



Enthalpy Analytical, LLC

931 W. Barkley Ave - Orange, CA 92868
Tel: (714)771-6900 Fax: (714)538-1209
www.enthalpy.com
info-sc@enthalpy.com



Client: Water Systems & Supplies
Address: 12802 Knott Street
Garden Grove, CA 92841

Lab Request: 391022
Report Date: 06/02/2017
Date Received: 05/24/2017
Client ID: 7117

Attn: Heidi Ngo

Comments: Eco Waterhouse
24671 La Plaza, Suite #2
Dana Point, CA 9262

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods. Methods accredited by NELAC are indicated on the report. This cover letter is an integral part of the final report.

Sample # **Client Sample ID**

391022-003 Eco Waterhouse

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

Report Review performed by: Chris Myrter, Project Specialist

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 60 days from date received.

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Matrix: Drinking Water

Client: Water Systems & Supplies

Collector: Client

Sampled: 05/24/2017 13:40

Site:

Sample #: 391022-003

Client Sample #: Eco Waterhouse

Sample Type:

Analyte	Result	DF	RDL	Units	Prepared	Analyzed By	Notes
Method: EPA 200.8	Prep Method: EPA 3010A					QCBatchID: QC1178982	
Lead	ND	1	5	ug/L	05/25/17	05/25/17	SBW
Method: EPA 524.2	Prep Method: 5030B					QCBatchID: QC1178993	
1,1,1,2-Tetrachloroethane	ND	1	0.5	ug/L		05/26/17	ZZ
1,1,1-Trichloroethane	ND	1	0.5	ug/L		05/26/17	ZZ
1,1,1,2-Tetrachloroethane	ND	1	0.5	ug/L		05/26/17	ZZ
1,1,2-Trichloroethane	ND	1	0.5	ug/L		05/26/17	ZZ
1,1,2-Trichlorotrifluoroethane	ND	1	10	ug/L		05/26/17	ZZ
1,1-Dichloroethane	ND	1	0.5	ug/L		05/26/17	ZZ
1,1-Dichloroethene	ND	1	0.5	ug/L		05/26/17	ZZ
1,1-Dichloropropene	ND	1	0.5	ug/L		05/26/17	ZZ
1,2,3-Trichlorobenzene	ND	1	0.5	ug/L		05/26/17	ZZ
1,2,4-Trichlorobenzene	ND	1	0.5	ug/L		05/26/17	ZZ
1,2,4-Trimethylbenzene	ND	1	0.5	ug/L		05/26/17	ZZ
1,2-Dibromo-3-chloropropane	ND	1	0.5	ug/L		05/26/17	ZZ
1,2-Dibromoethane	ND	1	0.5	ug/L		05/26/17	ZZ
1,2-Dichlorobenzene	ND	1	0.5	ug/L		05/26/17	ZZ
1,2-Dichloroethane	0.2	1	0.5	ug/L		05/26/17	ZZ
1,2-Dichloropropane	ND	1	0.5	ug/L		05/26/17	ZZ
1,3,5-Trimethylbenzene	ND	1	0.5	ug/L		05/26/17	ZZ
1,3-Dichlorobenzene	ND	1	0.5	ug/L		05/26/17	ZZ
1,3-Dichloropropane	ND	1	0.5	ug/L		05/26/17	ZZ
1,4-Dichlorobenzene	ND	1	0.5	ug/L		05/26/17	ZZ
2,2-Dichloropropane	ND	1	0.5	ug/L		05/26/17	ZZ
2-Chlorotoluene	ND	1	0.5	ug/L		05/26/17	ZZ
4-Chlorotoluene	ND	1	0.5	ug/L		05/26/17	ZZ
4-Isopropyltoluene	ND	1	0.5	ug/L		05/26/17	ZZ
Benzene	ND	1	0.5	ug/L		05/26/17	ZZ
Bromobenzene	ND	1	0.5	ug/L		05/26/17	ZZ
Bromochloromethane	ND	1	0.5	ug/L		05/26/17	ZZ
Bromodichloromethane	ND	1	0.5	ug/L		05/26/17	ZZ
Bromoform	ND	1	0.5	ug/L		05/26/17	ZZ
Bromomethane	ND	1	0.5	ug/L		05/26/17	ZZ
Carbon Tetrachloride	ND	1	0.5	ug/L		05/26/17	ZZ
Chlorobenzene	ND	1	0.5	ug/L		05/26/17	ZZ
Chlorodibromomethane	ND	1	0.5	ug/L		05/26/17	ZZ
Chloroethane	ND	1	0.5	ug/L		05/26/17	ZZ
Chloroform	0.1	1	0.5	ug/L		05/26/17	ZZ
Chloromethane	ND	1	0.5	ug/L		05/26/17	ZZ
cis-1,2-Dichloroethene	ND	1	0.5	ug/L		05/26/17	ZZ
cis-1,3-dichloropropene	ND	1	0.5	ug/L		05/26/17	ZZ
Dibromomethane	ND	1	0.5	ug/L		05/26/17	ZZ
Dichlorodifluoromethane	ND	1	0.5	ug/L		05/26/17	ZZ
Ethylbenzene	ND	1	0.5	ug/L		05/26/17	ZZ
Hexachlorobutadiene	ND	1	0.5	ug/L		05/26/17	ZZ
Isopropylbenzene	ND	1	0.5	ug/L		05/26/17	ZZ
m and p-Xylene	ND	1	0.5	ug/L		05/26/17	ZZ
Methylene chloride	ND	1	0.5	ug/L		05/26/17	ZZ
Methyl-t-butyl Ether (MTBE)	ND	1	3	ug/L		05/26/17	ZZ
Naphthalene	ND	1	0.5	ug/L		05/26/17	ZZ
N-butylbenzene	ND	1	0.5	ug/L		05/26/17	ZZ
N-propylbenzene	ND	1	0.5	ug/L		05/26/17	ZZ
o-Xylene	ND	1	0.5	ug/L		05/26/17	ZZ

Matrix: Drinking Water	Client: Water Systems & Supplies	Collector: Client
Sampled: 05/24/2017 13:40	Site:	
Sample #: <u>391022-003</u>	Client Sample #: Eco Waterhouse	Sample Type:

Analyte	Result	DF	RDL	Units	Prepared	Analyzed By	Notes
Sec-butylbenzene	ND	1	0.5	ug/L	05/26/17	ZZ	
Styrene	ND	1	0.5	ug/L	05/26/17	ZZ	
Tert-butylbenzene	ND	1	0.5	ug/L	05/26/17	ZZ	
Tetrachloroethene	ND	1	0.5	ug/L	05/26/17	ZZ	
Toluene	ND	1	0.5	ug/L	05/26/17	ZZ	
trans-1,2-dichloroethene	ND	1	0.5	ug/L	05/26/17	ZZ	
trans-1,3-dichloropropene	ND	1	0.5	ug/L	05/26/17	ZZ	
Trichloroethene	ND	1	0.5	ug/L	05/26/17	ZZ	
Trichlorofluoromethane	ND	1	5	ug/L	05/26/17	ZZ	
Vinyl Chloride	ND	1	0.5	ug/L	05/26/17	ZZ	
Xylenes (Total)	ND	1	0.5	ug/L	05/26/17	ZZ	

<u>Surrogate</u>	<u>% Recovery</u>	<u>Limits</u>	<u>Notes</u>
1,2-Dichloroethane-d4 (SUR)	118	70-145	
4-Bromofluorobenzene (SUR)	104	70-145	
Dibromofluoromethane (SUR)	108	70-145	
Toluene-d8 (SUR)	95	70-145	

Method: SM 2540-C	Prep Method: SM 2540-C	QCBatchID: QC1178997
Total Dissolved Solids	ND 0.25	2.5 mg/L 05/25/17 05/26/17 TD

Method: SM 9223-B-C	Prep Method: Method/Colisure	QCBatchID: QC1178959
Coliform, E. Coli	Absent	1 P/A 05/24/17 18:00 05/25/17 12:37 CO
Coliform, Total	Absent	1 P/A 05/24/17 18:00 05/25/17 12:37 CO

QCBatchID: <u>QC1178982</u>	Analyst: sbailey-woo	Method: EPA 200.8
Matrix: Drinking Water	Analyzed: 05/25/2017	Instrument: AAICP (group)

Blank Summary

Analyte	Blank Result	Units	RDL	Notes
QC1178982MB1				
Lead	ND	ug/L	5	

Lab Control Spike/ Lab Control Spike Duplicate Summary

Analyte	Spike Amount		Spike Result		Units	Recoveries			Limits		Notes
	LCS	LCSD	LCS	LCSD		LCS	LCSD	RPD	%Rec	RPD	
QC1178982LCS1											
Lead	50		45.9		ug/L	92			85-115		

Matrix Spike/Matrix Spike Duplicate Summary

Analyte	Sample Amount	Spike Amount		Spike Result		Units	Recoveries			Limits		Notes
		MS	MSD	MS	MSD		MS	MSD	RPD	%Rec	RPD	
QC1178982MS1												
Lead	ND	50		50.6		ug/L	101			70-130		

Source: 391022-003

QC Batch ID: **QC1178993**

Analyst: nicollez

Method: EPA 524.2

Matrix: Drinking Water

Analyzed: 05/26/2017

Instrument: VOA-MS (group)

Blank Summary

Analyte	Blank Result	Units	RDL	Notes
QC1178993MB1				
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	
1,1,1-Trichloroethane	ND	ug/L	0.5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	
1,1,2-Trichloroethane	ND	ug/L	0.5	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	10	
1,1-Dichloroethane	ND	ug/L	0.5	
1,1-Dichloroethene	ND	ug/L	0.5	
1,1-Dichloropropene	ND	ug/L	0.5	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	
1,2-Dibromo-3-chloropropane	ND	ug/L	0.5	
1,2-Dibromoethane	ND	ug/L	0.5	
1,2-Dichlorobenzene	ND	ug/L	0.5	
1,2-Dichloroethane	ND	ug/L	0.5	
1,2-Dichloropropane	ND	ug/L	0.5	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	
1,3-Dichlorobenzene	ND	ug/L	0.5	
1,3-Dichloropropane	ND	ug/L	0.5	
1,4-Dichlorobenzene	ND	ug/L	0.5	
2,2-Dichloropropane	ND	ug/L	0.5	
2-Chlorotoluene	ND	ug/L	0.5	
4-Chlorotoluene	ND	ug/L	0.5	
4-Isopropyltoluene	ND	ug/L	0.5	
Benzene	ND	ug/L	0.5	
Bromobenzene	ND	ug/L	0.5	
Bromochloromethane	ND	ug/L	0.5	
Bromodichloromethane	ND	ug/L	0.5	
Bromoform	ND	ug/L	0.5	
Bromomethane	ND	ug/L	0.5	
Carbon Tetrachloride	ND	ug/L	0.5	
Chlorobenzene	ND	ug/L	0.5	
Chlorodibromomethane	ND	ug/L	0.5	
Chloroethane	ND	ug/L	0.5	
Chloroform	ND	ug/L	0.5	
Chloromethane	ND	ug/L	0.5	
cis-1,2-Dichloroethene	ND	ug/L	0.5	
cis-1,3-dichloropropene	ND	ug/L	0.5	
Dibromomethane	ND	ug/L	0.5	
Dichlorodifluoromethane	ND	ug/L	0.5	
Ethylbenzene	ND	ug/L	0.5	
Hexachlorobutadiene	ND	ug/L	0.5	
Isopropylbenzene	ND	ug/L	0.5	
m and p-Xylene	ND	ug/L	0.5	
Methylene chloride	ND	ug/L	0.5	
Methyl-t-butyl Ether (MTBE)	ND	ug/L	3	
Naphthalene	ND	ug/L	0.5	
N-butylbenzene	ND	ug/L	0.5	
N-propylbenzene	ND	ug/L	0.5	
o-Xylene	ND	ug/L	0.5	
Sec-butylbenzene	ND	ug/L	0.5	

QCBatchID: QC1178993	Analyst: nicollez	Method: EPA 524.2
Matrix: Drinking Water	Analyzed: 05/26/2017	Instrument: VOA-MS (group)

Analyte	Blank Result	Units	RDL	Notes
QC1178993MB1				
Styrene	ND	ug/L	0.5	
Tert-butylbenzene	ND	ug/L	0.5	
Tetrachloroethene	ND	ug/L	0.5	
Toluene	ND	ug/L	0.5	
trans-1,2-dichloroethene	ND	ug/L	0.5	
trans-1,3-dichloropropene	ND	ug/L	0.5	
Trichloroethene	ND	ug/L	0.5	
Trichlorofluoromethane	ND	ug/L	5	
Vinyl Chloride	ND	ug/L	0.5	
Xylenes (Total)	ND	ug/L	0.5	

Lab Control Spike/ Lab Control Spike Duplicate Summary

Analyte	Spike Amount		Spike Result		Units	Recoveries			Limits		Notes
	LCS	LCSD	LCS	LCSD		LCS	LCSD	RPD	%Rec	RPD	
QC1178993LCS1											
1,1-Dichloroethene	25		28		ug/L	112			59-172		
Benzene	25		29		ug/L	116			62-137		
Chlorobenzene	25		25		ug/L	100			60-133		
Methyl-t-butyl Ether (MTBE)	25		26		ug/L	104			62-137		
Toluene	25		25		ug/L	100			59-139		
Trichloroethene	25		25		ug/L	100			66-142		

Matrix Spike/Matrix Spike Duplicate Summary

Analyte	Sample Amount	Spike Amount		Spike Result		Units	Recoveries			Limits		Notes
		MS	MSD	MS	MSD		MS	MSD	RPD	%Rec	RPD	
QC1178993MS1 Source: 391022-003												
1,1-Dichloroethene	ND	25		26		ug/L	104			59-172		
Benzene	ND	25		26		ug/L	104			62-137		
Chlorobenzene	ND	25		23		ug/L	92			60-133		
Methyl-t-butyl Ether (MTBE)	ND	25		25		ug/L	100			62-137		
Toluene	ND	25		23		ug/L	92			59-139		
Trichloroethene	ND	25		22		ug/L	88			66-142		

QCBatchID: <u>QC1178997</u>	Analyst: tdang	Method: SM 2540-C
Matrix: Drinking Water	Analyzed: 05/26/2017	Instrument: CHEM (group)

Blank Summary

Analyte	Blank Result	Units	RDL	Notes
QC1178997MB1				
Total Dissolved Solids	ND	mg/L	10	

Lab Control Spike/ Lab Control Spike Duplicate Summary

Analyte	Spike Amount		Spike Result		Units	Recoveries			Limits		Notes
	LCS	LCSD	LCS	LCSD		LCS	LCSD	RPD	%Rec	RPD	
QC1178997LCS1											
Total Dissolved Solids	3000		2960		mg/L	99			90-110		

Duplicate Summary

Analyte	Sample Amount	Duplicate Amount	Units	RPD	Limits RPD	Notes
QC1178997DUP1						
Total Dissolved Solids	7430	7410	mg/L	0.3	5	Source: 390937-001

Data Qualifiers and Definitions

Qualifiers

A	See Report Comments.
B	Analyte was present in an associated method blank.
B1	Analyte was present in a sample and associated method blank greater than MDL but less than RDL.
BQ1	No valid test replicates. Sample Toxicity is possible. Best result was reported.
BQ2	No valid test replicates.
BQ3	No valid test replicates. Final DO is less than 1.0 mg/L. Result may be greater.
C	Possible laboratory contamination.
D	RPD was not within control limits. The sample data was reported without further clarification.
D1	Lesser amount of sample was used due to insufficient amount of sample supplied.
D2	Reporting limit is elevated due to sample matrix. Target analyte was not detected above the elevated reporting limit.
D3	Insufficient sample was supplied for TCLP. Client was notified. TCLP was performed per the Client's instructions.
DW	Sample result is calculated on a dry weigh basis.
E	Concentration is estimated because it exceeds the quantification limits of the method.
I	The sample was read outside of the method required incubation period.
J	Reported value is estimated
L	The laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) was out of control limits. Associated sample data was reported with qualifier.
M	The matrix spike (MS) or matrix spike duplicate (MSD) was not within control limits due to matrix interference. The associated LCS and/or LCSD was within control limits and the sample data was reported without further clarification.
M1	The matrix spike (MS) or matrix spike duplicate (MSD) is not within control limits due to matrix interference.
M2	The matrix spike (MS) or matrix spike duplicate (MSD) was not within control limits. The associated LCS and/or LCSD was not within control limits. Sample result is estimated.
N1	Sample chromatography does not match the specified TPH standard pattern.
NC	The analyte concentration in the sample exceeded the spike level by a factor of four or greater, spike recovery and limits do not apply.
P	Sample was received without proper preservation according to EPA guidelines.
P1	Temperature of sample storage refrigerator was out of acceptance limits.
P2	The sample was preserved within 24 hours of collection in accordance with EPA 218.6.
P3	Per Client request, sample was composited for volatile analysis. Sample compositing for volatile analysis is not recommended due to potential loss of target analytes. Results may be biased low.
Q1	Analyte Calibration Verification exceeds criteria. The result is estimated.
Q2	Analyte calibration was not verified and the result was estimated.
Q3	Analyte initial calibration was not available or exceeds criteria. The result was estimated.
S	The surrogate recovery was out of control limits due to matrix interference. The associated method blank surrogate recovery was within control limits and the sample data was reported without further clarification.
S1	The associated surrogate recovery was out of control limits; result is estimated.
S2	The surrogate was diluted out due to the presence of high concentrations of target and/or non-target compounds. Surrogate recoveries in the associated batch QC met recovery criteria.
S3	Internal Standard did not meet recovery limits. Analyte concentration is estimated.
T	Sample was extracted/analyzed past the holding time.
T1	Reanalysis was reported past hold time due to failing replicates in the original analysis (BOD only).
T2	Sample was analyzed ASAP but received and analyzed past the 15 minute holding time.
T3	Sample received and analyzed out of hold time per client's request.
T4	Sample was analyzed out of hold time per client's request.
T5	Reanalysis was reported past hold time. The original analysis was within hold time, but not reportable.
T6	Hold time is indeterminable due to unspecified sampling time.
T7	Sample was analyzed past hold time due to insufficient time remaining at time of receipt.

Definitions

DF	Dilution Factor
MDL	Method Detection Limit. Result is reported ND when it is less than or equal to MDL.
ND	Analyte was not detected or was less than the detection limit.
NR	Not Reported. See Report Comments.
RDL	Reporting Detection Limit
TIC	Tentatively Identified Compounds