M67001.AR.006983
MCB CAMP LEJEUNE
5090.3a

VALIDATED DATA PACKAGE, A501539, MCB CAMP LEJEUNE NC
5/22/2015
ENVIRONMENTAL DATA SERVICES

ENVIRONMENTAL
Data Services, Inc.

DATA VALIDATION SUMMARY REPORT
MCB CAMP LEJEUNE, NORTH CAROLINA

Client: CH2M HILL, Inc., Virginia Beach, Virginia
SDG: A501539
Laboratory: Environmental Conservation Laboratories, Inc., Orlando, Florida
Site: MCB Camp Lejeune, LTM FY2015 Q2, Sites 6/82, CTO-WE86
Date: May 22, 2015

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	IR06-GW01-15A	A501539-01	Water
1MS	IR06-GW01-15AMS	A501539-01MS	Water
1MSD	IR06-GW01-15AMSD	A501539-01MSD	Water
1RE	IR06-GW01-15ARE	A501539-01RE	Water
2	IR82-GW04-15A	A501539-02	Water
2RE	IR82-GW04-15ARE	A501539-02RE	Water
3	IR82-GW07-15A	A501539-03	Water
3RE	IR82-GW07-15ARE	A501539-03RE	Water
4	IR82-GW13-15A	A501539-04	Water
4RE	IR82-GW13-15ARE	A501539-04RE	Water
5	IR06-GW28S-15A	A501539-05	Water
6	IR06-GW30-15A	A501539-06	Water
6RE	IR06-GW30-15ARE	A501539-06RE	Water
7	IR06-GW32-15A	A501539-07	Water
8	IR06-GW33-15A	A501539-08	Water
9	IR06-GW34-15A	A501539-09	Water
10	IR06-GW34D-15A	A501539-10	Water
10RE	IR06-GW34D-15ARE	A501539-10RE	Water
11	IR06-GW41-15A	A501539-11	Water
11RE	IR06-GW41-15ARE	A501539-11RE	Water
12	IR06-GW42-15A	A501539-12	Water
12RE	IR06-GW42-15ARE	A501539-12RE	Water
13	IR06-82GW02-15A	A501539-13	Water
13RE	IR06-82GW02-15ARE	A501539-13RE	Water
14	IR06-82GW03-15A	A501539-14	Water
14RE	IR06-82GW03-15ARE	A501539-14RE	Water
15	IR82-EB-031115-GW	A501539-15	Water
16	IR06-82GW02D-15A	A501539-16	Water
16RE	IR06-82GW02D-15ARE	A501539-16RE	Water

A full data validation was performed on the analytical data for fifteen water samples and one aqueous equipment blank sample collected on March 10-12, 2015 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*
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 Inorganic Data Review as follows:

- 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:

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.

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 except the following.

CCV	Compound	%R	Qualifier	Affected Samples
CCV4*	Iron	84%	J/UJ	10, 11, 12, 13, 14, 16

* - All affected samples were reanalyzed with acceptable calibration recoveries. The reanalysis iron results should be used for reporting purposes.

Method Blank

- The method blanks were free of contamination.

Field Blank

- The field QC samples exhibited the following contamination.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
IR82-EB-031115-GW	Calcium	51.0	None	All >10X
	Copper	2.76	U	2, 3, 4, 9, 10, 12
	Magnesium	33.1	None	All >10X
	Manganese	0.453	U	5, 8, 11, 12
	Nickel	0.635	U	1, 2, 3, 6-10, 13, 14, 16
	Sodium	188	None	All >10X
	Zinc	1.77	U	3, 5, 7, 9, 10, 14

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 except the following.

MS/MSD Sample ID	Compound	MS %R/MSD %R/ RPD	Qualifier	Affected Samples
1	Calcium	85%/66%/OK	None	4X Rule

ICP Serial Dilution

- ICP serial dilution percent differences (%D) were within acceptance limits except the following.

ICP Sample ID	Compound	%D	Qualifier	Affected Samples
1	Barium	18%	J	All Samples except 15
	Selenium	22%	J	1, 4, 9, 10

Compound Quantitation

- Several samples were reanalyzed for various reasons and several compounds were reported in the reanalysis. Please refer to the Form Is for which sample results to use for reporting purposes.

Field Duplicate Sample Precision

- Field duplicate results are summarized below.

Metals				
Compound	IR06-GW34-15A ug/L	IR06-GW34D-15A ug/L	RPD	Qualifier
Aluminum	346	372	7%	None
Barium	57.2	56.3	2%	
Beryllium	0.225	0.183	21%	
Calcium	3950	3960	0%	
Cobalt	0.901	0.901	0%	
Lead	0.167	0.163	2%	
Magnesium	6460	6980	8%	
Manganese	6.98	7.38	6%	
Potassium	1890	1810	4%	
Selenium	0.819	0.828	1%	
Sodium	5880	5450	8%	

Metals				
Compound	IR06-82GW02-15A ug/L	IR06-82GW02D-15A ug/L	RPD	Qualifier
Aluminum	160	147	8%	None
Antimony	0.173	2.20U	NC	
Barium	65.1	60.1	8%	
Calcium	154000	147000	5%	
Chromium	1.44	15.0U	NC	
Cobalt	0.504	4.20U	NC	
Iron	9670	9180	5%	
Magnesium	18000	15800	13%	
Manganese	70.5	66.3	6%	
Potassium	119	8750U	NC	
Sodium	239000	217000	10%	
Vanadium	1.60	1.12	35%	None - <5X LOD

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

Signed: Nancy Weaver Dated: 5/26/15

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.

SOP MET-15 - Summary Report
Sampl A501539-15
Sampl Thursday, March 26, 2015 09:33:23
Sampl Sample
Instrument Description: OMICPMS1 S/N W0540312H
Numb 3
Sampl C:\Elandata\Sample\Mar 2015\032615.sam
Meth C:\Elandata\Method\Mar 2015\032615_RP1_DOD.mth
Datas C:\Elandata\DataSet\Mar 2015\032615\A501539-15.028
Tunin C:\Elandata\Tuning\Mar 2015\032615.tun
Optim C:\Elandata\Optimize\Mar 2015\032615.dac

EDS #15

Concentration Results

	Analyt	Mass	Meas. Inte	Net Intens.	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit	
|-	Be	9	15.333	4.55E-05	0.0457	0.0186	40.6406	ug/L	
|	Na	23	123043.8	0.486237	188.2222	4.6007	2.4443	ug/L	
|	Mg	24	4584.55	0.018018	33.0954	1.5924	4.8115	ug/L	
|	Al	27	4667.883	0.017933	3.0801	0.7926	25.7343	ug/L	
|	K	39	37008.56	0.021599	-28.4161	0.4542	1.5982	ug/L	
|	Ca	43	922.047	0.003063	50.9789	2.1177	4.154	ug/L	≈ 51
|>	Sc	45	252049	252049				ug/L	
|-	V	51	1943.298	0.000702	-0.1505	0.0198	13.1449	ug/L	
|>	In	115	179187.2	179187.2				ug/L	
|	Cr	52	112.001	0.000175	-0.038	0.0219	57.6491	ug/L	
|-	Fe	56	2621.044	0.012898	-1.315	0.0407	3.095	ug/L	
|-	Cr-1	52	7197.516	0.012183	0.2676	0.0402	15.0165	ug/L	
|	Mn	55	5205.493	0.081772	0.4527	0.0348	7.6881	ug/L	
|	Co	59	430.677	0.007161	0.0904	0.0039	4.3629	ug/L	
|	Ni	60	1215.415	0.021539	0.6353	0.0317	4.9955	ug/L	
|	Cu	65	5802.518	0.103909	2.7585	0.0461	1.6697	ug/L	2.76
|	Zn	66	2926.471	0.049011	1.7701	0.1039	5.8669	ug/L	
|>	Ge	72	55280.27	55280.27				ug/L	
|-	As	75	253.004	1.85E-05	-0.1817	0.0032	1.7657	ug/L	
|	Se	78	15.953	4.17E-05	-0.3765	0.0092	2.4452	ug/L	
|>	In-1	115	367726.5	367726.5				ug/L	
|-	Ag	107	34.667	8.42E-06	-0.0039	0.0008	21.0272	ug/L	
|	Cd	111	293.402	-4.4E-05	0.0015	0.0052	339.3997	ug/L	
|>	In-2	115	656117.3	656117.3				ug/L	
|	Sb	121	89.334	0.000119	-0.0063	0.0054	85.5525	ug/L	
|-	Ba	135	2347.636	0.003528	0.7849	0.0189	2.404	ug/L	
|>	Ho	165	638264.8	638264.8				ug/L	
|	Tl	205	24	0.000004	-0.017	0.0009	5.5087	ug/L	
|	Pb	206	113.334	0.000139	-0.0858	0.006	6.9969	ug/L	
|	Pb	207	111.334	0.000148	-0.0666	0.0014	2.13	ug/L	
|-	Pb	208	494.005	0.000633	-0.0963	0.0014	1.4757	ug/L	

QC Calculated Values

Analyt	Mass	QC St	Int Std % R	Spike % Re	Dilution % Diff	Dup. Rel. % Diff
|-	Be	9				

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INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW01-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-01
File ID: 032615_RP1_DOD-018
Sampled: 03/11/15 17:15
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 09:41
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
7429-90-5	Aluminum	7.91	1	J	6.80	25.0	45.0	EPA 6020A	
7440-36-0	Antimony	0.578	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	16.3 J	1	~~J~~	2.00	8.00	10.0	EPA 6020A	SD
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	~~47500~~	~~1~~	~~EQ~~	~~36.0~~	~~1200~~	~~1750~~	~~EPA 6020A~~	
7440-47-3	Chromium	0.526	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	1	U	0.220	0.880	1.50	EPA 6020A	
7439-89-6	Iron	<15.0	1	U	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	1630	1		30.0	120	200	EPA 6020A	
7439-96-5	Manganese	<1.28	1	U	0.320	1.28	2.00	EPA 6020A	
7440-02-0	Nickel	1.20 ~~0.564~~ U	1	~~J~~	0.320	1.20	2.00	EPA 6020A	EBL
7440-09-7	Potassium	2020	1	J	48.0	1750	3500	EPA 6020A	
7782-49-2	Selenium	5.15 J	1	~~J~~	0.650	2.60	4.00	EPA 6020A	SD
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A	
7440-23-5	Sodium	2000	1		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	0.583	1	J	0.200	0.800	1.00	EPA 6020A	
7440-66-6	Zinc	<6.40	1	U	1.60	6.40	10.0	EPA 6020A	

NW 5/21/15

IRE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW01-15A

Laboratory: ENCO Orlando

SDG: A501539-CTOWE86

Client: CH2M Hill, Inc. (CH025)

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

Matrix: Ground Water

Laboratory ID: A501539-01RE1

File ID: 032615_RP1_DOD-020

Sampled: 03/11/15 17:15

Prepared: 03/19/15 14:04

Analyzed: 03/26/15 09:48

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19030

Sequence: AA33151

Calibration: 1503098

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7440-70-2	Calcium	47900	10	~~D~~	360	12000	17500	EPA 6020A

MW 5/21/15

2

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR82-GW04-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-02
File ID: 032615_RP1_DOD-027
Sampled: 03/10/15 17:15
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 10:37
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
7429-90-5	Aluminum	39.3	1	J	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	11.9 J	1		2.00	8.00	10.0	EPA 6020A	SD
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	~~69800~~	~~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	<0.840	1	U	0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper 0.880	~~0.279~~ U	1	~~J~~	0.220	0.880	1.50	EPA 6020A	EBL
~~7439-89-6~~	~~Iron~~ exclude	~~2100~~	~~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	1840	1		30.0	120	200	EPA 6020A	
7439-96-5	Manganese	32.1	1		0.320	1.28	2.00	EPA 6020A	
7440-02-0	Nickel 1.20	~~0.854~~ U	1	~~J~~	0.320	1.20	2.00	EPA 6020A	EBL
7440-09-7	Potassium	1030	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~~ exclude	~~12100~~	~~1~~	~~E~~	~~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

2RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR82-GW04-15A

Laboratory: ENCO Orlando

SDG: A501539-CTOWE86

Client: CH2M Hill, Inc. (CH025)

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

Matrix: Ground Water

Laboratory ID: A501539-02RE1

File ID: 032615_RP1_DOD-028

Sampled: 03/10/15 17:15

Prepared: 03/19/15 14:04

Analyzed: 03/26/15 10:40

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19030

Sequence: AA33151

Calibration: 1503098

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7440-70-2	Calcium	77500	10	D	360	12000	17500	EPA 6020A
7439-89-6	Iron	2250	10	D	38.0	150	250	EPA 6020A
7440-23-5	Sodium	12500	10	D	320	1200	2000	EPA 6020A

MW 5/21/15

3

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR82-GW07-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-03
File ID: 032615_RP1_DOD-029
Sampled: 03/10/15 18:45
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 10:44
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
7429-90-5	Aluminum	87.5	1		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	9.34 J	1	~~J~~	2.00	8.00	10.0	EPA 6020A	SD
7440-41-7	Beryllium	0.0981	1	J	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	~~31600~~	~~1~~	~~E~~	~~36.0~~	~~1200~~	~~1750~~	~~EPA 6020A~~	
7440-47-3	Chromium	1.48	1	J	0.450	3.00	5.00	EPA 6020A	
7440-48-4	Cobalt	0.296	1	J	0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper 0.88	0 ~~0.386~~ u	1	~~J~~	0.220	0.880	1.50	EPA 6020A	EBL
7439-89-6	Iron	518	1		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	1480	1		30.0	120	200	EPA 6020A	
7439-96-5	Manganese	6.74	1		0.320	1.28	2.00	EPA 6020A	
7440-02-0	Nickel	1.29 u	1	~~J~~	0.320	1.20	2.00	EPA 6020A	EBL
7440-09-7	Potassium	990	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	7900	1		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	0.600	1	J	0.200	0.800	1.00	EPA 6020A	
7440-66-6	Zinc	10.6 u	1		1.60	6.40	10.0	EPA 6020A	EBL

MW 5/21/15

3RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR82-GW07-15A

Laboratory: ENCO Orlando

SDG: A501539-CTOWE86

Client: CH2M Hill, Inc. (CH025)

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

Matrix: Ground Water

Laboratory ID: A501539-03RE1

File ID: 032615_RP1_DOD-030

Sampled: 03/10/15 18:45

Prepared: 03/19/15 14:04

Analyzed: 03/26/15 10:47

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19030

Sequence: AA33151

Calibration: 1503098

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7440-70-2	Calcium	34400	5	~~D~~	180	6000	8750	EPA 6020A

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INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR82-GW13-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-04
File ID: 032615_RP1_DOD-033
Sampled: 03/12/15 16:50
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 11:18
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
7429-90-5	Aluminum	347	1		6.80	25.0	45.0	EPA 6020A	
7440-36-0	Antimony	0.149	1	J	0.110	0.440	0.500	EPA 6020A	
7440-38-2	Arsenic	2.52	1	J	0.610	10.0	15.0	EPA 6020A	
7440-39-3	Barium	89.4 J	1		2.00	8.00	10.0	EPA 6020A	SD
7440-41-7	Beryllium	0.995	1		0.0940	0.370	0.800	EPA 6020A	
7440-43-9	Cadmium	0.516	1	J	0.110	4.00	8.00	EPA 6020A	
~~7440-70-2~~	~~Calcium~~ exclude	~~61900~~	~~1~~	~~E~~	~~36.0~~	~~1200~~	~~1750~~	~~EPA 6020A~~	
7440-47-3	Chromium	0.803	1	J	0.450	3.00	5.00	EPA 6020A	
7440-48-4	Cobalt	13.7	1		0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper 0.880	~~0.231~~ U	1	✓	0.220	0.880	1.50	EPA 6020A	EBL
~~7439-89-6~~	~~Iron~~ exclude	~~1640~~	~~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	4340	1		30.0	120	200	EPA 6020A	
~~7439-96-5~~	~~Manganese~~ exclude	~~316~~	~~1~~	~~E~~	~~0.320~~	~~1.28~~	~~2.00~~	~~EPA 6020A~~	
7440-02-0	Nickel	35.5	1		0.320	1.20	2.00	EPA 6020A	
7440-09-7	Potassium	3470	1	J	48.0	1750	3500	EPA 6020A	
7782-49-2	Selenium	1.16 J	1	✓	0.650	2.60	4.00	EPA 6020A	SD
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A	
7440-23-5	Sodium	7430	1		32.0	120	200	EPA 6020A	
7440-28-0	Thallium	0.201	1	J	0.0580	0.230	0.400	EPA 6020A	
7440-62-2	Vanadium	0.418	1	J	0.200	0.800	1.00	EPA 6020A	
~~7440-66-6~~	~~Zinc~~ exclude	~~107~~	~~1~~	~~E~~	~~1.60~~	~~6.40~~	~~10.0~~	~~EPA 6020A~~	

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INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR82-GW13-15A

Laboratory: ENCO Orlando

SDG: A501539-CTOWE86

Client: CH2M Hill, Inc. (CH025)

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

Matrix: Ground Water

Laboratory ID: A501539-04RE1

File ID: 032615_RP1_DOD-034

Sampled: 03/12/15 16:50

Prepared: 03/19/15 14:04

Analyzed: 03/26/15 11:22

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19030

Sequence: AA33151

Calibration: 1503098

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7440-70-2	Calcium	66500	10	~~D~~	360	12000	17500	EPA 6020A
7439-89-6	Iron	1760	10	~~D~~	38.0	150	250	EPA 6020A
7439-96-5	Manganese	313	10	~~D~~	3.20	12.8	20.0	EPA 6020A
7440-66-6	Zinc	120	10	~~D~~	16.0	64.0	100	EPA 6020A

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INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW28S-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-05
File ID: 032615_RP1_DOD-037
Sampled: 03/11/15 17:20
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 11:33
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
7429-90-5	Aluminum	103	1		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	26.2 J	1		2.00	8.00	10.0	EPA 6020A	SD
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	1590	1	J	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	0.393	1	J	0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper	<0.880	1	U	0.220	0.880	1.50	EPA 6020A	
7439-89-6	Iron	<15.0	1	U	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	2250	1		30.0	120	200	EPA 6020A	
7439-96-5	Manganese	2.05 U	1		0.320	1.28	2.00	EPA 6020A	EBL
7440-02-0	Nickel	<1.20	1	U	0.320	1.20	2.00	EPA 6020A	
7440-09-7	Potassium	532	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	7220	1		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	12.5 U	1		1.60	6.40	10.0	EPA 6020A	EBL

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INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW30-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-06
File ID: 032615_RP1_DOD-035
Sampled: 03/11/15 17:15
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 11:26
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
7429-90-5	Aluminum	50.5	1		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	16.6 J	1		2.00	8.00	10.0	EPA 6020A	SD
7440-41-7	Beryllium	0.405	1	J	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	~~36000~~	~~1~~	~~E~~	~~36.0~~	~~1200~~	~~1750~~	~~EPA 6020A~~	
7440-47-3	Chromium	1.56	1	J	0.450	3.00	5.00	EPA 6020A	
7440-48-4	Cobalt	1.32	1		0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper	<0.880	1	U	0.220	0.880	1.50	EPA 6020A	
~~7439-89-6~~	~~Iron~~ exclude	~~1890~~	~~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	19.9	1		0.320	1.28	2.00	EPA 6020A	
7440-02-0	Nickel	3.22 u	1		0.320	1.20	2.00	EPA 6020A	EBL
7440-09-7	Potassium	1290	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	6940	1		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	0.232	1	J	0.200	0.800	1.00	EPA 6020A	
7440-66-6	Zinc	28.8	1		1.60	6.40	10.0	EPA 6020A	

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6RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW30-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-06RE1
File ID: 032615_RP1_DOD-036
Sampled: 03/11/15 17:15
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 11:30
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7440-70-2	Calcium	39400	10	~~D~~	360	12000	17500	EPA 6020A
7439-89-6	Iron	1940	10	~~D~~	38.0	150	250	EPA 6020A

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INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW32-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-07
File ID: 032615_RP1_DOD-038
Sampled: 03/10/15 16:40
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 11:37
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
7429-90-5	Aluminum	215	1		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	25.2 J	1		2.00	8.00	10.0	EPA 6020A	SD
7440-41-7	Beryllium	0.315	1	J	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	2190	1		36.0	1200	1750	EPA 6020A	
7440-47-3	Chromium	0.908	1	J	0.450	3.00	5.00	EPA 6020A	
7440-48-4	Cobalt	0.926	1	J	0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper	<0.880	1	U	0.220	0.880	1.50	EPA 6020A	
7439-89-6	Iron	313	1		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	1780	1		30.0	120	200	EPA 6020A	
7439-96-5	Manganese	12.7	1		0.320	1.28	2.00	EPA 6020A	
7440-02-0	Nickel	1.20 ~~0.645~~ U	1	✓	0.320	1.20	2.00	EPA 6020A	EBL
7440-09-7	Potassium	709	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	5040	1		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	0.342	1	J	0.200	0.800	1.00	EPA 6020A	
7440-66-6	Zinc	6.40 ~~2.97~~ U	1	✓	1.60	6.40	10.0	EPA 6020A	EBL

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INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW33-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-08
File ID: 032615_RP1_DOD-039
Sampled: 03/12/15 16:05
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 11:44
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
7429-90-5	Aluminum	300	1		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	35.1 J	1		2.00	8.00	10.0	EPA 6020A	SD
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	1250	1	J	36.0	1200	1750	EPA 6020A	
7440-47-3	Chromium	0.662	1	J	0.450	3.00	5.00	EPA 6020A	
7440-48-4	Cobalt	0.282	1	J	0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper	<0.880	1	U	0.220	0.880	1.50	EPA 6020A	
7439-89-6	Iron	84.9	1		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	1780	1		30.0	120	200	EPA 6020A	
7439-96-5	Manganese	2.43 U	1		0.320	1.28	2.00	EPA 6020A	EBL
7440-02-0	Nickel	1.20 ~~0.486~~ U	1	✓	0.320	1.20	2.00	EPA 6020A	EBL
7440-09-7	Potassium	554	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	6380	1		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	0.664	1	J	0.200	0.800	1.00	EPA 6020A	
7440-66-6	Zinc	<6.40	1	U	1.60	6.40	10.0	EPA 6020A	

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INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW34-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-09
File ID: 032615_RP1_DOD-040
Sampled: 03/12/15 12:50
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 11:48
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
7429-90-5	Aluminum	346	1		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	57.2 J	1		2.00	8.00	10.0	EPA 6020A	SD
7440-41-7	Beryllium	0.225	1	J	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	3950	1		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	0.901	1	J	0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper	0.880 ~~0.345~~ u	1	✓	0.220	0.880	1.50	EPA 6020A	EBL
7439-89-6	Iron	<15.0	1	U	3.80	15.0	25.0	EPA 6020A	
7439-92-1	Lead	0.167	1	J	0.160	0.600	1.00	EPA 6020A	
7439-95-4	Magnesium	6460	1		30.0	120	200	EPA 6020A	
7439-96-5	Manganese	6.98	1		0.320	1.28	2.00	EPA 6020A	
7440-02-0	Nickel	1.20 ~~0.490~~ u	1	✓	0.320	1.20	2.00	EPA 6020A	EBL
7440-09-7	Potassium	1890	1	J	48.0	1750	3500	EPA 6020A	
7782-49-2	Selenium	0.819 J	1	✓	0.650	2.60	4.00	EPA 6020A	SD
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A	
7440-23-5	Sodium	5880	1		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	6.80 u	1	✓	1.60	6.40	10.0	EPA 6020A	EBL

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INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW34D-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-10
File ID: 032615_RP1_DOD-043
Sampled: 03/12/15 12:55
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 12:16
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
7429-90-5	Aluminum	372	1		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	56.3 J	1		2.00	8.00	10.0	EPA 6020A	SD
7440-41-7	Beryllium	0.183	1	J	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	3960	1		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	0.901	1	J	0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper 0.880	~~0.342~~ U	1	~~J~~	0.220	0.880	1.50	EPA 6020A	EBL
~~7439-89-6~~	~~Iron~~ exclude	~~<15.0 UJ~~	~~1~~	~~UJ~~	~~3.80~~	~~15.0~~	~~25.0~~	~~EPA 6020A~~	~~CCL~~
7439-92-1	Lead	0.163	1	J	0.160	0.600	1.00	EPA 6020A	
7439-95-4	Magnesium	6980	1		30.0	120	200	EPA 6020A	
7439-96-5	Manganese	7.38	1		0.320	1.28	2.00	EPA 6020A	
7440-02-0	Nickel 1.20	~~0.540~~ U	1	~~J~~	0.320	1.20	2.00	EPA 6020A	EBL
7440-09-7	Potassium	1810	1	J	48.0	1750	3500	EPA 6020A	
7782-49-2	Selenium	0.828 J	1	~~J~~	0.650	2.60	4.00	EPA 6020A	SD
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A	
7440-23-5	Sodium	5450	1		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	7.24 U	1	~~J~~	1.60	6.40	10.0	EPA 6020A	EBL

MW 5/21/15

10RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW34D-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-10RE1
File ID: 032615b_RP2_DOD-013
Sampled: 03/12/15 12:55
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 15:42
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33172
Calibration: 1503106
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-89-6	Iron	<15.0	1	U	3.80	15.0	25.0	EPA 6020A

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INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW41-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-11
File ID: 032615_RP1_DOD-044
Sampled: 03/12/15 14:30
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 12:20
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
7429-90-5	Aluminum	360	1		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	65.0 J	1		2.00	8.00	10.0	EPA 6020A	SD
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	2340	1		36.0	1200	1750	EPA 6020A	
7440-47-3	Chromium	0.924	1	J	0.450	3.00	5.00	EPA 6020A	
7440-48-4	Cobalt	0.343	1	J	0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper	<0.880	1	U	0.220	0.880	1.50	EPA 6020A	
~~7439-89-6~~	~~Iron~~ exclude	~~210 J~~	~~1~~	~~R~~	~~3.80~~	~~15.0~~	~~25.0~~	~~EPA 6020A~~	~~CCL~~
7439-92-1	Lead	<0.600	1	U	0.160	0.600	1.00	EPA 6020A	
7439-95-4	Magnesium	1800	1		30.0	120	200	EPA 6020A	
7439-96-5	Manganese	33.4 u	1		0.320	1.28	2.00	EPA 6020A	RBL
7440-02-0	Nickel	<1.20	1	U	0.320	1.20	2.00	EPA 6020A	
7440-09-7	Potassium	2050	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	7540	1		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	0.263	1	J	0.200	0.800	1.00	EPA 6020A	
7440-66-6	Zinc	<6.40	1	U	1.60	6.40	10.0	EPA 6020A	

AWS 4/15

11RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW41-15A

Laboratory: ENCO Orlando

SDG: A501539-CTOWE86

Client: CH2M Hill, Inc. (CH025)

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

Matrix: Ground Water

Laboratory ID: A501539-11RE1

File ID: 032615b_RP2_DOD-014

Sampled: 03/12/15 14:30

Prepared: 03/19/15 14:04

Analyzed: 03/26/15 15:44

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19030

Sequence: AA33172

Calibration: 1503106

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-89-6	Iron	234	1		3.80	15.0	25.0	EPA 6020A

MW 5/21/15

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INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW42-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-12
File ID: 032615_RP1_DOD-046
Sampled: 03/12/15 15:05
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 12:31
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
~~7429-90-5~~	~~Aluminum~~ exclude	~~1840~~	~~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	77.7 J	1		2.00	8.00	10.0	EPA 6020A	SD
7440-41-7	Beryllium	0.550	1	J	0.0940	0.370	0.800	EPA 6020A	
7440-43-9	Cadmium	0.187	1	J	0.110	4.00	8.00	EPA 6020A	
~~7440-70-2~~	~~Calcium~~ exclude	~~12000~~	~~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	5.83	1		0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper	0.880 ~~0.412~~ U	1	✓	0.220	0.880	1.50	EPA 6020A	EBL
~~7439-89-6~~	~~Iron~~ exclude	~~378 J~~	~~1~~	~~ø~~	~~3.80~~	~~15.0~~	~~25.0~~	~~EPA 6020A~~	CCL
7439-92-1	Lead	0.391	1	J	0.160	0.600	1.00	EPA 6020A	
7439-95-4	Magnesium	5770	1		30.0	120	200	EPA 6020A	
7439-96-5	Manganese	36.8 u	1		0.320	1.28	2.00	EPA 6020A	EBL
7440-02-0	Nickel	7.11	1		0.320	1.20	2.00	EPA 6020A	
7440-09-7	Potassium	1540	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	1		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	21.7	1		1.60	6.40	10.0	EPA 6020A	

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12RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-GW42-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-12RE1
File ID: 032615_RP1_DOD-047
Sampled: 03/12/15 15:05
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 12:35
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	1890	3	~~D~~	20.4	75.0	135	EPA 6020A
7440-70-2	Calcium	12700	3	~~D~~	108	3600	5250	EPA 6020A
7439-89-6	Iron	420	1		3.80	15.0	25.0	EPA 6020A

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IR06-82GW02-15A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-13
File ID: 032615_RP1_DOD-048
Sampled: 03/12/15 18:55
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 12:38
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
7429-90-5	Aluminum	160	1		6.80	25.0	45.0	EPA 6020A	
7440-36-0	Antimony	0.173	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	65.1 J	1		2.00	8.00	10.0	EPA 6020A	SD
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	~~131000~~	~~1~~	~~E~~	~~36.0~~	~~1200~~	~~1750~~	~~EPA 6020A~~	
7440-47-3	Chromium	1.44	1	J	0.450	3.00	5.00	EPA 6020A	
7440-48-4	Cobalt	0.504	1	J	0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper	<0.880	1	U	0.220	0.880	1.50	EPA 6020A	
~~7439-89-6~~	~~Iron~~ exclude	~~4290 J~~	~~1~~	~~EQ~~	~~3.80~~	~~15.0~~	~~25.0~~	~~EPA 6020A~~	CCL
7439-92-1	Lead	<0.600	1	U	0.160	0.600	1.00	EPA 6020A	
~~7439-95-4~~	~~Magnesium~~ exclude	~~15200~~	~~1~~	~~E~~	~~30.0~~	~~120~~	~~200~~	~~EPA 6020A~~	
7439-96-5	Manganese	70.5	1		0.320	1.28	2.00	EPA 6020A	
7440-02-0	Nickel	1.84 U	1	~~J~~	0.320	1.20	2.00	EPA 6020A	EBL
7440-09-7	Potassium	119	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~~ exclude	~~225000~~	~~1~~	~~E~~	~~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	1.60	1		0.200	0.800	1.00	EPA 6020A	
7440-66-6	Zinc	<6.40	1	U	1.60	6.40	10.0	EPA 6020A	

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13RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-82GW02-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-13RE1
File ID: 032615_RP1_DOD-049
Sampled: 03/12/15 18:55
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 12:42
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7440-70-2	Calcium	154000	30	~~D~~	1080	36000	52500	EPA 6020A
7439-89-6	Iron	9670	30	~~D~~	114	450	750	EPA 6020A
7439-95-4	Magnesium	18000	30	~~D~~	900	3600	6000	EPA 6020A
7440-23-5	Sodium	239000	30	~~D~~	960	3600	6000	EPA 6020A

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14

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-82GW03-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-14
File ID: 032615_RP1_DOD-045
Sampled: 03/12/15 16:55
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 12:24
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
7429-90-5	Aluminum	654	1		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	29.3 J	1		2.00	8.00	10.0	EPA 6020A	SD
7440-41-7	Beryllium	0.114	1	J	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	1060	1	J	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	1.53	1		0.210	0.840	1.00	EPA 6020A	
7440-50-8	Copper	<0.880	1	U	0.220	0.880	1.50	EPA 6020A	
~~7439-89-6~~	~~Iron~~ exclude	~~49.7 J~~	~~1~~	~~Q~~	~~3.80~~	~~15.0~~	~~25.0~~	~~EPA 6020A~~	ECL
7439-92-1	Lead	0.490	1	J	0.160	0.600	1.00	EPA 6020A	
7439-95-4	Magnesium	2560	1		30.0	120	200	EPA 6020A	
7439-96-5	Manganese	17.0	1		0.320	1.28	2.00	EPA 6020A	
7440-02-0	Nickel	1.91 u	1	✓	0.320	1.20	2.00	EPA 6020A	EBL
7440-09-7	Potassium	687	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	6840	1		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 ~~4.64~~ u	1	✓	1.60	6.40	10.0	EPA 6020A	EBL

MW 5/21/15

14RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-82GW03-15A

Laboratory: ENCO Orlando

SDG: A501539-CTOWE86

Client: CH2M Hill, Inc. (CH025)

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

Matrix: Ground Water

Laboratory ID: A501539-14RE1

File ID: 032615b_RP2_DOD-015

Sampled: 03/12/15 16:55

Prepared: 03/19/15 14:04

Analyzed: 03/26/15 15:46

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19030

Sequence: AA33172

Calibration: 1503106

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-89-6	Iron	59.4	1		3.80	15.0	25.0	EPA 6020A

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IR82-EB-031115-GW

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-15
File ID: 032615_RP1_DOD-016
Sampled: 03/11/15 15:20
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 09:33
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
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	51.0	1	J	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	2.76	1		0.220	0.880	1.50	EPA 6020A
7439-89-6	Iron	<15.0	1	U	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	33.1	1	J	30.0	120	200	EPA 6020A
7439-96-5	Manganese	0.453	1	J	0.320	1.28	2.00	EPA 6020A
7440-02-0	Nickel	0.635	1	J	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	188	1	J	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	1.77	1	J	1.60	6.40	10.0	EPA 6020A

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IR06-82GW02D-15A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-16
File ID: 032615_RP1_DOD-050
Sampled: 03/12/15 19:00
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 12:51
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method	
7429-90-5	Aluminum	147	5	~~JD~~	34.0	125	225	EPA 6020A	
7440-36-0	Antimony	<2.20	5	~~UD~~	0.550	2.20	2.50	EPA 6020A	
7440-38-2	Arsenic	<50.0	5	~~UD~~	3.05	50.0	75.0	EPA 6020A	
7440-39-3	Barium	60.1 J	5	~~D~~	10.0	40.0	50.0	EPA 6020A	SD
7440-41-7	Beryllium	<1.85	5	~~UD~~	0.470	1.85	4.00	EPA 6020A	
7440-43-9	Cadmium	<20.0	5	~~UD~~	0.550	20.0	40.0	EPA 6020A	
~~7440-70-2~~	~~Calcium~~ exclude	~~138000~~	~~5~~	~~DE~~	~~180~~	~~6000~~	~~8750~~	~~EPA 6020A~~	
7440-47-3	Chromium	<15.0	5	~~UD~~	2.25	15.0	25.0	EPA 6020A	
7440-48-4	Cobalt	<4.20	5	~~UD~~	1.05	4.20	5.00	EPA 6020A	
7440-50-8	Copper	<4.40	5	~~UD~~	1.10	4.40	7.50	EPA 6020A	
~~7439-89-6~~	~~Iron~~ exclude	~~6320 J~~	~~5~~	~~DEQ~~	~~19.0~~	~~75.0~~	~~125~~	~~EPA 6020A~~	~~CCL~~
7439-92-1	Lead	<3.00	5	~~UD~~	0.800	3.00	5.00	EPA 6020A	
7439-95-4	Magnesium	15800	5	~~D~~	150	600	1000	EPA 6020A	
7439-96-5	Manganese	66.3	5	~~D~~	1.60	6.40	10.0	EPA 6020A	
7440-02-0	Nickel	6.00 ~~1.86~~ U	5	~~ID~~	1.60	6.00	10.0	EPA 6020A	EBL
7440-09-7	Potassium	<8750	5	~~UD~~	240	8750	17500	EPA 6020A	
7782-49-2	Selenium	<13.0	5	~~UD~~	3.25	13.0	20.0	EPA 6020A	
7440-22-4	Silver	<0.580	5	~~UD~~	0.145	0.580	1.12	EPA 6020A	
~~7440-23-5~~	~~Sodium~~ exclude	~~227000~~	~~5~~	~~DE~~	~~160~~	~~600~~	~~1000~~	~~EPA 6020A~~	
7440-28-0	Thallium	<1.15	5	~~UD~~	0.290	1.15	2.00	EPA 6020A	
7440-62-2	Vanadium	1.12	5	~~JD~~	1.00	4.00	5.00	EPA 6020A	
7440-66-6	Zinc	<32.0	5	~~UD~~	8.00	32.0	50.0	EPA 6020A	

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INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR06-82GW02D-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-16RE1
File ID: 032615_RP1_DOD-051
Sampled: 03/12/15 19:00
Prepared: 03/19/15 14:04
Analyzed: 03/26/15 12:55
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 50 mL / 50 mL
Batch: 5C19030
Sequence: AA33151
Calibration: 1503098
Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7440-70-2	Calcium	147000	30	D	1080	36000	52500	EPA 6020A
7439-89-6	Iron	9180	30	D	114	450	750	EPA 6020A
7440-23-5	Sodium	217000	30	D	960	3600	6000	EPA 6020A

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INORGANIC ANALYSIS DATA SHEET

EPA 7470A

IR06-GW01-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-01
File ID: Hg 5C19020 033 w-017
Sampled: 03/11/15 17:15
Prepared: 03/31/15 10:49
Analyzed: 04/01/15 06:43
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19020
Sequence: AA33226
Calibration: 1504002
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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IR82-GW04-15A

INORGANIC ANALYSIS DATA SHEET

EPA 7470A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-02
File ID: Hg 5C19020 033 w-023
Sampled: 03/10/15 17:15
Prepared: 03/31/15 10:49
Analyzed: 04/01/15 07:02
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19020
Sequence: AA33226
Calibration: 1504002
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

IR82-GW07-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-03
File ID: Hg 5C19020 033 w-024
Sampled: 03/10/15 18:45
Prepared: 03/31/15 10:49
Analyzed: 04/01/15 07:05
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19020
Sequence: AA33226
Calibration: 1504002
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

IR82-GW13-15A

Laboratory: ENCO Orlando

SDG: A501539-CTOWE86

Client: CH2M Hill, Inc. (CH025)

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

Matrix: Ground Water

Laboratory ID: A501539-04

File ID: Hg 5C19020 033 w-027

Sampled: 03/12/15 16:50

Prepared: 03/31/15 10:49

Analyzed: 04/01/15 07:15

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19020

Sequence: AA33226

Calibration: 1504002

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-GW28S-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-05
File ID: Hg 5C19020 033 w-028
Sampled: 03/11/15 17:20
Prepared: 03/31/15 10:49
Analyzed: 04/01/15 07:18
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19020
Sequence: AA33226
Calibration: 1504002
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-GW30-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-06
File ID: Hg 5C19020 033 w-029
Sampled: 03/11/15 17:15
Prepared: 03/31/15 10:49
Analyzed: 04/01/15 07:21
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19020
Sequence: AA33226
Calibration: 1504002
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-GW32-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-07
File ID: Hg 5C19020 033 w-030
Sampled: 03/10/15 16:40
Prepared: 03/31/15 10:49
Analyzed: 04/01/15 07:25
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19020
Sequence: AA33226
Calibration: 1504002
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-GW33-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-08
File ID: Hg 5C19020 033 w-031
Sampled: 03/12/15 16:05
Prepared: 03/31/15 10:49
Analyzed: 04/01/15 07:28
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19020
Sequence: AA33226
Calibration: 1504002
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-GW34-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-09
File ID: Hg 5C19020 033 w-032
Sampled: 03/12/15 12:50
Prepared: 03/31/15 10:49
Analyzed: 04/01/15 07:31
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19020
Sequence: AA33226
Calibration: 1504002
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-GW34D-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-10
File ID: Hg 5C19020 033 w-033
Sampled: 03/12/15 12:55
Prepared: 03/31/15 10:49
Analyzed: 04/01/15 07:34
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19020
Sequence: AA33226
Calibration: 1504002
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-GW41-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-11
File ID: Hg 5C19020 033 w-034
Sampled: 03/12/15 14:30
Prepared: 03/31/15 10:49
Analyzed: 04/01/15 07:37
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19020
Sequence: AA33226
Calibration: 1504002
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-GW42-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-12
File ID: Hg 5C19020 033 w-035
Sampled: 03/12/15 15:05
Prepared: 03/31/15 10:49
Analyzed: 04/01/15 07:41
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19020
Sequence: AA33226
Calibration: 1504002
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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IR06-82GW02-15A

INORGANIC ANALYSIS DATA SHEET

EPA 7470A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-13
File ID: Hg 5C19020 033 w-036
Sampled: 03/12/15 18:55
Prepared: 03/31/15 10:49
Analyzed: 04/01/15 07:44
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19020
Sequence: AA33226
Calibration: 1504002
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

IR06-82GW03-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-14
File ID: Hg 5C19020 033 w-039
Sampled: 03/12/15 16:55
Prepared: 03/31/15 10:49
Analyzed: 04/01/15 07:53
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19020
Sequence: AA33226
Calibration: 1504002
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

IR82-EB-031115-GW

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-15
File ID: Hg 5C19020 033 w-040
Sampled: 03/11/15 15:20
Prepared: 03/31/15 10:49
Analyzed: 04/01/15 07:57
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19020
Sequence: AA33226
Calibration: 1504002
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

IR06-82GW02D-15A

Laboratory: ENCO Orlando
SDG: A501539-CTOWE86
Client: CH2M Hill, Inc. (CH025)
Project: CTO-WE86 MCB Camp Lejeune Site 6/82

Matrix: Ground Water
Laboratory ID: A501539-16
File ID: Hg 5C19020 033 w-041
Sampled: 03/12/15 19:00
Prepared: 03/31/15 10:49
Analyzed: 04/01/15 08:00
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 30 mL / 30 mL
Batch: 5C19020
Sequence: AA33226
Calibration: 1504002
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

NW 5/21/15