (PQL). The associated result of sample 250927-002 was a detect <5X the greatest calibration blank concentration (the CCB) and will be qualified "0.0043U,B3" at 5X the value of the CCB (mg/l). All other associated sample results were non-detects (NDs) and will not be qualified.

Blanks: V was detected in the ICB at a negative concentration with an absolute value > the MDL but < the PQL. All associated sample result were NDs and will be qualified "UJ,B4."

MS: The MS %Rs of Al and V were <30%. All associated sample results were NDs and will be qualified "R,MS3." It should be noted that V was previously qualified due to blank contamination, resulting in the final qualifier showed on the sample finding summary.

Data are acceptable. QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times/Preservation

All Analyses: All samples were analyzed within the prescribed holding times and properly preserved.

ICP-MS Instrument Tune

ICP-MS Analysis: All instrument tune requirements were met.

Calibration

All Analyses: All initial and continuing calibration QC acceptance criteria were met.

Reporting Limit Verification

ICP-MS Analysis: All CRI recoveries met QC acceptance criteria, the following. The CRI %R of Tl was > the QC acceptance limit. However, all associated sample results were NDs and will not be qualified. It should be noted that the Tl result of sample -002 was qualified "U" (ND) due to blank contamination.

CVAA Analysis: All CRA recoveries met QC acceptance criteria.

Blanks

ICP-MS Analysis: No target analytes were detected in the blanks, except as noted above in the summary

CVAA Analysis: No target analytes were detected in the blanks.

ICP-MS Internal Standards

ICP-MS Analysis: All ICP-MS internal standards intensities met QC acceptance criteria.

Matrix Spike (MS)

All Analyses: All MS QC acceptance criteria were met, except as noted above in the summary section.

Laboratory Replicate

All Analyses: All replicate QC acceptance criteria were met.

Laboratory Control Sample (LCS)

All Analyses: All LCS QC acceptance criteria were met.

Detection Limits/Dilutions

ICP-MS Analysis: All detection limits were properly reported. All samples were diluted 5X for many target analytes due to high native sample concentrations of an internal standard. All associated batch QC samples were diluted at dilution factors that resulted in relative dilution factors to the sample that were ≤5X. No sample data will be qualified as a result. No other samples required dilution.

CVAA Analysis: All detection limits were properly reported. No samples required dilution.

ICP Interference Check Sample (ICS A and AB)

ICP-MS Analysis: All ICS A and AB QC acceptance criteria were met, except the following. For samples -008, -012, and -016, the sample Ca concentrations were > the ICS A Ca concentration and the ICS A results for Ba and Cd were > the MDL. However, all associated sample results were either NDs or detects >50X the ICS A result and will not be qualified.

ICP Serial Dilution

ICP-MS Analysis: The serial dilution analysis met all QC acceptance criteria.

Other QC

All Analyses: No equipment blanks (EBs), field blanks (FBs), or field duplicates (FDs) were submitted on the AR/COCs.

No other specific issues that affect data quality were identified.

Memorandum

DATE: July 7, 2010
TO: File
FROM: David Schwent
SUBJECT: Inorganic Data Review and Validation - SNL
Site: CWL GWM
AR/COC: 612859, 612860, 612861, and 612862
SDG: 254619
Laboratory: GEL
Project/Task No: 146422.10.11.01

See the attached Data Validation Worksheets for supporting documentation on the data review and validation. This validation was performed according to SNL/NM ER Project AOP 00-03 Rev 2.

Summary

The samples were prepared and analyzed with accepted procedures using method EPA 6020 (ICP-MS). Problems were identified with the data package that result in the qualification of data.

ICP-MS Analysis:

MS: The MS percent recovery (%R) of V was <75% but $\geq 30\%$. All associated sample results were non-detects (NDs) and will be qualified "UJ,MS3."

Data are acceptable. QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times/Preservation

All samples were analyzed within the prescribed holding times and properly preserved.

ICP-MS Instrument Tune

All instrument tune requirements were met.

Calibration

All initial and continuing calibration QC acceptance criteria were met.

Reporting Limit Verification

All CRI QC acceptance criteria were met.

Blanks

No target analytes were detected in the blanks, except the following. V was detected in the continuing calibration blank (CCB) at a concentration > the method detection limit (MDL) but < the practical quantitation limit. However, all associated sample results were NDs and will not be qualified.

ICP-MS Internal Standards

All ICP-MS internal standards QC acceptance criteria were met.

Matrix Spike (MS)

All MS QC acceptance criteria were met, except as noted above in the summary section. It should be noted that a post spike (PS) analysis was performed as a second measure of matrix-specific accuracy. However, only the MS analysis was used to evaluate sample data.

Laboratory Replicate

All replicate QC acceptance criteria were met.

Laboratory Control Sample (LCS)

All LCS QC acceptance criteria were met.

Detection Limits/Dilutions

All detection limits were properly reported. Sample -005 was diluted 5X for V as per the laboratory SOP. All associated batch QC samples were diluted at dilution factors that resulted in relative dilution factors to the sample that were $\leq 5X$. No sample data will be qualified as a result. No other samples required dilution.

ICP Interference Check Sample (ICS A and AB)

Results of the ICS A and AB analyses were not evaluated because the concentrations of Al in the samples were < the concentration of Al in the ICS solution. No sample data will be qualified as a result.

ICP Serial Dilution

All serial dilution QC acceptance criteria were met.

Other QC

No field blanks (FBs) were submitted on the AR/COCs. All relative percent differences (RPDs) of the field duplicate (FD), sample -004, were <20%. There are no "required" review criteria for FD analysis comparability. No sample data will be qualified as a result.

No other specific issues that affect data quality were identified.