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MCB CAMP LEJUENE
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VALIDATED DATA PACKAGE, A407419, MCB CAMP LEJUENE NC
2/13/2015
ENVIRONMENTAL DATA SERVICES

**DATA VALIDATION SUMMARY REPORT
MCB CAMP LEJEUNE, NORTH CAROLINA**

Client: CH2M HILL, Inc., Virginia Beach, Virginia
SDG: A407419
Laboratory: Environmental Conservation Laboratories, Inc., Orlando, Florida
Site: MCB Camp Lejeune, LTM FY2015 Q1, Site 3, CTO-WE86
Date: February 13, 2015

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	IR03-GW06-14D	A407419-01	Water
2	IR03-GW11-14D	A407419-02	Water
2MS	IR03-GW11-14DMS	A407419-02MS	Water
2MSD	IR03-GW11-14DMSD	A407419-02MSD	Water

A full data validation was performed on the analytical data for two water samples collected on December 11, 2014 by CH2M HILL at MCB Camp Lejeune in North Carolina. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions".

Specific method references are as follows:

Analysis

SVOCs
PAH

Method References

USEPA SW-846 Method 8270D
USEPA SW-846 Method 8270DSIM

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the USEPA National Functional Guidelines for Organic Data Review as follows:

- The USEPA "Contract Laboratories Program National Functional Guidelines for Superfund Organic Methods Data Review," June 2008;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography/Mass Spectroscopy (GC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field blank contamination
- Surrogate Spike recoveries

- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Tentatively Identified Compounds (TICs)
- Field Duplicate sample precision

A full (Level IV) data validation was performed with this review including a recalculation of 10% of the detected results in the samples.

Overall Usability Issues:

There were no rejections of data. Overall the data is acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedences of QC criteria.

Semivolatile Organic Compounds (SVOC/PAH)

Holding Times

- All samples were extracted within 7 days for water samples and analyzed within 40 days.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All %RSD and/or correlation coefficients and mean RRF criteria were met.

Continuing Calibration

- All %D and RRF criteria were met.

Method Blank

- The method blanks were free of contamination.

Field Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
IR03-EB02-121114-GW (SDG A406845)	Naphthalene	0.051	U	1, 2

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD sample exhibited acceptable %R and RPD values except the following.

MS/MSD Sample ID	Compound	MS %R/MSD %R/ RPD	Qualifier
2	Dibenzofuran	OK/OK/37	None for RPD Alone

Laboratory Control Samples

- The LCS samples exhibited acceptable percent recoveries (%R).

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria except for IS6-perylene-d12. However, this internal standard is not associated with the reported compound and no qualifications were required.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Tentatively Identified Compounds (TICs)

- TICs were not reported.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed:

Nancy Weaver

Nancy Weaver
Senior Chemist

Dated: 2/17/15

Data Qualifiers

- U = The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.
- UJ = The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
- J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).
- J+ = The result is an estimated quantity, but the result may be biased high.
- J- = The result is an estimated quantity, but the result may be biased low.
- R = The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
- NJ = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

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ORGANIC ANALYSIS DATA SHEET

EPA 8270D

IR03-GW11-14D

Laboratory: ENCO Orlando SDG: A407419-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 3
 Matrix: Ground Water Laboratory ID: A407419-02 File ID: 1ab007.D
 Sampled: 12/11/14 11:40 Prepared: 12/17/14 08:50 Analyzed: 01/07/15 16:14
 Solids: Preparation: EPA 3510C_MS Initial/Final: 500 mL / 0.5 mL
 Batch: 4L17008 Sequence: AA32052 Calibration: 1501007 Instrument: OSVGCMS1

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
132-64-9	Dibenzofuran	1	<3.0	UQ	2.8	3.0	10

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorophenol	50.0	26	52	19 - 119	
Phenol-d5	50.0	21	43	10 - 115	
Nitrobenzene-d5	50.0	33	66	44 - 120	
2-Fluorobiphenyl	50.0	36	72	44 - 119	
2,4,6-Tribromophenol	50.0	36	72	43 - 140	
Terphenyl-d14	50.0	51	102	50 - 134	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
1,4-Dichlorobenzene-d4	302586	6.836	312803	6.966	
Naphthalene-d8	1160990	8.415	1202138	8.546	
Acenaphthene-d10	609141	10.622	663746	10.753	
Phenanthrene-d10	971552	12.489	1098576	12.637	
Chrysene-d12	580148	16.054	565336	16.253	
Perylene-d12	426722	19.006	404946	19.226	*

* Values outside of QC limits

NW 2/13/15