

DATA OF KNOWN QUALITY CONFORMANCE/NON-CONFORMANCE SUMMARY QUESTIONNAIRE

Laboratory Name : Alliance Technical Group LLC Client : R3M Engineering, Inc.
 Project Location : NJ Project Number : MC054.36 23-8-1 LM - Landing Lane New
 Laboratory Sample ID(s) : P5093 Sampling Date(s) : 12/04/2024

List DKQP Methods Used (e.g., 8260,8270, et Cetra) **,6010D,7470A,8081B,8082A,8260-Low,8270E,9012B,9060A,Sample Prep,Sampling**

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the NJDEP Data of Known Quality performance standards?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1A	Were the method specified handling, preservation, and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1B	EPH Method: Was the EPH method conducted without significant modifications (see Section 11.3 of respective DKQ methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Were samples received at an appropriate temperature (4±2° C)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
4	Were all QA/QC performance criteria specified in the NJDEP DKQP standards achieved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5	a)Were reporting limits specified or referenced on the chain-of-custody or communicated to the laboratory prior to sample receipt? b)Were these reporting limits met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the DKQP documents and/or site-specific QAPP?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Are project-specific matrix spikes and/or laboratory duplicates included in this data set?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information should be provided in an attached narrative. If the answer to question #1, #1A, or #1B is "No", the data package does not meet the requirements for "Data of Known Quality."

Cover Page

Order ID : P5093

Project ID : MC054.36 23-8-1 LM - Landing Lane New Brunswick

Client : R3M Engineering, Inc.

Lab Sample Number

P5093-01
P5093-02
P5093-03

Client Sample Number

LL-001
LL-001-FB-12-4-24
TB-12-4-24

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : _____

Date: 12/14/2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

CASE NARRATIVE

R3M Engineering, Inc.

Project Name: MC054.36 23-8-1 LM - Landing Lane New Brunswick

Project # N/A

Chemtech Project # P5093

Test Name: VOC-TCLVOA-10

A. Number of Samples and Date of Receipt:

3 Water samples were received on 12/04/2024.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Cyanide, Mercury, Metals ICP-TAL, PCB, Pesticide-TCL, SVOC-TCL BNA -20, TCL+30/TAL, TOC and VOC-TCLVOA-10. This data package contains results for VOC-TCLVOA-10.

C. Analytical Techniques:

The analysis performed on instrument MSVOA_X were done using GC column DB-624UI 20m 0.18mm 1.0 um. Cat#121-1324UI. The analysis of VOC-TCLVOA-10 was based on method 8260-Low.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The RPD met criteria .

The Blank Spike met requirements for all samples .

The Blank Spike Duplicate met requirements for all samples .

The Blank analysis did not indicate the presence of lab contamination.

The %RSD is greater than 20% in the Initial Calibration method (82X1121W.M) for Bromoform, this compound is passing on Quadratic Regression.

The Continuous Calibration met the requirements .

The Tuning criteria met requirements.

E. Additional Comments:

Samples for MS/MSD for VOC analysis were not provided with this set of samples. The Blank Spike Duplicate is reported with the data.

Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <20% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 20% for the Initial Calibration curve for SW-846 analysis.



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F. Manual Integration Comments:

Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

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CASE NARRATIVE

R3M Engineering, Inc.

Project Name: MC054.36 23-8-1 LM - Landing Lane New Brunswick

Project # N/A

Chemtech Project # P5093

Test Name: SVOC-TCL BNA -20

A. Number of Samples and Date of Receipt:

3 Water samples were received on 12/04/2024.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Cyanide, Mercury, Metals ICP-TAL, PCB, Pesticide-TCL, SVOC-TCL BNA -20, TCL+30/TAL, TOC and VOC-TCLVOA-10. This data package contains results for SVOC-TCL BNA -20.

C. Analytical Techniques:

The samples were analyzed on instrument BNA_F using GC Column DB-UI 8270D which is 20 meters, 0.18 mm ID, 0.36 um dfThe analysis of SVOC-TCL BNA -20 was based on method 8270E and extraction was done based on method 3510.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The RPD met criteria .

The Blank Spike for {PB165432BS} with File ID: BF140785.D met requirements for all samples except for 3,3-Dichlorobenzidine[68%], 3-Nitroaniline[63%] and 4-Chloroaniline[54%] . These compounds did not meet the NJDKQP criteria but met the in-house criteria .

The Blank Spike Duplicate for {PB165432BSD} with File ID: BF140786.D met requirements for all samples except for 3-Nitroaniline[62%], 4-Chloroaniline[49%] .

These compounds did not meet the NJDKQP criteria but met the in-house criteria .

The Blank analysis did not indicate the presence of lab contamination.

The % RSD is greater than 20% in the Initial Calibration (8270-BF112124.M) for Benzoic acid, Hexachlorocyclopentadiene, 2,4-Dinitrophenol, these compounds are passing on Linear Regression

The Continuous Calibration File ID BF140760.D met the requirements except for 2,4-Dinitrophenol,4,6-Dinitro-2-methylphenol and 4-Nitrophenol . But associated samples have not positive hit for these compounds therefore no corrective action was taken.



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The Continuous Calibration File ID BF140783.D met the requirements except for 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol and 4-Nitrophenol. But associated samples have not positive hit for these compounds therefore no corrective action was taken. The Tuning criteria met requirements.

E. Additional Comments:

Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <20% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 20% for the Initial Calibration curve for SW-846 analysis.

F. Manual Integration Comments:

Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

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CASE NARRATIVE

R3M Engineering, Inc.

Project Name: MC054.36 23-8-1 LM - Landing Lane New Brunswick

Project # N/A

Chemtech Project # P5093

Test Name: Pesticide-TCL

A. Number of Samples and Date of Receipt:

3 Water samples were received on 12/04/2024.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Cyanide, Mercury, Metals ICP-TAL, PCB, Pesticide-TCL, SVOC-TCL BNA -20, TCL+30/TAL, TOC and VOC-TCLVOA-10. This data package contains results for Pesticide-TCL.

C. Analytical Techniques:

The analyses were performed on instrument GCECD_D. The front column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 um df, Catalog #: 7HM-G017-11 . The rear column is ZBMR1 which is 30 meters, 0.32 mm ID, 0.5 um df, Catalog # 7HM-G016-17. The analysis of Pesticide-TCLs was based on method 8081B and extraction was done based on method 3510.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria.

The Retention Times were acceptable for all samples.

The RPD met criteria .

The Blank Spike met requirements for all samples .

The Blank Spike Duplicate met requirements for all samples .

The Blank analysis did not indicate the presence of lab contamination.

The Initial Calibration met the requirements .

The Continuous Calibration met the requirements .

E. Additional Comments:

F. Manual Integration Comments:

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CASE NARRATIVE

R3M Engineering, Inc.

Project Name: MC054.36 23-8-1 LM - Landing Lane New Brunswick

Project # N/A

Chemtech Project # P5093

Test Name: PCB

A. Number of Samples and Date of Receipt:

3 Water samples were received on 12/04/2024.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Cyanide, Mercury, Metals ICP-TAL, PCB, Pesticide-TCL, SVOC-TCL BNA -20, TCL+30/TAL, TOC and VOC-TCLVOA-10. This data package contains results for PCB.

C. Analytical Techniques:

The analyses were performed on instrument GCECD_P. The front column is ZB-MR1 which is 30 meters, 0.32 mm ID, 0.5 um df, Catalogue # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 µm; Catalogue # 7HM-G017-11. The analysis of PCBs was based on method 8082A and extraction was done based on method 3510.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria.

The Retention Times were acceptable for all samples.

The RPD met criteria .

The Blank Spike met requirements for all samples .

The Blank Spike Duplicate met requirements for all samples .

The Blank analysis did not indicate the presence of lab contamination.

The Initial Calibration met the requirements .

The Continuous Calibration met the requirements .

E. Additional Comments:

F. Manual Integration Comments:

Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

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CASE NARRATIVE

R3M Engineering, Inc.

Project Name: MC054.36 23-8-1 LM - Landing Lane New Brunswick

Project # N/A

Chemtech Project # P5093

Test Name: Metals ICP-TAL,Mercury

A. Number of Samples and Date of Receipt:

3 Water samples were received on 12/04/2024.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Cyanide, Mercury, Metals ICP-TAL, PCB, Pesticide-TCL, SVOC-TCL BNA -20, TCL+30/TAL, TOC and VOC-TCLVOA-10. This data package contains results for Metals ICP-TAL,Mercury.

C. Analytical Techniques:

The analysis of Metals ICP-TAL was based on method 6010D, digestion based on method 3010 (waters). The analysis and digestion of Mercury was based on method 7470A.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Blank Spike met criteria for all samples.

The Duplicate analysis met criteria for all samples.

The Matrix Spike (COMPMS) analysis met criteria for all samples except for Mercury due to sample matrix interference.

The Matrix Spike Duplicate (COMPMSD) analysis met criteria for all samples except for Mercury due to sample matrix interference.

The Blank analysis did not indicate the presence of lab contamination.

The Calibration met the requirements.

The Serial Dilution met the acceptable requirements.

E. Additional Comments:

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CASE NARRATIVE

R3M Engineering, Inc.

Project Name: MC054.36 23-8-1 LM - Landing Lane New Brunswick

Project # N/A

Chemtech Project # P5093

Test Name: Cyanide, TOC

A. Number of Samples and Date of Receipt:

3 Water samples were received on 12/04/2024.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Cyanide, Mercury, Metals ICP-TAL, PCB, Pesticide-TCL, SVOC-TCL BNA -20, TCL+30/TAL, TOC and VOC-TCLVOA-10. This data package contains results for Cyanide, TOC.

C. Analytical Techniques:

The analysis of Cyanide was based on method 9012B and The analysis of TOC was based on method 9060A.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Blank Spike met requirements for all samples.

The Duplicate analysis met criteria for all samples.

The Matrix Spike analysis met criteria for all samples.

The Matrix Spike Duplicate analysis met criteria for all samples.

The Blank analysis did not indicate the presence of lab contamination.

The Calibration met the requirements.

E. Additional Comments:

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DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following “ Results Qualifiers” are used:

J	Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
U	Indicates the analyte was analyzed for, but not detected.
ND	Indicates the analyte was analyzed for, but not detected
E	Indicates the reported value is estimated because of the presence of interference
M	Indicates Duplicate injection precision not met.
N	Indicates the spiked sample recovery is not within control limits.
S	Indicates the reported value was determined by the Method of Standard Addition (MSA).
*	Indicates that the duplicate analysis is not within control limits.
+	Indicates the correlation coefficient for the MSA is less than 0.995.
D	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
M	Method qualifiers “P” for ICP instrument “PM” for ICP when Microwave Digestion is used “CV” for Manual Cold Vapor AA “AV” for automated Cold Vapor AA “CA” for MIDI-Distillation Spectrophotometric “AS” for Semi -Automated Spectrophotometric “C” for Manual Spectrophotometric “T” for Titrimetric “NR” for analyte not required to be analyzed
OR	Indicates the analyte’s concentration exceeds the calibrated range of the instrument for that specific analysis.
Q	Indicates the LCS did not meet the control limits requirements
H	Sample Analysis Out Of Hold Time

DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following “Results Qualifiers” are used:

Value	If the result is a value greater than or equal to the detection limit, report the value
U	Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. “10 U”. This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required.
ND	Indicates the analyte was analyzed for, but not detected
J	Indicates an estimated value. This flag is used: (1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.) (2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others.
B	Indicates the analyte was found in the blank as well as the sample report as “12 B”.
E	Indicates the analyte ‘s concentration exceeds the calibrated range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
P	This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a “P”.
N	This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.
A	This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product.
Q	Indicates the LCS did not meet the control limits requirements

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: P5093

Completed

For thorough review, the report must have the following:

GENERAL:

Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)

✓

Check chain-of-custody for proper relinquish/return of samples

✓

Is the chain of custody signed and complete

✓

Check internal chain-of-custody for proper relinquish/return of samples /sample extracts

✓

Collect information for each project id from server. Were all requirements followed

✓

COVER PAGE:

Do numbers of samples correspond to the number of samples in the Chain of Custody on login page

✓

Do lab numbers and client Ids on cover page agree with the Chain of Custody

✓

CHAIN OF CUSTODY:

Do requested analyses on Chain of Custody agree with form I results

✓

Do requested analyses on Chain of Custody agree with the log-in page

✓

Were the correct method log-in for analysis according to the Analytical Request and Chain of Custody

✓

Were the samples received within hold time

✓

Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle

✓

ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: SOHIL JODHANI

Date: 12/14/2024