M67001.AR.006985
MCB CAMP LEJEUNE
5090.3a

VALIDATED DATA PACKAGE, A501431, MCB CAMP LEJEUNE NC
5/20/2015
ENVIRONMENTAL DATA SERVICES

ENVIRONMENTAL
Data Services, Inc.

DATA VALIDATION SUMMARY REPORT
MCB CAMP LEJEUNE, NORTH CAROLINA

Client: CH2M HILL, Inc., Virginia Beach, Virginia
SDG: A501431
Laboratory: Environmental Conservation Laboratories, Inc., Orlando, Florida
Site: MCB Camp Lejeune, LTM FY2015 Q2, Sites 6/82, CTO-WE86
Date: May 20, 2015

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	IR06-GW04-15A	A501431-01	Water
1MS†	IR06-GW04-15AMS	A501431-01MS	Water
1MSD†	IR06-GW04-15AMSD	A501431-01MSD	Water
1RE†	IR06-GW04-15ARE	A501431-01RE	Water
2	IR06-GW04D-15A	A501431-02	Water
2RE†	IR06-GW04D-15ARE	A501431-02RE	Water
3	IR06-GW16-15A	A501431-03	Water
3REβ	IR06-GW16-15ARE	A501431-03RE	Water
4*	IR06-GW16IW-15A	A501431-04	Water
5	IR06-GW31-15A	A501431-05	Water
5RE†	IR06-GW31-15ARE	A501431-05RE	Water
6*	IR06-GW31DW-15A	A501431-06	Water
7*	IR06-GW37D-15A	A501431-07	Water
7RE*	IR06-GW37D-15ARE	A501431-07RE	Water
8*	IR06-GW54IW-15A	A501431-08	Water
9*	IR06-GW54DW-15A	A501431-09	Water
10	IR06-GW55-15A	A501431-10	Water
10RE†	IR06-GW55-15ARE	A501431-10RE	Water
11*	IR06-GW57IW-15A	A501431-11	Water
12*	IR06-GW59IW-15A	A501431-12	Water
13*	IR06-GW63DW-15A	A501431-13	Water
14	IR06-GW64-15A	A501431-14	Water
14RE†	IR06-GW64-15ARE	A501431-14RE	Water
15*	IR06-GW69LCH-15A	A501431-15	Water
15RE*	IR06-GW69LCH-15ARE	A501431-15RE	Water
16*	IR06-GW70LCH-15A	A501431-16	Water
17*	IR06-GW73LCH-15A	A501431-17	Water
17MS*	IR06-GW73LCH-15AMS	A501431-17MS	Water
17MSD*	IR06-GW73LCH-15AMSD	A501431-17MSD	Water
18*	IR06-GW74LCH-15A	A501431-18	Water
19*	IR06-GW74LCHD-15A	A501431-19	Water
20*	IR06-GW75UCH-15A	A501431-20	Water
21*	IR06-GW76UCH-15A	A501431-21	Water
22	IR06-GW80-15A	A501431-22	Water
22REβ	IR06-GW80-15ARE	A501431-22RE	Water
23	IR06-EB01-030915	A501431-23	Water

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
24*	IR06-TB-031015	A501431-24	Water

* - VOCs only † - Metals only β - VOCs and Metals only

A full data validation was performed on the analytical data for twenty-two water samples, one aqueous equipment blank sample, and one aqueous trip blank sample collected on December 12, 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	*Method References*
VOCs	USEPA SW-846 Method 8260B
Metals/Hg	USEPA SW-846 Methods 6020A/7470A

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 and Inorganic Data Review as follows:

- The USEPA "Contract Laboratories Program National Functional Guidelines for Superfund Organic Methods Data Review," June 2008;
- The USEPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review," January 2010;
- 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

Inorganics

- Holding times and sample preservation
- ICP/MS Tuning

- Initial and continuing calibration verifications
- Method blank and field blank contamination
- ICP Interference Check Sample
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike Analysis
- Duplicate Sample Analysis
- ICP Serial Dilution
- Compound Quantitation
- 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.

Volatile Organic Compounds (VOC)

Holding Times

- All samples were analyzed within 14 days for preserved water samples.

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
IR06-EB01-030915	None - ND	-	-	-
IR06-TB-031015	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values except the following.

Sample ID	Surrogate	%R	Qualifier
3	4-Bromofluorobenzene	142%	J - Positive Results
3RE	Toluene-d8	88%	J/UJ
22	4-Bromofluorobenzene	125%	J - Positive Results

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

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

MS/MSD Sample ID	Compound	MS %R/MSD %R/ RPD	Qualifier	Affected Samples
17	Benzene	125%/122%/OK	None	Sample ND

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.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- EDS Sample ID #s 3, 7, 15, and 22 exhibited several compounds exceeding the instrument calibration range and were flagged (E) by the laboratory. The samples were reanalyzed at a dilution and the dilution results for these compounds should be used for reporting purposes.

Tentatively Identified Compounds (TICs)

- TICs were not reported.

Field Duplicate Sample Precision

- Field duplicate results are summarized below.

VOCs				
Compound	IR06-GW04-15A ug/L	IR06-GW04D-15A ug/L	RPD	Qualifier
None	ND	ND	-	-

VOCs				
Compound	IR06-GW74LCH-15A ug/L	IR06-GW74LCHD-15A ug/L	RPD	Qualifier
Vinyl chloride	3.3	2.9	13%	None
cis-1,2-Dichloroethene	7.5	7.9	5%	

Metals & Mercury

Holding Times

- All samples were prepared and analyzed within 28 days for mercury and 180 days for all other metals.

Initial Calibration Verification

- All initial calibration criteria were met.

Continuing Calibration Verification

- All continuing calibration criteria were met.

Method Blank

- The method blanks exhibited the following contamination.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
5C11045-BLK1	Aluminum	0.406	None	All >10X
	Arsenic	0.083	None	All ND or >10X
	Magnesium	13.3	None	All >10X
	Manganese	0.103	None	
	Nickel	0.005	None	

Field Blank

- The field QC samples exhibited the following contamination.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
IR06-EB01-030915	Copper	0.416	U	1, 2, 3, 5, 10, 14, 22
	Iron	4.02	None	All >10X
	Manganese	1.02	U	1, 2

ICP Interference Check Sample

- The ICP interference check sample exhibited acceptable %R values.

Laboratory Control Samples

- The LCS sample exhibited acceptable recoveries.

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

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

ICP Serial Dilution

- ICP serial dilution percent differences (%D) were within acceptance limits except the following. For a high %D, positive results are considered estimated and qualified (J). Results are valid and usable, however possibly biased.

ICP Sample ID	Compound	%D	Qualifier	Affected Samples
1	Sodium	11%	J	1, 2, 3, 5, 10, 14, 22
	Vanadium	11%	J	
	Zinc	14%	J	

Compound Quantitation

- Several analytes in several samples exceeded the calibration range of the instrument and were flagged (E) by the laboratory. The samples were reanalyzed at a dilution and these analytes were reported and should be used for reporting purposes.

Field Duplicate Sample Precision

- Field duplicate results are summarized below.

Metals				
Compound	IR06-GW04-15A ug/L	IR06-GW04D-15A ug/L	RPD	Qualifier
Aluminum	2200	1990	10%	None
Antimony	0.145	0.440U	NC	
Barium	15.9	15.6	2%	
Calcium	5290	5190	2%	
Chromium	2.38	2.17	9%	
Iron	338	302	11%	
Lead	0.381	0.343	10%	
Magnesium	447	377	17%	
Nickel	0.781	0.730	7%	
Potassium	139	120	15%	
Sodium	5650	5930	5%	
Vanadium	2.56	2.01	24%	
Zinc	7.47	5.27	35%	None - See ICP SD

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

Signed: Nancy Weaver Dated: 5/25/15

Nancy Weaver
Senior Chemist

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.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\031215\3CG018.D Vial: 14
Acq On : 12 Mar 2015 15:48 Operator: KKW
Sample : A501431-06 ENS #6 Inst : OVGCMS3
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 13 6:38 2015 Quant Results File: 030415.RES

Quant Method : C:\HPCHEM\1\METHODS\030415.M (RTE Integrator)
Title : ENCO SOPVGCMS/05;element cal 1503016
Last Update : Fri Mar 06 07:57:27 2015
Response via : Initial Calibration
DataAcq Meth : ESTVOA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene(IS)	10.89	168	411272	50.00 ug/L	0.00
38) 1,4-Difluorobenzene(IS)	11.46	114	608946	50.00 ug/L	0.00
58) Chlorobenzene-d5(IS)	14.13	117	497880	50.00 ug/L	0.00
81) 1,4-Dichlorobenzene-d4(IS)	16.38	152	277003	50.00 ug/L	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	10.47	113	198684	50.97 ug/L	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 101.94%		
44) 1,2-Dichloroethane-d4	11.04	65	189809	41.60 ug/l	0.00
Spiked Amount 50.000	Range 45 - 174		Recovery = 83.20%		
56) D8-Toluene	12.75	98	569351	48.28 ug/L	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 96.56%		
77) Bromofluorobenzene	15.22	95	226055	52.25 ug/L	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 104.50%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		N.D.	
3) Chloromethane	0.00	50		N.D. d	
4) Vinyl Chloride	0.00	62		N.D. d	
5) Bromomethane	0.00	94		N.D. d	
6) Chloroethane	0.00	64		N.D. d	
7) Trichlorofluoromethane	0.00	101		N.D.	
8) Trichlorotrifluoroethane	0.00	101		N.D.	
9) acrolein	0.00	56		N.D. d	
10) Acetone	8.39	43	8595	6.43 ug/L	91
11) 1,1-Dichloroethene	0.00	96		N.D.	
12) 3-Chloropropene	0.00	76		N.D.	
13) Acetonitrile	0.00	41		N.D. d	
14) Iodomethane	0.00	142		N.D.	
15) Carbon disulfide	0.00	76		N.D.	
16) Methylene Chloride	0.00	84		N.D.	
17) Methyl tert-butyl ether	0.00	73		N.D.	
18) Acrylonitrile	0.00	53		N.D. d	
19) T-1,2-Dichloroethene	8.55	96	29790	7.14 ug/L	98
20) Isopropyl Ether	0.00	45		N.D.	
21) C-1,2-Dichloroethene	9.99	96	338496	75.82 ug/L	97
22) 1,1-Dichloroethane	0.00	63		N.D.	
23) Vinyl Acetate	0.00	43		N.D.	
24) Chloroprene	0.00	53		N.D.	
25) 2-Butanone	0.00	72		N.D. d	
26) Propionitrile	0.00	54		N.D. d	
27) 2,2-Dichloropropane	0.00	77		N.D.	
28) Methacrylonitrile	0.00	67		N.D. d	
29) Chloroform	0.00	83		N.D.	
31) Dibromofluoromethane	10.47	113	198684	50.97 ug/L	100
32) Bromochloromethane	0.00	128		N.D.	
33) 1,1,1-Trichloroethane	0.00	97		N.D.	
34) 1,1-Dichloropropene	0.00	75		N.D.	
35) Diethyl ether	0.00	59		N.D.	
36) Methyl Acetate	0.00	74		N.D. d	
37) Cyclohexane	0.00	56		N.D.	
39) Methyl Cyclohexane	0.00	55		N.D. d	
40) Carbon Tetrachloride	0.00	117		N.D.	
41) 1,2-Dichloroethane	0.00	62		N.D.	
42) Benzene	10.91	78	37574	2.50 ug/L #	54
43) Isobutyl Alcohol	0.00	43		N.D. d	
45) 1,2-Dichloroethane-d4	11.04	65	189809	41.60 ug/l #	97

$$\frac{338496 \times 50}{411272 \times 0.5427} = 75.82$$

(#) = qualifier out of range (m) = manual integration

| Pb 206
| Pb 207
|- Pb 208

QC Out of Limits

Measurem	Analyte	Mass	Out of Limits Message
Al 27 Uppe	Al	27	Al ULR = ? ppm

QC Action

QC Action I No QC out of limits detected

SOP MET-15 - Summary Report EDS # 2

Sample ID: A501431-02

Sample Dat Wednesday, March 25, 2015 10:25:58

Sample Typ Sample

Instrument Description: OMICPMS1 S/N W0540312H

Number of 3

Sample File C:\Elandata\Sample\Mar 2015\032515.sam

Method Fil C:\Elandata\Method\Mar 2015\032515_RP1_DOD.mth

Dataset File C:\Elandata\DataSet\Mar 2015\032515\A501431-02.045

Tuning File C:\Elandata\Tuning\Mar 2015\032515.tun

Optimizatic C:\Elandata\Optimize\Mar 2015\032515.dac

Concentration Results

	Analyte	Mass	Meas. Inte	Net Intens.	Conc. Mea	Conc. SD	Conc. RSD	Sample Uni
|-	Be	9	15.333	3.05E-05	-0.009	0.0183	204.4266	ug/L
|	Na	23	4475095	14.30633	5927.058	74.5094	1.2571	ug/L ≈ 5930
|	Mg	24	372179.4	1.189422	376.522	25.4103	6.7487	ug/L ≈ 377
|	Al	27	2171283	6.942807	1890.182	33.9893	1.7982	ug/L ≈ 1890
|	K	39	248895	0.67503	119.524	4.9251	4.1206	ug/L ≈ 120
|	Ca	43	89695.78	0.286326	5188.581	128.1669	2.4702	ug/L
|>	Sc	45	312764.5	312764.5				ug/L
|-	V	51	20303.85	0.058367	2.0145	0.0371	1.8412	ug/L
|>	In	115	169703.3	169703.3				ug/L
|	Cr	52	2151.588	0.012146	2.135	0.0067	0.316	ug/L
|-	Fe	56	459912.2	2.708052	301.8441	3.4652	1.148	ug/L
|-	Cr-1	52	23591.91	0.283131	2.1684	0.0337	1.5524	ug/L
|	Mn	55	104833	1.791953	8.6478	0.1842	2.1304	ug/L
|	Co	59	1098.066	0.018357	0.0628	0.0077	12.2081	ug/L
|	Ni	60	1479.454	0.024989	0.73	0.0615	8.42	ug/L
|	Cu	65	1334.765	0.02203	0.582	0.0293	5.0304	ug/L
|	Zn	66	7742.63	0.129554	5.2729	0.1231	2.3355	ug/L
|>	Ge	72	58063.52	58063.52				ug/L
|-	As	75	345.34	0.000318	0.2451	0.0399	16.2742	ug/L
|	Se	78	10.473	2.87E-05	0.013	0.0162	124.8362	ug/L
|>	In-1	115	344529.4	344529.4				ug/L
|-	Ag	107	60.667	5.57E-05	-0.0114	0.0017	15.3261	ug/L
|	Cd	111	347.859	9.04E-05	0.0191	0.0066	34.8664	ug/L
|>	In-2	115	625270	625270				ug/L
|	Sb	121	749.365	0.001163	0.0969	0.0177	18.2646	ug/L
|-	Ba	135	24003.65	0.038353	15.5634	0.1325	0.8511	ug/L

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ORGANIC ANALYSIS DATA SHEET

EPA 8260B

IR06-GW04-15A

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix:	Ground Water	Laboratory ID:	A501431-01	File ID:	3CG013.D
Sampled:	03/09/15 17:05	Prepared:	03/12/15 00:00	Analyzed:	03/12/15 13:18
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C12049 Sequence: AA32940 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	U	0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	107	80 - 119	
Toluene-d8	50.0	47	95	89 - 112	
4-Bromofluorobenzene	50.0	50	99	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	389796	10.88	402659	10.88	
1,4-Difluorobenzene	608868	11.46	581972	11.46	
Chlorobenzene-d5	521953	14.13	509343	14.13	
1,4-Dichlorobenzene-d4	284054	16.37	265798	16.38	

* Values outside of QC limits

MW 5/21/15

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ORGANIC ANALYSIS DATA SHEET

EPA 8260B

IR06-GW04D-15A

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix:	Ground Water	Laboratory ID:	A501431-02	File ID:	3CG014.D
Sampled:	03/09/15 17:00	Prepared:	03/12/15 00:00	Analyzed:	03/12/15 13:48
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C12049 Sequence: AA32940 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	U	0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	105	80 - 119	
Toluene-d8	50.0	47	93	89 - 112	
4-Bromofluorobenzene	50.0	48	95	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	398817	10.89	402659	10.88	
1,4-Difluorobenzene	629568	11.46	581972	11.46	
Chlorobenzene-d5	534821	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	276795	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

3

IR06-GW16-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory: ENCO Orlando | SDG: A501431-CTOWE86

Client: CH2M Hill, Inc. (CH025) | Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water | Laboratory ID: A501431-03 | File ID: 3CG015.D

Sampled: 03/10/15 11:40 | Prepared: 03/12/15 00:00 | Analyzed: 03/12/15 14:18

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 5C12049 | Sequence: AA32940 | Calibration: 1503016 | Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ	
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0	
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0	
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0	
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0	
156-59-2	cis-1,2-Dichloroethene	1	0.54 J	~~J~~	0.53	1.0	2.0	SSH
67-66-3	Chloroform	1	13 J		0.80	1.0	2.0	SSH
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0	
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0	
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0	
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0	
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0	
127-18-4	Tetrachloroethene	1	0.95 J	~~J~~	0.76	1.0	2.0	SSH
108-90-7	Chlorobenzene	20 ~~1~~	1200 ~~1100~~ J	~~E~~	14 ~~0.72~~	20 ~~1.0~~	40 ~~2.0~~	SSL
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0	
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0	

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	107	80 - 119	
Toluene-d8	50.0	48	96	89 - 112	
4-Bromofluorobenzene	50.0	71	142	85 - 114	*

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	407874	10.88	402659	10.88	
1,4-Difluorobenzene	622869	11.46	581972	11.46	
Chlorobenzene-d5	349507	14.13	509343	14.13	
1,4-Dichlorobenzene-d4	293722	16.37	265798	16.38	

* Values outside of QC limits

MW 5/21/15

3RE

IR06-GW16-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

use original results

Laboratory:	ENCO Orlando			SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)			Project:	CTO-WE86 MCB Camp Lejeune Site 6/82
Matrix:	Ground Water	Laboratory ID:	A501431-03RE1	File ID:	3CK011.D
Sampled:	03/10/15 11:40	Prepared:	03/16/15 00:00	Analyzed:	03/16/15 11:03
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Batch:	5C16012	Sequence:	AA32978	Calibration:	1503016
Instrument:	OVGCMS3				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	20	<20 UJ	UD	16	20	40
75-01-4	Vinyl chloride	20	<20	UD	14	20	40
75-35-4	1,1-Dichloroethene	20	<20	UD	19	20	40
156-60-5	trans-1,2-Dichloroethene	20	<20	UD	15	20	40
156-59-2	cis-1,2-Dichloroethene	20	<20	UD	11	20	40
67-66-3	Chloroform	20	<20	UD	16	20	40
107-06-2	1,2-Dichloroethane	20	<20	UD	13	20	40
71-43-2	Benzene	20	<20	UD	14	20	40
79-01-6	Trichloroethene	20	<20	UD	18	20	40
78-87-5	1,2-Dichloropropane	20	<20	UD	16	20	40
79-00-5	1,1,2-Trichloroethane	20	<20	UD	15	20	40
127-18-4	Tetrachloroethene	20	<20	UD	15	20	40
108-90-7	Chlorobenzene	20	1200 J	~~D~~	14	20	40
100-41-4	Ethylbenzene	20	<20 UJ	UD	14	20	40
79-34-5	1,1,2,2-Tetrachloroethane	20	<20	UD	11	20	40
106-46-7	1,4-Dichlorobenzene	20	<20	UD	15	20	40

exclude

SSL

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	52	103	80 - 119	
Toluene-d8	50.0	44	88	89 - 112	*
4-Bromofluorobenzene	50.0	49	98	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	434642	10.89	402659	10.88	
1,4-Difluorobenzene	684944	11.46	581972	11.46	
Chlorobenzene-d5	552178	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	302044	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

IR06-GW16IW-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix:	Ground Water	Laboratory ID:	A501431-04	File ID:	3CG016.D
Sampled:	03/09/15 14:10	Prepared:	03/12/15 00:00	Analyzed:	03/12/15 14:48
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C12049 Sequence: AA32940 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	U	0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	49	98	80 - 119	
Toluene-d8	50.0	48	97	89 - 112	
4-Bromofluorobenzene	50.0	48	97	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	419020	10.89	402659	10.88	
1,4-Difluorobenzene	597610	11.46	581972	11.46	
Chlorobenzene-d5	541743	14.13	509343	14.13	
1,4-Dichlorobenzene-d4	300583	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

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IR06-GW31-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix:	Ground Water	Laboratory ID:	A501431-05	File ID:	3CG017.D
Sampled:	03/10/15 08:45	Prepared:	03/12/15 00:00	Analyzed:	03/12/15 15:18
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C12049 Sequence: AA32940 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	U	0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	106	80 - 119	
Toluene-d8	50.0	47	94	89 - 112	
4-Bromofluorobenzene	50.0	47	94	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	407661	10.89	402659	10.88	
1,4-Difluorobenzene	605735	11.46	581972	11.46	
Chlorobenzene-d5	553682	14.13	509343	14.13	
1,4-Dichlorobenzene-d4	279892	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

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IR06-GW31DW-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory: ENCO Orlando SDG: A501431-CTOWE86

Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water Laboratory ID: A501431-06 File ID: 3CG018.D

Sampled: 03/09/15 14:30 Prepared: 03/12/15 00:00 Analyzed: 03/12/15 15:48

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 5C12049 Sequence: AA32940 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	7.1		0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	76		0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	2.5		0.71	1.0	2.0
79-01-6	Trichloroethene	1	5.5		0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	100		0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	80 - 119	
Toluene-d8	50.0	48	97	89 - 112	
4-Bromofluorobenzene	50.0	52	104	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	411272	10.89	402659	10.88	
1,4-Difluorobenzene	608946	11.46	581972	11.46	
Chlorobenzene-d5	497880	14.13	509343	14.13	
1,4-Dichlorobenzene-d4	277003	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

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ORGANIC ANALYSIS DATA SHEET

EPA 8260B

IR06-GW37D-15A

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix:	Ground Water	Laboratory ID:	A501431-07	File ID:	3CG019.D
Sampled:	03/09/15 15:15	Prepared:	03/12/15 00:00	Analyzed:	03/12/15 16:18
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C12049 Sequence: AA32940 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	6.7		0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	1.9	J	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	6.3		0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	5 X	320 ~~320~~	~~E~~ 2.6	~~0.53~~	5.0 ~~1.0~~	~~2.0~~ 10
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	10		0.71	1.0	2.0
79-01-6	Trichloroethene	5 X	170 ~~210~~	~~E~~ 4.4	~~0.89~~	5.0 ~~1.0~~	~~2.0~~ 10
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	50	101	80 - 119	
Toluene-d8	50.0	53	106	89 - 112	
4-Bromofluorobenzene	50.0	47	94	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	415861	10.88	402659	10.88	
1,4-Difluorobenzene	542323	11.46	581972	11.46	
Chlorobenzene-d5	535226	14.13	509343	14.13	
1,4-Dichlorobenzene-d4	290745	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

FRE

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

IR06-GW37D-15A

Laboratory: ENCO Orlando | SDG: A501431-CTOWE86

Client: CH2M Hill, Inc. (CH025) | Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water | Laboratory ID: A501431-07RE1 | File ID: 3CK012.D

Sampled: 03/09/15 15:15 | Prepared: 03/16/15 00:00 | Analyzed: 03/16/15 11:32

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 5C16012 | Sequence: AA32978 | Calibration: 1503016 | Instrument: OVGCMS3

use original results

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	5	<5.0	~~UD~~	4.1	5.0	10
75-01-4	Vinyl chloride	5	6.4	~~JD~~	3.6	5.0	10
75-35-4	1,1-Dichloroethene	5	<5.0	~~UD~~	4.7	5.0	10
156-60-5	trans-1,2-Dichloroethene	5	4.8	~~JD~~	3.6	5.0	10
156-59-2	cis-1,2-Dichloroethene	5	320	~~D~~	2.6	5.0	10
67-66-3	Chloroform	5	<5.0	~~UD~~	4.0	5.0	10
107-06-2	1,2-Dichloroethane	5	<5.0	~~UD~~	3.2	5.0	10
71-43-2	Benzene	5	<5.0	~~UD~~	3.6	5.0	10
79-01-6	Trichloroethene	5	170	~~D~~	4.4	5.0	10
78-87-5	1,2-Dichloropropane	5	<5.0	~~UD~~	4.0	5.0	10
79-00-5	1,1,2-Trichloroethane	5	<5.0	~~UD~~	3.8	5.0	10
127-18-4	Tetrachloroethene	5	<5.0	~~UD~~	3.8	5.0	10
108-90-7	Chlorobenzene	5	<5.0	~~UD~~	3.6	5.0	10
100-41-4	Ethylbenzene	5	<5.0	~~UD~~	3.4	5.0	10
79-34-5	1,1,2,2-Tetrachloroethane	5	<5.0	~~UD~~	2.7	5.0	10
106-46-7	1,4-Dichlorobenzene	5	<5.0	~~UD~~	3.8	5.0	10

exclude

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	101	80 - 119	
Toluene-d8	50.0	47	93	89 - 112	
4-Bromofluorobenzene	50.0	49	97	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	422020	10.89	402659	10.88	
1,4-Difluorobenzene	667421	11.46	581972	11.46	
Chlorobenzene-d5	583146	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	297024	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

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IR06-GW54IW-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-08
File ID: 3CG020.D
Sampled: 03/09/15 14:40
Prepared: 03/12/15 00:00
Analyzed: 03/12/15 16:48
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 5C12049
Sequence: AA32940
Calibration: 1503016
Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	1.8	J	0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	1.2	J	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	1.4	J	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	15		0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	101	80 - 119	
Toluene-d8	50.0	46	91	89 - 112	
4-Bromofluorobenzene	50.0	47	95	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	417228	10.89	402659	10.88	
1,4-Difluorobenzene	642666	11.46	581972	11.46	
Chlorobenzene-d5	529007	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	284092	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

9

IR06-GW54DW-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix:	Ground Water	Laboratory ID:	A501431-09	File ID:	3CH009.D
Sampled:	03/09/15 14:50	Prepared:	03/13/15 00:00	Analyzed:	03/13/15 11:00
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C13009 Sequence: AA32954 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	2.2		0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	50	100	80 - 119	
Toluene-d8	50.0	48	96	89 - 112	
4-Bromofluorobenzene	50.0	46	91	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	427304	10.89	402659	10.88	
1,4-Difluorobenzene	636566	11.46	581972	11.46	
Chlorobenzene-d5	558072	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	295953	16.39	265798	16.38	

* Values outside of QC limits

MW 5/21/15

IR06-GW55-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-10
File ID: 3CH010.D
Sampled: 03/09/15 17:55
Prepared: 03/13/15 00:00
Analyzed: 03/13/15 11:30
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 5C13009
Sequence: AA32954
Calibration: 1503016
Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	U	0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	50	99	80 - 119	
Toluene-d8	50.0	45	91	89 - 112	
4-Bromofluorobenzene	50.0	47	94	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	430149	10.89	402659	10.88	
1,4-Difluorobenzene	645066	11.47	581972	11.46	
Chlorobenzene-d5	563961	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	287064	16.38	265798	16.38	

* Values outside of QC limits

5/21/15

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IR06-GW57IW-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix:	Ground Water	Laboratory ID:	A501431-11	File ID:	3CH011.D
Sampled:	03/09/15 15:15	Prepared:	03/13/15 00:00	Analyzed:	03/13/15 11:59
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C13009 Sequence: AA32954 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	U	0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	120		0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	80 - 119	
Toluene-d8	50.0	46	93	89 - 112	
4-Bromofluorobenzene	50.0	50	101	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	420649	10.88	402659	10.88	
1,4-Difluorobenzene	651846	11.46	581972	11.46	
Chlorobenzene-d5	521541	14.13	509343	14.13	
1,4-Dichlorobenzene-d4	283797	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

IR06-GW59IW-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-12
File ID: 3CH012.D
Sampled: 03/09/15 14:15
Prepared: 03/13/15 00:00
Analyzed: 03/13/15 12:29
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 5C13009
Sequence: AA32954
Calibration: 1503016
Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	U	0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	105	80 - 119	
Toluene-d8	50.0	48	95	89 - 112	
4-Bromofluorobenzene	50.0	48	97	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	410791	10.89	402659	10.88	
1,4-Difluorobenzene	617108	11.46	581972	11.46	
Chlorobenzene-d5	530405	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	291323	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

IR06-GW63DW-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-13
File ID: 3CH013.D
Sampled: 03/09/15 15:40
Prepared: 03/13/15 00:00
Analyzed: 03/13/15 12:58
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 5C13009
Sequence: AA32954
Calibration: 1503016
Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	1.4	J	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	9.6		0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	80 - 119	
Toluene-d8	50.0	46	92	89 - 112	
4-Bromofluorobenzene	50.0	46	91	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	417095	10.88	402659	10.88	
1,4-Difluorobenzene	629752	11.46	581972	11.46	
Chlorobenzene-d5	553412	14.13	509343	14.13	
1,4-Dichlorobenzene-d4	291597	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

IR06-GW64-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix:	Ground Water	Laboratory ID:	A501431-14	File ID:	3CH014.D
Sampled:	03/10/15 16:15	Prepared:	03/13/15 00:00	Analyzed:	03/13/15 13:28
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C13009 Sequence: AA32954 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	U	0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	49	99	80 - 119	
Toluene-d8	50.0	48	95	89 - 112	
4-Bromofluorobenzene	50.0	47	94	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	419265	10.89	402659	10.88	
1,4-Difluorobenzene	621948	11.46	581972	11.46	
Chlorobenzene-d5	539666	14.13	509343	14.13	
1,4-Dichlorobenzene-d4	285625	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

IR06-GW69LCH-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory: ENCO Orlando | SDG: A501431-CTOWE86

Client: CH2M Hill, Inc. (CH025) | Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water | Laboratory ID: A501431-15 | File ID: 3CH015.D

Sampled: 03/09/15 17:00 | Prepared: 03/13/15 00:00 | Analyzed: 03/13/15 13:58

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 5C13009 | Sequence: AA32954 | Calibration: 1503016 | Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	16		0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	8.6		0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	5 ~~1~~	260 ~~250~~	~~E~~	2.6 ~~0.53~~	5.0 ~~1.0~~	10 ~~2.0~~
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	8.0		0.71	1.0	2.0
79-01-6	Trichloroethene	1	7.5		0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	101	80 - 119	
Toluene-d8	50.0	47	94	89 - 112	
4-Bromofluorobenzene	50.0	48	95	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	415300	10.89	402659	10.88	
1,4-Difluorobenzene	615631	11.47	581972	11.46	
Chlorobenzene-d5	541315	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	273810	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

15RE

IR06-GW69LCH-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory: ENCO Orlando SDG: A501431-CTOWE86

Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water Laboratory ID: A501431-15RE1 File ID: 3CK013.D

Sampled: 03/09/15 17:00 Prepared: 03/16/15 00:00 Analyzed: 03/16/15 12:02

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 5C16012 Sequence: AA32978 Calibration: 1503016 Instrument: OVGCMS3

use original results

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	5	<5.0	UD	4.1	5.0	10
75-01-4	Vinyl chloride	5	11	D	3.6	5.0	10
75-35-4	1,1-Dichloroethene	5	<5.0	UD	4.7	5.0	10
156-60-5	trans-1,2-Dichloroethene	5	7.6	JD	3.6	5.0	10
156-59-2	cis-1,2-Dichloroethene	5	260	D	2.6	5.0	10
67-66-3	Chloroform	5	<5.0	UD	4.0	5.0	10
107-06-2	1,2-Dichloroethane	5	<5.0	UD	3.2	5.0	10
71-43-2	Benzene	5	7.1	JD	3.6	5.0	10
79-01-6	Trichloroethene	5	5.2	JD	4.4	5.0	10
78-87-5	1,2-Dichloropropane	5	<5.0	UD	4.0	5.0	10
79-00-5	1,1,2-Trichloroethane	5	<5.0	UD	3.8	5.0	10
127-18-4	Tetrachloroethene	5	<5.0	UD	3.8	5.0	10
108-90-7	Chlorobenzene	5	<5.0	UD	3.6	5.0	10
100-41-4	Ethylbenzene	5	<5.0	UD	3.4	5.0	10
79-34-5	1,1,2,2-Tetrachloroethane	5	<5.0	UD	2.7	5.0	10
106-46-7	1,4-Dichlorobenzene	5	<5.0	UD	3.8	5.0	10

exclude

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	80 - 119	
Toluene-d8	50.0	45	90	89 - 112	
4-Bromofluorobenzene	50.0	47	94	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	422427	10.89	402659	10.88	
1,4-Difluorobenzene	654047	11.47	581972	11.46	
Chlorobenzene-d5	564385	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	290731	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

16

IR06-GW70LCH-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix:	Ground Water	Laboratory ID:	A501431-16	File ID:	3CH016.D
Sampled:	03/09/15 16:40	Prepared:	03/13/15 00:00	Analyzed:	03/13/15 14:28
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C13009 Sequence: AA32954 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	U	0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	48	97	80 - 119	
Toluene-d8	50.0	45	91	89 - 112	
4-Bromofluorobenzene	50.0	50	100	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	430246	10.89	402659	10.88	
1,4-Difluorobenzene	636310	11.46	581972	11.46	
Chlorobenzene-d5	536608	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	274984	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

IR06-GW73LCH-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-17
File ID: 3CH017.D
Sampled: 03/09/15 16:05
Prepared: 03/13/15 00:00
Analyzed: 03/13/15 14:57
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 5C13009
Sequence: AA32954
Calibration: 1503016
Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	46		0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	80 - 119	
Toluene-d8	50.0	45	90	89 - 112	
4-Bromofluorobenzene	50.0	48	96	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	413233	10.89	402659	10.88	
1,4-Difluorobenzene	635903	11.47	581972	11.46	
Chlorobenzene-d5	527656	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	290520	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

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IR06-GW74LCH-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix:	Ground Water	Laboratory ID:	A501431-18	File ID:	3CH018.D
Sampled:	03/09/15 16:20	Prepared:	03/13/15 00:00	Analyzed:	03/13/15 15:27
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C13009 Sequence: AA32954 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	3.3		0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	7.5		0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	50	101	80 - 119	
Toluene-d8	50.0	46	93	89 - 112	
4-Bromofluorobenzene	50.0	45	90	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	402242	10.9	402659	10.88	
1,4-Difluorobenzene	611545	11.48	581972	11.46	
Chlorobenzene-d5	545035	14.15	509343	14.13	
1,4-Dichlorobenzene-d4	269974	16.39	265798	16.38	

* Values outside of QC limits

MW 5/21/15

IR06-GW74LCHD-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix:	Ground Water	Laboratory ID:	A501431-19	File ID:	3CK023.D
Sampled:	03/09/15 16:25	Prepared:	03/16/15 00:00	Analyzed:	03/16/15 17:00
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C16012 Sequence: AA32978 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	2.9		0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	7.9		0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	110	80 - 119	
Toluene-d8	50.0	48	95	89 - 112	
4-Bromofluorobenzene	50.0	50	101	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	406767	10.9	402659	10.88	
1,4-Difluorobenzene	622121	11.47	581972	11.46	
Chlorobenzene-d5	539230	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	288585	16.39	265798	16.38	

* Values outside of QC limits

MW 5/21/15

IR06-GW75UCH-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix:	Ground Water	Laboratory ID:	A501431-20	File ID:	3CK024.D
Sampled:	03/09/15 16:30	Prepared:	03/16/15 00:00	Analyzed:	03/16/15 17:29
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C16012 Sequence: AA32978 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	5.6		0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	34		0.53	1.0	2.0
67-66-3	Chloroform	1	1.4	J	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	5.0		0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	50	100	80 - 119	
Toluene-d8	50.0	47	94	89 - 112	
4-Bromofluorobenzene	50.0	48	96	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	415393	10.89	402659	10.88	
1,4-Difluorobenzene	633227	11.47	581972	11.46	
Chlorobenzene-d5	520246	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	293059	16.38	265798	16.38	

* Values outside of QC limits

MW 5/21/15

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IR06-GW76UCH-15A

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix:	Ground Water	Laboratory ID:	A501431-21	File ID:	3CK025.D
Sampled:	03/09/15 14:55	Prepared:	03/16/15 00:00	Analyzed:	03/16/15 17:59
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C16012 Sequence: AA32978 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	4.5		0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	12		0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	170		0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	5.8		0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	6.3		0.72	1.0	2.0
100-41-4	Ethylbenzene	1	0.74	J	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	80 - 119	
Toluene-d8	50.0	45	90	89 - 112	
4-Bromofluorobenzene	50.0	49	97	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	409568	10.89	402659	10.88	
1,4-Difluorobenzene	632427	11.46	581972	11.46	
Chlorobenzene-d5	539444	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	293208	16.39	265798	16.38	

* Values outside of QC limits

MW 5/21/15

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ORGANIC ANALYSIS DATA SHEET

EPA 8260B

IR06-GW80-15A

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix:	Ground Water	Laboratory ID:	A501431-22	File ID:	3CK026.D
Sampled:	03/10/15 09:25	Prepared:	03/16/15 00:00	Analyzed:	03/16/15 18:29
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C16012 Sequence: AA32978 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ	
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0	
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0	
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0	
156-60-5	trans-1,2-Dichloroethene	1	2.8 J		0.73	1.0	2.0	SSH
156-59-2	cis-1,2-Dichloroethene	1	1.8 J	~~J~~	0.53	1.0	2.0	↓
67-66-3	Chloroform	1	1.0 J	~~J~~	0.80	1.0	2.0	↓
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0	
71-43-2	Benzene	1	5.5 J		0.71	1.0	2.0	SSH
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0	
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0	
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0	
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0	
108-90-7	Chlorobenzene	~~1~~ 10	630 ~~520~~	~~E~~	7.~~20.72~~	10 1~~0~~	20 ~~2.0~~	
100-41-4	Ethylbenzene	1	1.2 J	~~J~~	0.69	1.0	2.0	SSH
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0	
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0	

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	108	80 - 119	
Toluene-d8	50.0	48	96	89 - 112	
4-Bromofluorobenzene	50.0	63	125	85 - 114	*

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	416375	10.9	402659	10.88	
1,4-Difluorobenzene	637951	11.47	581972	11.46	
Chlorobenzene-d5	397941	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	291713	16.39	265798	16.38	

* Values outside of QC limits

MW 5/21/15

22RE

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

IR06-GW80-15A

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Use original results

Matrix:	Ground Water	Laboratory ID:	A501431-22RE1	File ID:	3CM017.D
Sampled:	03/10/15 09:25	Prepared:	03/18/15 00:00	Analyzed:	03/18/15 13:18
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C18004 Sequence: AA33016 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	10	<10	UD	8.2	10	20
75-01-4	Vinyl chloride	10	<10	UD	7.1	10	20
75-35-4	1,1-Dichloroethene	10	<10	UD	9.4	10	20
156-60-5	trans-1,2-Dichloroethene	10	<10	UD	7.3	10	20
156-59-2	cis-1,2-Dichloroethene	10	<10	UD	5.3	10	20
67-66-3	Chloroform	10	<10	UD	8.0	10	20
107-06-2	1,2-Dichloroethane	10	<10	UD	6.3	10	20
71-43-2	Benzene	10	<10	UD	7.1	10	20
79-01-6	Trichloroethene	10	<10	UD	8.9	10	20
78-87-5	1,2-Dichloropropane	10	<10	UD	8.0	10	20
79-00-5	1,1,2-Trichloroethane	10	<10	UD	7.6	10	20
127-18-4	Tetrachloroethene	10	<10	UD	7.6	10	20
108-90-7	Chlorobenzene	10	630	D	7.2	10	20
100-41-4	Ethylbenzene	10	<10	UD	6.9	10	20
79-34-5	1,1,2,2-Tetrachloroethane	10	<10	UD	5.4	10	20
106-46-7	1,4-Dichlorobenzene	10	<10	UD	7.6	10	20

exclude

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	106	80 - 119	
Toluene-d8	50.0	45	90	89 - 112	
4-Bromofluorobenzene	50.0	44	89	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	393360	10.9	402659	10.88	
1,4-Difluorobenzene	649568	11.48	581972	11.46	
Chlorobenzene-d5	550311	14.15	509343	14.13	
1,4-Dichlorobenzene-d4	295490	16.39	265798	16.38	

* Values outside of QC limits

MW 5/21/15

23

IR06-EB01-030915

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory:	ENCO Orlando	SDG:	A501431-CTOWE86
Client:	CH2M Hill, Inc. (CH025)	Project:	CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix:	Ground Water	Laboratory ID:	A501431-23	File ID:	3CK021.D
Sampled:	03/09/15 18:10	Prepared:	03/16/15 00:00	Analyzed:	03/16/15 16:00
Solids:		Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Batch: 5C16012 Sequence: AA32978 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	U	0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	103	80 - 119	
Toluene-d8	50.0	48	95	89 - 112	
4-Bromofluorobenzene	50.0	49	97	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	426913	10.89	402659	10.88	
1,4-Difluorobenzene	634706	11.47	581972	11.46	
Chlorobenzene-d5	540830	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	295772	16.39	265798	16.38	

* Values outside of QC limits

MW 5/21/15

IR06-TB-031015

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Laboratory: ENCO Orlando SDG: A501431-CTOWE86

Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water Laboratory ID: A501431-24 File ID: 3CK022.D

Sampled: 03/10/15 12:55 Prepared: 03/16/15 00:00 Analyzed: 03/16/15 16:30

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 5C16012 Sequence: AA32978 Calibration: 1503016 Instrument: OVGCMS3

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
74-87-3	Chloromethane	1	<1.0	U	0.82	1.0	2.0
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	U	0.53	1.0	2.0
67-66-3	Chloroform	1	<1.0	U	0.80	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
78-87-5	1,2-Dichloropropane	1	<1.0	U	0.80	1.0	2.0
79-00-5	1,1,2-Trichloroethane	1	<1.0	U	0.76	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
108-90-7	Chlorobenzene	1	<1.0	U	0.72	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	<1.0	U	0.54	1.0	2.0
106-46-7	1,4-Dichlorobenzene	1	<1.0	U	0.76	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	107	80 - 119	
Toluene-d8	50.0	47	93	89 - 112	
4-Bromofluorobenzene	50.0	46	93	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	396163	10.89	402659	10.88	
1,4-Difluorobenzene	626976	11.47	581972	11.46	
Chlorobenzene-d5	561773	14.14	509343	14.13	
1,4-Dichlorobenzene-d4	301077	16.39	265798	16.38	

* Values outside of QC limits

MW 5/21/15

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW04-15A

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-01
File ID: 032515_RP1_DOD-019
Sampled: 03/09/15 17:05
Prepared: 03/12/15 07:26
Analyzed: 03/25/15 09:27
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C11045
Sequence: AA33131
Calibration: 1503093
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
~~7429-90-5~~	~~Aluminum~~ exclude	~~2280~~	~~1~~	~~E~~	~~6.80~~	~~25.0~~	~~45.0~~	~~EPA 6020A~~	
7440-36-0	Antimony	0.145	1	J	0.110	0.440	0.500	EPA 6020A	
7440-38-2	Arsenic	<10.0	1	U	0.610	10.0	15.0	EPA 6020A	
7440-39-3	Barium	15.9	1		2.00	8.00	10.0	EPA 6020A	
7440-41-7	Beryllium	<0.370	1	U	0.0940	0.370	0.800	EPA 6020A	
7440-43-9	Cadmium	<4.00	1	U	0.110	4.00	8.00	EPA 6020A	
7440-70-2	Calcium	5290	1		36.0	1200	1750	EPA 6020A	
7440-47-3	Chromium	2.38	1	J	0.450	3.00	5.00	EPA 6020A	
7440-48-4	Cobalt	<0.840	1	U	0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper 0.880	~~0.581~~ 0 U	1	~~J~~	0.220	0.880	1.50	EPA 6020A	EBL
7439-89-6	Iron	338	1		3.80	15.0	25.0	EPA 6020A	
7439-92-1	Lead	0.381	1	J	0.160	0.600	1.00	EPA 6020A	
7439-95-4	Magnesium	447	1		30.0	120	200	EPA 6020A	
7439-96-5	Manganese	8.71 U	1		0.320	1.28	2.00	EPA 6020A	EBL
7440-02-0	Nickel	0.781	1	J	0.320	1.20	2.00	EPA 6020A	
7440-09-7	Potassium	139	1	J	48.0	1750	3500	EPA 6020A	
7782-49-2	Selenium	<2.60	1	U	0.650	2.60	4.00	EPA 6020A	
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A	
7440-23-5	Sodium	5650 J	1	~~Q~~	32.0	120	200	EPA 6020A	SD
7440-28-0	Thallium	<0.230	1	U	0.0580	0.230	0.400	EPA 6020A	
7440-62-2	Vanadium	2.56 J	1	~~Q~~	0.200	0.800	1.00	EPA 6020A	SD
7440-66-6	Zinc	7.47 J	1	~~JQ~~	1.60	6.40	10.0	EPA 6020A	SD

NW 5/21/15

1RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW04-15A

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-01RE1
File ID: 032515_RP1_DOD-020
Sampled: 03/09/15 17:05
Prepared: 03/12/15 07:26
Analyzed: 03/25/15 09:30
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C11045
Sequence: AA33131
Calibration: 1503093
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	2200	5	~~D~~	34.0	125	225	EPA 6020A

MW 5/21/15

2

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW04D-15A

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-02
File ID: 032515_RP1_DOD-028
Sampled: 03/09/15 17:00
Prepared: 03/12/15 07:26
Analyzed: 03/25/15 10:25
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C11045
Sequence: AA33131
Calibration: 1503093
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
~~7429-90-5~~	~~Aluminum~~ exclude	~~1890~~	~~1~~	~~E~~	~~6.80~~	~~25.0~~	~~45.0~~	~~EPA 6020A~~	
7440-36-0	Antimony	<0.440	1	U	0.110	0.440	0.500	EPA 6020A	
7440-38-2	Arsenic	<10.0	1	U	0.610	10.0	15.0	EPA 6020A	
7440-39-3	Barium	15.6	1		2.00	8.00	10.0	EPA 6020A	
7440-41-7	Beryllium	<0.370	1	U	0.0940	0.370	0.800	EPA 6020A	
7440-43-9	Cadmium	<4.00	1	U	0.110	4.00	8.00	EPA 6020A	
7440-70-2	Calcium	5190	1		36.0	1200	1750	EPA 6020A	
7440-47-3	Chromium	2.17	1	J	0.450	3.00	5.00	EPA 6020A	
7440-48-4	Cobalt	<0.840	1	U	0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper 0.880	~~0.582~~ u	1	~~J~~	0.220	0.880	1.50	EPA 6020A	EBL
7439-89-6	Iron	302	1		3.80	15.0	25.0	EPA 6020A	
7439-92-1	Lead	0.343	1	J	0.160	0.600	1.00	EPA 6020A	
7439-95-4	Magnesium	377	1		30.0	120	200	EPA 6020A	
7439-96-5	Manganese	8.65 u	1		0.320	1.28	2.00	EPA 6020A	EBL
7440-02-0	Nickel	0.730	1	J	0.320	1.20	2.00	EPA 6020A	
7440-09-7	Potassium	120	1	J	48.0	1750	3500	EPA 6020A	
7782-49-2	Selenium	<2.60	1	U	0.650	2.60	4.00	EPA 6020A	
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A	
7440-23-5	Sodium	5930 J	1		32.0	120	200	EPA 6020A	SD
7440-28-0	Thallium	<0.230	1	U	0.0580	0.230	0.400	EPA 6020A	
7440-62-2	Vanadium	2.01 J	1		0.200	0.800	1.00	EPA 6020A	SD
7440-66-6	Zinc	5.27 J	1	J	1.60	6.40	10.0	EPA 6020A	SD

MW 5/21/15

2RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW04D-15A

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-02RE1
File ID: 032515_RP1_DOD-029
Sampled: 03/09/15 17:00
Prepared: 03/12/15 07:26
Analyzed: 03/25/15 10:29
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C11045
Sequence: AA33131
Calibration: 1503093
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	1990	10	~~D~~	68.0	250	450	EPA 6020A

MW 5/21/15

3

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW16-15A

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-03
File ID: 032515_RP1_DOD-042
Sampled: 03/10/15 11:40
Prepared: 03/12/15 07:26
Analyzed: 03/25/15 11:44
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C11045
Sequence: AA33131
Calibration: 1503093
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
~~7429-90-5~~	~~Aluminum~~ exclude	~~1220~~	~~1~~	~~E~~	~~6.80~~	~~25.0~~	~~45.0~~	~~EPA 6020A~~	
7440-36-0	Antimony	0.360	1	J	0.110	0.440	0.500	EPA 6020A	
7440-38-2	Arsenic	<10.0	1	U	0.610	10.0	15.0	EPA 6020A	
7440-39-3	Barium	10.2	1		2.00	8.00	10.0	EPA 6020A	
7440-41-7	Beryllium	<0.370	1	U	0.0940	0.370	0.800	EPA 6020A	
7440-43-9	Cadmium	0.361	1	J	0.110	4.00	8.00	EPA 6020A	
~~7440-70-2~~	~~Calcium~~ exclude	~~67700~~	~~1~~	~~E~~	~~36.0~~	~~1200~~	~~1750~~	~~EPA 6020A~~	
7440-47-3	Chromium	1.88	1	J	0.450	3.00	5.00	EPA 6020A	
7440-48-4	Cobalt	1.18	1		0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper	0.911 u	1	~~J~~	0.220	0.880	1.50	EPA 6020A	EBL
~~7439-89-6~~	~~Iron~~ exclude	~~2670~~	~~1~~	~~E~~	~~3.80~~	~~15.0~~	~~25.0~~	~~EPA 6020A~~	
7439-92-1	Lead	0.289	1	J	0.160	0.600	1.00	EPA 6020A	
7439-95-4	Magnesium	1380	1		30.0	120	200	EPA 6020A	
~~7439-96-5~~	~~Manganese~~ exclude	~~255~~	~~1~~	~~E~~	~~0.320~~	~~1.28~~	~~2.00~~	~~EPA 6020A~~	
7440-02-0	Nickel	2.94	1		0.320	1.20	2.00	EPA 6020A	
7440-09-7	Potassium	1520	1	J	48.0	1750	3500	EPA 6020A	
7782-49-2	Selenium	<2.60	1	U	0.650	2.60	4.00	EPA 6020A	
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A	
7440-23-5	Sodium	4990 J	1		32.0	120	200	EPA 6020A	SD
7440-28-0	Thallium	<0.230	1	U	0.0580	0.230	0.400	EPA 6020A	
7440-62-2	Vanadium	4.12 J	1		0.200	0.800	1.00	EPA 6020A	SD
~~7440-66-6~~	~~Zinc~~ exclude	~~2270 J~~	~~1~~	~~E~~	~~1.60~~	~~6.40~~	~~10.0~~	~~EPA 6020A~~	SD

MW 5/21/15

3RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW16-15A

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-03RE1
File ID: 032515_RP1_DOD-043
Sampled: 03/10/15 11:40
Prepared: 03/12/15 07:26
Analyzed: 03/25/15 11:52
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C11045
Sequence: AA33131
Calibration: 1503093
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	1260	50	J~~D~~	340	1250	2250	EPA 6020A
7440-70-2	Calcium	71400	50	J~~D~~	1800	60000	87500	EPA 6020A
7439-89-6	Iron	2800	50	~~D~~	190	750	1250	EPA 6020A
7439-96-5	Manganese	254	50	~~D~~	16.0	64.0	100	EPA 6020A
7440-66-6	Zinc	2580	50	~~D~~	80.0	320	500	EPA 6020A

MW 5/21/15

5

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW31-15A

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-05
File ID: 032515_RP1_DOD-030
Sampled: 03/10/15 08:45
Prepared: 03/12/15 07:26
Analyzed: 03/25/15 10:33
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C11045
Sequence: AA33131
Calibration: 1503093
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
7429-90-5	Aluminum	11.1	1	J	6.80	25.0	45.0	EPA 6020A	
7440-36-0	Antimony	0.281	1	J	0.110	0.440	0.500	EPA 6020A	
7440-38-2	Arsenic	1.02	1	J	0.610	10.0	15.0	EPA 6020A	
7440-39-3	Barium	36.7	1		2.00	8.00	10.0	EPA 6020A	
7440-41-7	Beryllium	<0.370	1	U	0.0940	0.370	0.800	EPA 6020A	
7440-43-9	Cadmium	0.116	1	J	0.110	4.00	8.00	EPA 6020A	
~~7440-70-2~~	~~Calcium~~ exclude	~~108000~~	~~1~~	~~E~~	~~36.0~~	~~1200~~	~~1750~~	~~EPA 6020A~~	
7440-47-3	Chromium	<3.00	1	U	0.450	3.00	5.00	EPA 6020A	
7440-48-4	Cobalt	0.351	1	J	0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper 0.880	~~0.405~~ U	1	~~J~~	0.220	0.880	1.50	EPA 6020A	EBL
~~7439-89-6~~	~~Iron~~ exclude	~~3020~~	~~1~~	~~E~~	~~3.80~~	~~15.0~~	~~25.0~~	~~EPA 6020A~~	
7439-92-1	Lead	<0.600	1	U	0.160	0.600	1.00	EPA 6020A	
7439-95-4	Magnesium	3550	1		30.0	120	200	EPA 6020A	
~~7439-96-5~~	~~Manganese~~ exclude	~~344~~	~~1~~	~~E~~	~~0.320~~	~~1.28~~	~~2.00~~	~~EPA 6020A~~	
7440-02-0	Nickel	1.34	1	J	0.320	1.20	2.00	EPA 6020A	
7440-09-7	Potassium	2360	1	J	48.0	1750	3500	EPA 6020A	
7782-49-2	Selenium	3.70	1	J	0.650	2.60	4.00	EPA 6020A	
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A	
7440-23-5	Sodium	3730 J	1		32.0	120	200	EPA 6020A	SD
7440-28-0	Thallium	<0.230	1	U	0.0580	0.230	0.400	EPA 6020A	
7440-62-2	Vanadium	0.819 J	1	~~J~~	0.200	0.800	1.00	EPA 6020A	SD
7440-66-6	Zinc	4.81 J	1	~~J~~	1.60	6.40	10.0	EPA 6020A	SD

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5RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW31-15A

Laboratory: ENCO Orlando

SDG: A501431-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water

Laboratory ID: A501431-05RE1

File ID: 032515_RP1_DOD-031

Sampled: 03/10/15 08:45

Prepared: 03/12/15 07:26

Analyzed: 03/25/15 10:36

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C11045

Sequence: AA33131

Calibration: 1503093

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7440-70-2	Calcium	112000	20	Ø	720	24000	35000	EPA 6020A
7439-89-6	Iron	3290	20	Ø	76.0	300	500	EPA 6020A
7439-96-5	Manganese	339	20	Ø	6.40	25.6	40.0	EPA 6020A

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INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW55-15A

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-10
File ID: 032515_RP1_DOD-040
Sampled: 03/09/15 17:55
Prepared: 03/12/15 07:26
Analyzed: 03/25/15 11:33
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C11045
Sequence: AA33131
Calibration: 1503093
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
~~7429-90-5~~	~~Aluminum~~ exclude	~~3190~~	~~1~~	~~E~~	~~6.80~~	~~25.0~~	~~45.0~~	~~EPA 6020A~~	
7440-36-0	Antimony	<0.440	1	U	0.110	0.440	0.500	EPA 6020A	
7440-38-2	Arsenic	<10.0	1	U	0.610	10.0	15.0	EPA 6020A	
7440-39-3	Barium	87.5	1		2.00	8.00	10.0	EPA 6020A	
7440-41-7	Beryllium	<0.370	1	U	0.0940	0.370	0.800	EPA 6020A	
~~7440-43-9~~	~~Cadmium~~ exclude	~~11.3~~	~~1~~	~~E~~	~~0.110~~	~~4.00~~	~~8.00~~	~~EPA 6020A~~	
~~7440-70-2~~	~~Calcium~~ exclude	~~36900~~	~~1~~	~~E~~	~~36.0~~	~~1200~~	~~1750~~	~~EPA 6020A~~	
7440-47-3	Chromium	1.82	1	J	0.450	3.00	5.00	EPA 6020A	
7440-48-4	Cobalt	8.19	1		0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper	1.89 U	1		0.220	0.880	1.50	EPA 6020A	EBL
7439-89-6	Iron	246	1		3.80	15.0	25.0	EPA 6020A	
7439-92-1	Lead	0.177	1	J	0.160	0.600	1.00	EPA 6020A	
7439-95-4	Magnesium	2170	1		30.0	120	200	EPA 6020A	
~~7439-96-5~~	~~Manganese~~ exclude	~~882~~	~~1~~	~~E~~	~~0.320~~	~~1.28~~	~~2.00~~	~~EPA 6020A~~	
7440-02-0	Nickel	3.49	1		0.320	1.20	2.00	EPA 6020A	
7440-09-7	Potassium	1610	1	J	48.0	1750	3500	EPA 6020A	
7782-49-2	Selenium	<2.60	1	U	0.650	2.60	4.00	EPA 6020A	
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A	
7440-23-5	Sodium	3360 J	1		32.0	120	200	EPA 6020A	SD
7440-28-0	Thallium	0.0638	1	J	0.0580	0.230	0.400	EPA 6020A	
7440-62-2	Vanadium	3.68 J	1		0.200	0.800	1.00	EPA 6020A	SD
~~7440-66-6~~	~~Zinc~~ exclude	~~947 J~~	~~1~~	~~E~~	~~1.60~~	~~6.40~~	~~10.0~~	~~EPA 6020A~~	~~SD~~

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10RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW55-15A

Laboratory: ENCO Orlando

SDG: A501431-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water

Laboratory ID: A501431-10RE1

File ID: 032515_RP1_DOD-041

Sampled: 03/09/15 17:55

Prepared: 03/12/15 07:26

Analyzed: 03/25/15 11:36

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C11045

Sequence: AA33131

Calibration: 1503093

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	3380	20	~~D~~	136	500	900	EPA 6020A
7440-43-9	Cadmium	11.6	20	J~~D~~	2.20	80.0	160	EPA 6020A
7440-70-2	Calcium	39100	20	~~D~~	720	24000	35000	EPA 6020A
7439-96-5	Manganese	872	20	~~D~~	6.40	25.6	40.0	EPA 6020A
7440-66-6	Zinc	1030	20	~~D~~	32.0	128	200	EPA 6020A

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INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW64-15A

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-14
File ID: 032515_RP1_DOD-032
Sampled: 03/10/15 16:15
Prepared: 03/12/15 07:26
Analyzed: 03/25/15 10:44
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C11045
Sequence: AA33131
Calibration: 1503093
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
~~7429-90-5~~	~~Aluminum~~ exclude	~~1120~~	~~1~~	~~E~~	~~6.80~~	~~25.0~~	~~45.0~~	~~EPA 6020A~~	
7440-36-0	Antimony	<0.440	1	U	0.110	0.440	0.500	EPA 6020A	
7440-38-2	Arsenic	<10.0	1	U	0.610	10.0	15.0	EPA 6020A	
7440-39-3	Barium	10.5	1		2.00	8.00	10.0	EPA 6020A	
7440-41-7	Beryllium	<0.370	1	U	0.0940	0.370	0.800	EPA 6020A	
7440-43-9	Cadmium	<4.00	1	U	0.110	4.00	8.00	EPA 6020A	
~~7440-70-2~~	~~Calcium~~ exclude	~~20500~~	~~1~~	~~E~~	~~36.0~~	~~1200~~	~~1750~~	~~EPA 6020A~~	
7440-47-3	Chromium	6.53	1		0.450	3.00	5.00	EPA 6020A	
7440-48-4	Cobalt	<0.840	1	U	0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper	1.40 U	1	~~J~~	0.220	0.880	1.50	EPA 6020A	EBL
~~7439-89-6~~	~~Iron~~ exclude	~~1790~~	~~1~~	~~E~~	~~3.80~~	~~15.0~~	~~25.0~~	~~EPA 6020A~~	
7439-92-1	Lead	0.362	1	J	0.160	0.600	1.00	EPA 6020A	
7439-95-4	Magnesium	669	1		30.0	120	200	EPA 6020A	
7439-96-5	Manganese	65.3	1		0.320	1.28	2.00	EPA 6020A	
7440-02-0	Nickel	1.38	1	J	0.320	1.20	2.00	EPA 6020A	
7440-09-7	Potassium	307	1	J	48.0	1750	3500	EPA 6020A	
7782-49-2	Selenium	<2.60	1	U	0.650	2.60	4.00	EPA 6020A	
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A	
7440-23-5	Sodium	5520 J	1		32.0	120	200	EPA 6020A	SD
7440-28-0	Thallium	<0.230	1	U	0.0580	0.230	0.400	EPA 6020A	
7440-62-2	Vanadium	1.91 J	1		0.200	0.800	1.00	EPA 6020A	SD
~~7440-66-6~~	~~Zinc~~ exclude	~~116 J~~	~~1~~	~~E~~	~~1.60~~	~~6.40~~	~~10.0~~	~~EPA 6020A~~	SD

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14RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW64-15A

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-14RE1
File ID: 032515_RP1_DOD-033
Sampled: 03/10/15 16:15
Prepared: 03/12/15 07:26
Analyzed: 03/25/15 10:47
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C11045
Sequence: AA33131
Calibration: 1503093
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	1160	10	D	68.0	250	450	EPA 6020A
7440-70-2	Calcium	21100	10	D	360	12000	17500	EPA 6020A
7439-89-6	Iron	1930	10	D	38.0	150	250	EPA 6020A
7440-66-6	Zinc	126	10	D	16.0	64.0	100	EPA 6020A

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INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW80-15A

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-22
File ID: 032515_RP1_DOD-039
Sampled: 03/10/15 09:25
Prepared: 03/12/15 07:26
Analyzed: 03/25/15 11:29
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C11045
Sequence: AA33131
Calibration: 1503093
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
~~7429-90-5~~	~~Aluminum~~ exclude	~~1150~~	~~1~~	~~E~~	~~6.80~~	~~25.0~~	~~45.0~~	~~EPA 6020A~~	
7440-36-0	Antimony	<0.440	1	U	0.110	0.440	0.500	EPA 6020A	
7440-38-2	Arsenic	<10.0	1	U	0.610	10.0	15.0	EPA 6020A	
7440-39-3	Barium	62.9	1		2.00	8.00	10.0	EPA 6020A	
7440-41-7	Beryllium	<0.370	1	U	0.0940	0.370	0.800	EPA 6020A	
7440-43-9	Cadmium	0.638	1	J	0.110	4.00	8.00	EPA 6020A	
~~7440-70-2~~	~~Calcium~~ exclude	~~50500~~	~~1~~	~~E~~	~~36.0~~	~~1200~~	~~1750~~	~~EPA 6020A~~	
7440-47-3	Chromium	1.61	1	J	0.450	3.00	5.00	EPA 6020A	
7440-48-4	Cobalt	0.687	1	J	0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper 0.880	~~0.325~~ U	1	~~J~~	0.220	0.880	1.50	EPA 6020A	FBL
~~7439-89-6~~	~~Iron~~ exclude	~~2040~~	~~1~~	~~E~~	~~3.80~~	~~15.0~~	~~25.0~~	~~EPA 6020A~~	
7439-92-1	Lead	<0.600	1	U	0.160	0.600	1.00	EPA 6020A	
7439-95-4	Magnesium	1570	1		30.0	120	200	EPA 6020A	
~~7439-96-5~~	~~Manganese~~ exclude	~~235~~	~~1~~	~~E~~	~~0.320~~	~~1.28~~	~~2.00~~	~~EPA 6020A~~	
7440-02-0	Nickel	0.796	1	J	0.320	1.20	2.00	EPA 6020A	
7440-09-7	Potassium	1320	1	J	48.0	1750	3500	EPA 6020A	
7782-49-2	Selenium	<2.60	1	U	0.650	2.60	4.00	EPA 6020A	
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A	
7440-23-5	Sodium	5210 J	1		32.0	120	200	EPA 6020A	SD
7440-28-0	Thallium	<0.230	1	U	0.0580	0.230	0.400	EPA 6020A	
7440-62-2	Vanadium	2.10 J	1		0.200	0.800	1.00	EPA 6020A	SD
~~7440-66-6~~	~~Zinc~~ exclude	~~147 J~~	~~1~~	~~E~~	~~1.60~~	~~6.40~~	~~10.0~~	~~EPA 6020A~~	SD

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22RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW80-15A

Laboratory: ENCO Orlando

SDG: A501431-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water

Laboratory ID: A501431-22RE1

File ID: 032515_RP1_DOD-034

Sampled: 03/10/15 09:25

Prepared: 03/12/15 07:26

Analyzed: 03/25/15 10:51

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C11045

Sequence: AA33131

Calibration: 1503093

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	1160	10	D	68.0	250	450	EPA 6020A
7440-70-2	Calcium	50300	10	D	360	12000	17500	EPA 6020A
7439-89-6	Iron	2210	10	D	38.0	150	250	EPA 6020A
7439-96-5	Manganese	239	10	D	3.20	12.8	20.0	EPA 6020A
7440-66-6	Zinc	164	10	D	16.0	64.0	100	EPA 6020A

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IR06-EB01-030915

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-23
File ID: 032515_RP1_DOD-016
Sampled: 03/09/15 18:10
Prepared: 03/12/15 07:26
Analyzed: 03/25/15 09:16
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C11045
Sequence: AA33131
Calibration: 1503093
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	<25.0	1	U	6.80	25.0	45.0	EPA 6020A
7440-36-0	Antimony	<0.440	1	U	0.110	0.440	0.500	EPA 6020A
7440-38-2	Arsenic	<10.0	1	U	0.610	10.0	15.0	EPA 6020A
7440-39-3	Barium	<8.00	1	U	2.00	8.00	10.0	EPA 6020A
7440-41-7	Beryllium	<0.370	1	U	0.0940	0.370	0.800	EPA 6020A
7440-43-9	Cadmium	<4.00	1	U	0.110	4.00	8.00	EPA 6020A
7440-70-2	Calcium	<1200	1	U	36.0	1200	1750	EPA 6020A
7440-47-3	Chromium	<3.00	1	U	0.450	3.00	5.00	EPA 6020A
7440-48-4	Cobalt	<0.840	1	U	0.210	0.840	1.00	EPA 6020A
7440-50-8	Copper	0.416	1	J	0.220	0.880	1.50	EPA 6020A
7439-89-6	Iron	4.02	1	J	3.80	15.0	25.0	EPA 6020A
7439-92-1	Lead	<0.600	1	U	0.160	0.600	1.00	EPA 6020A
7439-95-4	Magnesium	<120	1	U	30.0	120	200	EPA 6020A
7439-96-5	Manganese	1.02	1	J	0.320	1.28	2.00	EPA 6020A
7440-02-0	Nickel	<1.20	1	U	0.320	1.20	2.00	EPA 6020A
7440-09-7	Potassium	<1750	1	U	48.0	1750	3500	EPA 6020A
7782-49-2	Selenium	<2.60	1	U	0.650	2.60	4.00	EPA 6020A
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A
7440-23-5	Sodium	<120	1	U	32.0	120	200	EPA 6020A
7440-28-0	Thallium	<0.230	1	U	0.0580	0.230	0.400	EPA 6020A
7440-62-2	Vanadium	<0.800	1	U	0.200	0.800	1.00	EPA 6020A
7440-66-6	Zinc	<6.40	1	U	1.60	6.40	10.0	EPA 6020A

MW 5/21/15

INORGANIC ANALYSIS DATA SHEET

EPA 7470A

IR06-GW04-15A

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-01
File ID: Hg 5C19034 20012 w-023
Sampled: 03/09/15 17:05
Prepared: 03/24/15 12:52
Analyzed: 03/25/15 06:44
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19034
Sequence: AA33124
Calibration: 1503095
Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

MW 5/21/15

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INORGANIC ANALYSIS DATA SHEET

EPA 7470A

IR06-GW04D-15A

Laboratory: ENCO Orlando

SDG: A501431-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water

Laboratory ID: A501431-02

File ID: Hg 5C19034 20012 w-024

Sampled: 03/09/15 17:00

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 06:47

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

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IR06-GW16-15A

INORGANIC ANALYSIS DATA SHEET

EPA 7470A

Laboratory: ENCO Orlando

SDG: A501431-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water

Laboratory ID: A501431-03

File ID: Hg 5C19034 20012 w-027

Sampled: 03/10/15 11:40

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 06:56

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

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INORGANIC ANALYSIS DATA SHEET

EPA 7470A

IR06-GW31-15A

Laboratory: ENCO Orlando

SDG: A501431-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water

Laboratory ID: A501431-05

File ID: Hg 5C19034 20012 w-028

Sampled: 03/10/15 08:45

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 07:00

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

MW 5/21/15

INORGANIC ANALYSIS DATA SHEET

EPA 7470A

IR06-GW55-15A

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-10
File ID: Hg 5C19034 20012 w-029
Sampled: 03/09/15 17:55
Prepared: 03/24/15 12:52
Analyzed: 03/25/15 07:03
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19034
Sequence: AA33124
Calibration: 1503095
Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

MW 5/21/15

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IR06-GW64-15A

INORGANIC ANALYSIS DATA SHEET

EPA 7470A

Laboratory: ENCO Orlando

SDG: A501431-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water

Laboratory ID: A501431-14

File ID: Hg 5C19034 20012 w-030

Sampled: 03/10/15 16:15

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 07:06

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

MW 5/26/15

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INORGANIC ANALYSIS DATA SHEET

EPA 7470A

IR06-GW80-15A

Laboratory: ENCO Orlando
SDG: A501431-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501431-22
File ID: Hg 5C19034 20012 w-031
Sampled: 03/10/15 09:25
Prepared: 03/24/15 12:52
Analyzed: 03/25/15 07:09
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19034
Sequence: AA33124
Calibration: 1503095
Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

MW 5/21/15

23

INORGANIC ANALYSIS DATA SHEET

EPA 7470A

IR06-EB01-030915

Laboratory: ENCO Orlando

SDG: A501431-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water

Laboratory ID: A501431-23

File ID: Hg 5C19034 20012 w-032

Sampled: 03/09/15 18:10

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 07:12

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

MW 5/21/15