

City of Corpus Christi Water Utilities Laboratory 13101 Leopard Street 361-826-1200 Fax: 361-242-9131

Analytical Report



Client Info City Utilit 2726 Corp	of Corpus Chri ies Departmen Holly Road ius Christi, TX	isti it 78415					Repo Sam Date Date	ort# /Lab ID#: AB5 ple Name: 3710 S Received: 08/14/: Sampled: 08/14/:	58708 Report Date: 9/9/20 Seagull /2020 Time: 12:57 /2020 Time: 09:50
Phone:		_	EM	AIL: svc_	labworks@cctexas	.com			
Parameter	Result	Unit	Flag	RL ₅	Date/Time Analyzed	Metho	d	Analyst	Analysis Comments
Calcium	64	mg/l			8/17/20 14:20	SM 3500	Ca B	MONICAS	
Chloride by IC	110	mg/l	D		8/14/20 22:06	EPA 30	0.0	MONICAS	
Conductivity (@ 25 deg.C)	821	µmho/cm			8/17/20 14:05	SM251	0B	MONICAS	
Hardness as CaCO3 - SM2340C	216	mg/l			8/17/20 14:20			MONICAS	SM2340C
Sulfate	77	mg/l	D		8/14/20 22:06	EPA 30	0.0	MONICAS	
Total Alkalinity (to a pH of 4.5)	143	mg/l			8/14/20 13:23	SM 232	0B	MONICAS	
Total Dissolved Solids	764	mg/l			8/19/20 15:20	SM 254	0C	BR/DM/MJ	
Sample Comments:	-	-	-		-	-		-	

This analytical report is respectfully submitted by the Water Utilities Laboratory. The enclosed results reflect only the sample(s) identified above. The results have been carefully reviewed and, unless otherwise indicated, meet the NELAC requirements as described by the Water Utilities Lab's QA/QC program. No part of this report shall be reproduced or transmitted in any form or by any means without the written consent of the City of Corpus Christi-Water Utilities Lab.

Respectfully Submitted,

manares

Technical Director (or designee)

1. Quality assurance data for the sample batch which included this sample.

2. Precision (PREC) is the absolute value of the relative percent difference between duplicate results .

3. Recovery (RECOV) is the percent of analyte recovered from a spiked sample.

4. Laboratory Control Sample (LCS) results are expressed as the percent recovery of analyte.

5. Reporting Limit (RL), typically at or above the Limit of Quantitation (LOQ) of the analytical method.

6. Data Qualifiers:

N=Analysis not performed as per client request. H=Sample exceeded holding time. P=Analysis is from an unpreserved sample. J=Value reported is less than the RL but greater than the MDL.
X=MS/MSD recovery or duplicates analysis exceeded the acceptance limit or Standard failed. LA=Lab accident. LE=Lab error. OA=Outside the scope of the lab's NELAC accreditation.
U=Unsuitable; sample turned turbid after incubation. T=Sample below temp requirement; not on ice. EQ=Equipment failure. I=Information on sample bottle and COC does not match.
S=Slow to filter; sample contains floc and/or large amount of residue on filter. O=Analysis performed by an outside NELAC accredited lab; O^=Analysis flagged by outside laboratory.
Z=Too many colonies present to provide a result (TNTC). A=Value reported is the mean of two or more determinations. R=Reagent water contamination suspected. B=Sample broken in transit.
NI=Not analyzed due to interferences. K=BOD result estimated due to blank exceeding the allowable oxygen depletion.

				14	TEXAS	COMMISS		N ENVIRO		TAL QUALITY	679									
106	2		Com	pleted by PWS	S (or Agen	it)	MAME	TER MON	110	ING FORM 20	579	Cc	mpletec	by L	abora	atory				-
	PWS Name:	City	of Corpus Ch	risti						Labor	atory Name	:								
	PWS ID#:	TX 1780	0003							тс	EQ Lab ID #	:								
P	WS Address:	27	26 Holly Road	l Corpu	is Ch	risti, [·]	TX [.]	7841	5	Laborat	om: Addross									
F	PWS Contact:	Courtn	ey Lee									•								
PWS Cont	tact Phone #:	(361) 8	326-1847							Laborat	tory Contact	:								
Inhibit	tor or Stablizer (Jsed (√):	Phosphate	Silica		Calciu	m carbo	onate												
TR	REATMENT		Alkalinity Dosage Rate: N/A	Inhibitor Dos	age Rate:	N/A				Laboratory Co	ontact Phone #									
		Dung (AL)	Compliance	Sample Infor	mation							Parameters Reques	ed: Anal	vses	ire re	auire	d for i	he na	rame	te
	Sample Colle	rype (v): V	Public Water System	Accredited	d Lah	3rd Pa	ty Contr	ractor> 1 A	BID	A1		checked. * If inhibitor	contain	ng ph	ospha	te or	silica	are u	sed, I	ti
	Jampio Colli	(V or N): V	Are temperature and pH included	on the sampling er	ntity's	V Were te	mperatur	re and pH mea	sured i	n the field within 15 m	ninutes of sample	these parameters sno	uiu dis0 (use.	iyzed	ushe	nuing	UII WI	naciri	5
Temp	Perature and pri	(TOTN): Y	Laboratory Approval Form on file	at the TCEQ?		Y collection	n?			r				11					.	-
g. DS01,	Sample Point ID (e.g. DSTWQP,		Comula Landian	Date	Time - 24	Field	Measu	Jrements	teplacement?	Original Sample	Original Sample Date		Italinity (1927) atrium (1919)	hloride (1017)	onductivity (1064) andness (1915)	on (1028)	langanese (1032)	ulfate (1055)	DS (1930)	-Phosphale (1044)
DS01	DSTWQP)	3710) Seagull Blvd.	08/14/20	(HHMM 950		8	790	<u> </u>		(MMDDYY)	AB55718	 √ \	1	<u>∘ ∓</u> √ √	=	20	v V	<u>₽</u> 0	2
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mowledge that	at information on t	this form is tr	rue and correct and sites selected fo	r sampling follow t	he instruction	is in the TCEC	Monitor	ing and Samp	le Colle	ction Guidance for W	ater Quality		√ √ Sample C	√ onditi	√ √ •ns Ui	Pon Re	celpt	_√	V	_
meters. This in the state and/o	includes, but not i or federal law. {Te	imited to the exas Penal Co	measurement of pH and temperatu de, Title 8, Chapter 37.10)	re immediately up	on collection.	Faisification of	of this for	m or tamperir	ng with	water samples is a c	rime punishable	Samples received unpr	eserved?		lced		^	mbient		
e of Author	ized PWS Repres	entative (Pr	rint) Signature			Organizatior	<u>1</u>			Date		Rejection Code (if applicab	le):	sar	ictual / nple tei	Corre mperal	cted ture:			
Anti	hom 1	Norte.	1 tath	m An	te l	City of	Corp	ous Ch	risti	08/14	4/20	Date & Time of Sample Preserva (Acidified):	lion	т	hermor	meter l	D#:			
in of Custo	Signature)	Ma	too	Date/Time: 12 8-14-2 Date/Time: 13	N Reling	uished By Co	urier (Sig	nature)			Date/Time:	Laboratory Comments:								-
1M	(aut	ne		8-14-2			Jighatu	,			sater rane:	Gun B-	Terr	P_	6	.l°(2/	6.1	("(7



Pace Analytical Services, LLC 2209 North Padre Island Dr - Suite K Corpus Christi, TX 78408 361-289-6384

August 19, 2020

Marisa Juarez City of Corpus Christi Water Utilities Lab PO Box 9277 Corpus Christi, TX 784699277

RE: Project: Drinking Water Pace Project No.: 75138133

Dear Marisa Juarez:

Enclosed are the analytical results for sample(s) received by the laboratory on August 14, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Ormond Beach

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebecca Saffell

(512) 385-5886 Project Manager

Enclosures





Pace Analytical Services, LLC 2209 North Padre Island Dr - Suite K Corpus Christi, TX 78408 361-289-6384

CERTIFICATIONS

Project: Drinking Water Pace Project No.: 75138133

Pace Analytical Services Ormond Beach

8 East Tower Circle, Ormond Beach, FL 32174 Alaska DEC- CS/UST/LUST Alabama Certification #: 41320 Arizona Certification# AZ0819 Colorado Certification: FL NELAC Reciprocity Connecticut Certification #: PH-0216 Delaware Certification: FL NELAC Reciprocity Florida Certification #: E83079 Georgia Certification #: 955 Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity Illinois Certification #: 200068 Indiana Certification: FL NELAC Reciprocity Kansas Certification #: E-10383 Kentucky Certification #: 90050 Louisiana Certification #: FL NELAC Reciprocity Louisiana Environmental Certificate #: 05007 Maryland Certification: #346 Michigan Certification #: 9911 Mississippi Certification: FL NELAC Reciprocity Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958 New Jersey Certification #: FL022 New York Certification #: 11608 North Carolina Environmental Certificate #: 667 North Carolina Certification #: 12710 North Dakota Certification #: R-216 Ohio DEP 87780 Oklahoma Certification #: D9947 Pennsylvania Certification #: 68-00547 Puerto Rico Certification #: FL01264 South Carolina Certification: #96042001 Tennessee Certification #: TN02974 Texas Certification: FL NELAC Reciprocity US Virgin Islands Certification: FL NELAC Reciprocity Virginia Environmental Certification #: 460165 West Virginia Certification #: 9962C Wisconsin Certification #: 399079670 Wyoming (EPA Region 8): FL NELAC Reciprocity



SAMPLE SUMMARY

Project: Drinking Water Pace Project No.: 75138133

Lab ID	Sample ID	Matrix	Date Collected	Date Received
75138133001	3710 Seagull Blvd.	Drinking Water	08/14/20 09:50	08/14/20 14:50



SAMPLE ANALYTE COUNT

Project:Drinking WaterPace Project No.:75138133

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
75138133001	3710 Seagull Blvd.	EPA 200.7	CS2	3	PASI-O

PASI-O = Pace Analytical Services - Ormond Beach



ANALYTICAL RESULTS

Project: Drinking Water

Pace Project No.: 75138133

Sample: 3710 Seagull Blvd.	Lab ID: 75	138133001	Collected: 08/14/2	0 09:50	Received: 08	8/14/20 14:50 N	/latrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, DW No Prep	Analytical Me Pace Analytic	thod: EPA 20 al Services -	0.7 Ormond Beach					
Iron Manganese Sodium	<40.0 <5.0 77100	ug/L ug/L ug/L	40.0 5.0 2000	1 1 1		08/18/20 12:31 08/18/20 12:31 08/18/20 12:31	7439-89-6 7439-96-5 7440-23-5	



QUALITY CONTROL DATA

Project: Drinkin	g Water											
Pace Project No.: 75138	133											
QC Batch: 6579	43		Analy	ysis Metho	id: E	PA 200.7						
QC Batch Method: EPA	200.7		Analy	ysis Descri	iption: 2	200.7 MET	No Prep Dr	inking Wat	er			
			Labo	ratory:	F	Pace Analy	ical Service	es - Ormon	d Beach			
Associated Lab Samples:	751381330	001										
METHOD BLANK: 357772	28			Matrix: W	/ater							
Associated Lab Samples:	751381330	001										
			Blar	nk	Reporting							
Parameter		Units	Res	ult	Limit	Anal	/zed	Qualifiers	5			
Iron		ug/L		<40.0	40.0	08/18/2	0 12:34					
Manganese		ug/L		<5.0	5.0	08/18/2	0 12:34					
Sodium		ug/L		<2000	2000	0 08/18/2	0 12:34					
LABORATORY CONTROL	SAMPLE:	3577729										
Demonster		11-26-	Spike		US US	LCS	% Re	ec	D			
Parameter		Units			Suit	% Rec		ts (Juaimers	_		
Iron		ug/L	250	00	2600	10	4 8	35-115				
Manganese		ug/L	25	50	264	10	5 8	35-115				
Sodium		ug/L	1250	00	12800	10	3 8	35-115				
MATRIX SPIKE & MATRIX		LICATE: 3577	726		3577727							
			MS	MSD	0011121							
		35571088001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Iron	ug/L		2500	2500	2500	2490	100	100	70-130	0	20	
Manganese	ug/L	1.2U	250	250	248	246	99	98	70-130	1	20	
Sodium	ug/L	91900	12500	12500	105000	105000	105	103	70-130	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project: Drinking Water Pace Project No.: 75138133

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Pace Project No.:	Drinking Water 75138133				
Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
75138133001	3710 Seagull Blvd.	EPA 200.7	657943		

Pace Analytical*	Document N Sample Condition U	ame: pon Receipt	Document Revised: 7/27/20 Page 1 of 1
1	F-DAL-C-001-r	ev.14	Pace Dallas Quality Office
	Sample Condition	on Upon Rece	ipt
□Dall	as 🛛 🖓 Ft Worth		ti 🗆 Austin
Client Name:	USProject V SO D PACE Other: SCooler Temp % Cooler Temp %	Vork order)# : 75138133
Triage Person: Da	ate: 8/14/25		
Chain of Custody relinquished		res 🗹 No 🗆	
Sampler name & signature on COC		es No A	
Short HT analyses (<72 hrs)		es 🗆 No 🗆	
Login Person: <u>Sufficient Volume received</u>	te: <u>8/14/2</u>	/es ₪ No □	
Correct Container used		es ø No □	
Container Intact	Y	es e No 🗆	
Sample pH Acceptable	· · · · · · · · · · · · · · · · · · ·	'es 🗆 No 🗆 N	A 🖉
Residual Chlorine Present	- Y	′es 🗆 No 🗆 N	Aø
Sulfide Present Lead Acetate Strips:		′es⊡ No⊡ N	Apr
Are soil samples (volatiles, TPH) receiv (not applicable to TCLP VOA or PST Prog	ved in 5035A Kits Y ram TPH)	es 🗆 No 🗆 N	A 7
Unpreserved 5035A soil frozen within	48 hrs Y	es 🗆 No 🗆 N	
Headspace in VOA (>6mm)	Y	es 🗆 No 🗆 N	A Ø
Project sampled in USDA Regulated An Texas State Sampled:	rea outside of Y	es 🗆 No 🖉 N	
Non-Conformance(s):	Y	es 🗆 No 🏹	

Labeling Person (if different than log-in): _____ Date: _____

	PM: RLS Due Date: 08/25/20	aboratory Names CLIENT: CC-CITYCC_WT	TCEQ Lab ID #:			oration Contact:		y Contact Phone #:		Parameters Requested: Analyses are required for the parameters checked. * If inhibitors containing phosphate or silica are used, ther	these parameters should also be analyzed depending on which is in	15 minutes of sample	San	AB58708 111			N N N	for Weter Quality Samples conditions Upon Receive (V) is a crime punishable Samples received unpreserved? I load Anthlent	Rejection Code (if applicable); Actual / Connected	14/20 Dave a Time of Sumple Preservation Themcometer ID # 716	HD 142 Laboratory Comments: HD 142 Rel: Sour Merline 14:50 8/11/10 Date The: AC: Sure of Terrer 14:50 8/4
TEXAS COMMISSION ON ENVIRONMENTAL QUALI WATER QUALITY PARAMETER MONITORING FORM	leted by PWS (or Agent)	isti		Corpus Christi, TX 78415			Silica Calcium carbonate	Inhibitor Dosage Rates: N/A Laborato	Sample Information	Non-compliance	Accredited Lab 3rd Party Contractor> LAB ID AL	in the sampting entitys γ Were temperature and pH measured in the field with the TCEO?	Sample Collection Field Measurements Deta Time - 24 hr Difference RC Chemony Chemony Difference RC Difference RC D	08/14/20 950 3.03 29.9				sampling follow the instructions in the TCEQ Monitoring and Sample Collection Guidance i immediately upon collection. Fabilification of this form or tampering with weter samples	Organization	Martin Otry of Corpus Christi 08,	B-14-20 12 S 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	Compi	PWS Name: City of Corpus Chri	PWS ID#: TX 1780003	PWS Address: 2726 Holly Road	PWS Contact: Courtney Lee	ontact Phone #: (361) 826-1847	hibitor or Stabilizer Lised (v): Phosphate	TREATMENT AUXIMITY DOGSAGE N/A		Sample Type (1): V Compliance	Sample Collector (1): V Public Water System	emperature and pH (Y or N): Y Laboratory Approval Form on file at	Sample Sample Point ID (e.g. DSTWQP, Sambe Location	1 DSTWOP 3710 Seagull Blvd. (is that information on this form is true and correct and ateas selected for a This included, but not inhold to the measurement of pH and temperature after detail to a transmission for the formation of the phase of	thorized PWS Representative (Print)	thony Montes Withow	By (Sloparura) Marth 0 and Marth 0 count (spinerura)

Page 10 of 10