

N00109.AR.002982  
NWS YORKTOWN  
5090.3a

VALIDATED DATA PACKAGE, A405068, NWS YORKTOWN VA  
12/16/2014  
CH2M HILL

## Data Validation Summary

### Yorktown CTO-WE35 Site 6

TO: Clairette Campbell/VBO  
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FROM: Tiffany McGlynn/GNV

CC: Herb Kelly/GNV

DATE: December 16, 2014

#### Introduction

The following data validation report discusses the data validation process and findings for ENCO Laboratories, for SDGs A405068.

Samples were analyzed using the following analytical methods:

- SW8260B Volatiles
- SW8260\_SIM Volatiles
- SW6020A Metals, total and dissolved
- SW8330B Explosives

The samples included in these SDGs are listed in the table below.

Sample Name	Matrix
YS06-EB01-103114-GW	Water
YS06-GW17A-1014	Water
YS06-GW17B-1014	Water
YS06-TB01-103114	Water

#### Data Evaluation

Data was evaluated in accordance with the analytical methods and with the criteria found in the following guidance documents: Sampling and Analysis Plan Site 6 Data Gap Investigation, Naval Weapons Station Yorktown, Yorktown, Virginia Contract Task Order WE35 (March 2014) and Region III Modifications for Organic Data Review (EPA 1994), and Region III Modifications for Inorganic Data Review (EPA 1993), as applicable. The samples were evaluated based on the following criteria:

- Data Completeness
- Technical Holding Times
- Instrument Tuning
- Initial/Continuing Calibrations
- Blanks
- Internal Standards
- Serial Dilution
- Laboratory Control Samples
- Matrix Spike Recoveries
- Surrogates
- Column Confirmation
- Field Duplicates
- Identification/Quantitation
- Interference Check Sample
- Reporting Limits
- Total vs. Dissolved

### **Overall Evaluation of Data/Potential Usability Issues**

Specific details regarding qualification of the data are addressed in the sections below. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte, the validator has chosen the qualifier that best indicates possible bias in the results and qualified these data accordingly.

#### **Data Completeness**

The SDG was received complete and intact.

### Technical Holding Times

According to the chain of custody records, sampling was performed on 10/31/14. Samples were received at the laboratory on 11/1/14. All sample preparation analysis was performed within holding time requirements.

### Total vs. Dissolved

For sample YS06-GW17A-1014, manganese did not meet RPD criteria for total and dissolved metals. Affected data are summarized in below.

Sample ID	Compound	Q Flag	Qual Code
YS06-GW17A-1014	Manganese	J	OT
YS06-GW17A-1014	Manganese, diss	J	OT

### Conclusion

These data can be used in the project decision-making process as qualified by the data quality evaluation process.

Please do not hesitate to contact us about this validation report.

Sincerely,



Tiffany McGlynn

## Qualification Flags

Exclude	More appropriate data exist for this analyte.
R	Data were rejected for use.
UL	Analyte not detected, quantitation limit is potentially biased low.
UJ	Analyte not detected, estimated quantitation limit.
U	Analyte not detected.
B	Not detected substantially above the level reported in laboratory or field blanks.
L	Analyte present, estimated value potentially biased low.
K	Analyte present, estimated value potentially biased high.
N	Analyte identification presumptive; no second column analysis performed or GC/MS tentative identification.
J	Analyte present, estimated value.
NJ	Analysis indicates the presence of an analyte that was "tentatively identified" and the associated value represents its approximate concentration.
None	Placeholder for calculating quality control issues that do not require flagging.
=	Analyte was detected at a concentration greater than the quantitation limit.

## Qualifier Code Reference

<b>Value</b>	<b>Description</b>
%SOL	High Moisture content
2C	Second Column – Poor Dual Column Reproducibility
2S	Second Source – Bad reproducibility between tandem detectors
BD	Blank Spike/Blank Spike Duplicate(LCS/LCSD) Precision
BRL	Below Reporting Limit
BSH	Blank Spike/LCS – High Recovery
BSL	Blank Spike/LCS – Low Recovery
CC	Continuing Calibration
CCBL	Continuing Calibration Blank Contamination
CCH	Continuing Calibration Verification – High Recovery
CCL	Continuing Calibration Verification – Low Recovery
DL	Redundant Result – due to Dilution
EBL	Equipment Blank Contamination
EMPC	Estimated Possible Maximum Concentration
ESH	Extraction Standard - High Recovery
ESL	Extraction Standard - Low Recovery
FBL	Field Blank Contamination
FD	Field Duplicate
HT	Holding Time
ICB	Initial Calibration – Bad Linearity or Curve Function
ICH	Initial Calibration – High Relative Response Factors
ICL	Initial Calibration – Low Relative Response Factors
IR15	Ion ratio exceeds +/- 15% difference
ISH	Internal Standard – High Recovery
ISL	Internal Standard – Low Recovery
LD	Lab Duplicate Reproducibility
LR	Concentration Exceeds Linear Range
MBL	Method Blank Contamination
MDP	Matrix Spike/Matrix Spike Duplicate Precision
MI	Matrix interference obscuring the raw data

MSH	Matrix Spike and/or Matrix Spike Duplicate – High Recovery
MSL	Matrix Spike and/or Matrix Spike Duplicate – Low Recovery
OT	Other
PD	Pesticide Degradation
RE	Redundant Result - due to Reanalysis or Re-extraction
SD	Serial Dilution Reproducibility
SSH	Spiked Surrogate – High Recovery
SSL	Spiked Surrogate – Low Recovery
TBL	Trip Blank Contamination
TN	Tune