

0000-0000-0046-8525

Document Control Sheet

Sheet Title:	PWS - OLS
Box ID:	15028
Control Sheet ID:	0000-0000-0046-8525
Record Series Name:	WS / Public Water Supply
Record Series:	PWS
Primary ID:	1010293
Secondary ID:	
Doc Type:	Analysis Chemical
Security:	Public
Date:	5/16/2018 12:00AM
Title:	WQP Analysis Report
Tertiary ID	

PWS 1010293 AC 20180516 WQP Analysis Report - 1

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER QUALITY PARAMETER MONITORING FORM 20679																							
Completed by PWS (or Agent)										Completed by Laboratory													
PWS Name:		City of Pasadena								Laboratory Name:		Envirodyne Laboratories, Inc.											
PWS ID#:		TX 1010293								TCEQ Lab ID #:		TX-288											
PWS Address:		3105 San Augustine, Pasadena, TX 77501								Laboratory Address:		11011 Brooklet Dr #230											
PWS Contact:		Craig Parker										Houston, TX 77099											
PWS Contact Phone #:		713-475-4936								Laboratory Contact:		Laura Bonjonia											
Inhibitor or Stabilizer Used (✓):		☒ Phosphate		☒ Silica		☒ Calcium carbonate																	
TREATMENT		Alkalinity Dosage Rate:		Inhibitor Dosage Rate:				Laboratory Contact Phone #:		281-568-7880													
Sample Information																							
Sample Type (✓):		☒ Compliance		☐ Non-compliance						Parameters Requested: Analyses are required for the parameters checked. * If inhibitors containing phosphate or silica are used, then these parameters should also be analyzed depending on which is in use.													
Sample Collector (✓):		Public Water System		☒ Accredited Lab		3rd Party Contractor --> LAB ID		AL TX-288															
Temperature and pH (Y or N):		Are temperature and pH included on the sampling entity's Laboratory Approval Form on file at the TCEQ?				Were temperature and pH measured in the field within 15 minutes of sample collection?																	
Facility ID (e.g. DS01, PBCU001)	Sample Point ID (e.g. DSTWQP, EWQP)	Sample Location	Sample Collection		Field Measurements		Replacement? (✓)	Original Sample ID #	Original Sample Date (MMDDYY)	Lab Sample ID	Alkalinity (1927)	Calcium (1919)	Chloride (1017)	Conductivity (1064)	Hardness (1915)	Iron (1028)	Manganese (1032)	Sodium (1052)	Sulfate (1055)	TDS (1030)	O-Phosphate (1044)	Silica (1049)	
			Date (MMDDYY)	Time - 24 hr (HHMM)	pH	Temp (°C)																	
PBCU001	EWQP	210 RICHEY RD	5-16-18	0940	7.85	31.3				18E2157-01	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PBCU002	EWQP	5215 ALLEN GENOA	5-16-18	1116	7.68	27.7				18E2157-02	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PBCU003	EWQP	1729 THOMAS	5-16-18	0918	7.42	25.9				18E2157-03	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PBCU004	EWQP	3208 FLAMBOROUGH	5-16-18	1324	8.70	27.9				18E2157-04	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PBCU005	EWQP	6302 SYCAMORE	18E 5-16-18	Out of Service - Rehab							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PBCU006	EWQP	2700 PANSY	18E 5-16-18	Out of Service - Motor Issues							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
I acknowledge that information on this form is true and correct and sites selected for sampling follow the instructions in the TCEQ Monitoring and Sample Collection Guidance for Water Quality Parameters. This includes, but not limited to the measurement of pH and temperature immediately upon collection. Falsification of this form or tampering with water samples is a crime punishable under state and/or federal law. (Texas Penal Code, Title 8, Chapter 37.10)										Sample Conditions Upon Receipt (✓)													
Name of Authorized PWS Representative (Print)										Signature		Organization		Date		Rejection Code (if applicable):		Actual / Corrected sample temperature:		2.3 / 1.2		✓	
JAMES BALDWIN										James Baldwin		COPASADENA		5-16-18		Date & Time of Sample Preservation (Acidified):		05/24/18 11:51		Thermometer ID #:		JR #4	
Chain of Custody										Relinquished By (Signature)		Date/Time:		Relinquished By Courier (Signature)		Date/Time:		Laboratory Comments:		PBCU005 was out of service for rehab. PBCU006 was out of service for motor repairs.			
Received By (Signature)										Date/Time:		Received By Lab (Signature)		Date/Time:									
TCEQ 20679 (Rev 12/2017)																							

ENTERED



Envirodyne Laboratories, Inc
11011 Brooklet Dr., # 230
Houston, TX 77099
281.568.7880 Phone
www.envirodyne.com

Client: Pasadena, City of
Project: Pasadena, City of - WQP
Work Order: 18E2157
PWS ID: TX1010293

Reported:
06-Jun-18 11:34

Notes and Definitions

Q QC did not meet ELI acceptance criteria
DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference
CLT Client Representative

Envirodyne Laboratories, Inc.

A handwritten signature in black ink, appearing to read 'Kyle Chernosky', is written over a horizontal line.

Kyle Chernosky For Laura Bonjonia, Administrator

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER QUALITY PARAMETER MONITORING FORM 20679

Completed by PWS (or Agent)										Completed by Laboratory																																																											
PWS Name: City of Pasadena					Laboratory Name: Envirodyne Laboratories, Inc.																																																																
PWS ID#: TX 1010293					TCEQ Lab ID #: TX-288																																																																
PWS Address: 3105 San Augustine, Pasadena, TX 77501					Laboratory Address: 11011 Brooklet Dr #230																																																																
PWS Contact: Craig Parker					Laboratory Address: Houston, TX 77099																																																																
PWS Contact Phone #: 713-475-4936					Laboratory Contact: Laura Bonjonia																																																																
Inhibitor or Stabilizer Used (✓): ☒ Phosphate ☒ Silica ☒ Calcium carbonate					Laboratory Contact Phone #: 281-568-7880																																																																
TREATMENT					Sample Information					Parameters Requested: Analyses are required for the parameters checked. * If inhibitors containing phosphate or silica are used, then these parameters should also be analyzed depending on which is in use.																																																											
Sample Type (✓): ☒ Compliance ☐ Non-compliance																																																																					
Sample Collector (✓): ☐ Public Water System ☒ Accredited Lab ☐ 3rd Party Contractor --> LAB ID AL TX-288																																																																					
Temperature and pH (Y or N): ☐ Are temperature and pH included on the sampling entity's Laboratory Approval Form on file at the TCEQ? ☐ Were temperature and pH measured in the field within 15 minutes of sample collection?																																																																					
Facility ID (e.g. DS01, PBCU001)	Sample Point ID (e.g. DSTWQP, EWQP)	Sample Location	Sample Collection		Field Measurements		Replacement? (✓)	Original Sample ID #	Original Sample Date (MMDDYY)	Lab Sample ID	Alkalinity (1927)	Calcium (1919)	Chloride (1017)	Conductivity (1064)	Hardness (1915)	Iron (1028)	Manganese (1032)	Sodium (1052)	Sulfate (1055)	TDS (1930)	O-Phosphate (1044)	Silica (1049)																																															
			Date (MMDDYY)	Time (HHMM)	pH	Temp (°C)																																																															
PBCU007	EWQP	3003 WESTSIDE	5-16-12	1039	8.34	28.6				18E2157-05	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																																														
PBCU008	EWQP	305 GARNER	5-16-12	1039	8.42	28.6				18E2157-06	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																																														
PBCU009	EWQP	3401 GENOA-REDBLUFF	5-16-12	1132	8.20	27.4				18E2157-07	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																																														
PBCU010	EWQP	519 EL JARDIN	5-16-12	1205	8.46	23.8				18E2157-08	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																																														
PBCU011	EWQP	1201 W SOUTHMORE-CASCADE	5-16-12	0959	8.47	24.4				18E2157-09	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																																														
PBCU012	EWQP	3336 1/2 TULIP	5-16-12	1342	8.54	25.4				18E2157-10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																																														
I acknowledge that information on this form is true and correct and sites selected for sampling follow the instructions in the TCEQ Monitoring and Sample Collection Guidance for Water Quality Parameters. This includes, but not limited to the measurement of pH and temperature immediately upon collection. Falsification of this form or tampering with water samples is a crime punishable under state and/or federal law. (Texas Penal Code, Title 8, Chapter 37.10)										Sample Conditions Upon Receipt (✓)																																																											
Name of Authorized PWS Representative (Print): JAMES BARDWIN										Signature: James Bardwin										Organization: COPASADENA										Date: 5-16-18										Rejection Code (if applicable):										Actual / Corrected sample temperature: 2.3 / 1.2																			
Chain of Custody										Relinquished By (Signature): [Signature]										Date/Time: 5-17-18/0820										Relinquished By Courier (Signature):										Date/Time:										Date & Time of Sample Preservation (Acidified): 05/24/18 11:25										Thermometer ID #: IR44									
Received By Courier (Signature): [Signature]										Date/Time:										Received By Lab (Signature): [Signature]										Date/Time: 5/17/18 820										Laboratory Comments:																													
TCEQ 20679 (Rev 12/2017)																																																																					



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER QUALITY PARAMETER MONITORING FORM 20679

Completed by PWS (or Agent)										Completed by Laboratory														
PWS Name: City of Pasadena					Laboratory Name: Envirodyne Laboratories, Inc.																			
PWS ID #: TX 1010293					TCEQ Lab ID #: TX-288																			
PWS Address: 3105 San Augustine Ave, Pasadena, TX 77501					Laboratory Address: 11011 Brooklet Dr #230 Houston, TX 77099																			
PWS Contact: Craig Parker																								
PWS Contact Phone #: 713-475-4936					Laboratory Contact: Laura Bonjonia																			
Inhibitor or Stabilizer Used (✓): ☒ Phosphate ☒ Silica ☒ Calcium carbonate																								
TREATMENT		Alkalinity Dosage Rate:		Inhibitor Dosage Rate:		Laboratory Contact Phone #: 281-568-7880																		
Sample Information										Parameters Requested: Analyses are required for the parameters checked. * If inhibitors containing phosphate or silica are used, then these parameters should also be analyzed depending on which is in use.														
Sample Type (✓):		☒ Compliance		☐ Non-compliance																				
Sample Collector (✓):		Public Water System		☒ Accredited Lab		3rd Party Contractor --> LAB ID		AL TX-288																
Temperature and pH (Y or N):		Are temperature and pH included on the sampling entity's Laboratory Approval Form on file at the TCEQ?				Were temperature and pH measured in the field within 15 minutes of sample collection?																		
Facility ID (e.g. DS01, PBCU001)	Sample Point ID (e.g. DSTWQP, EWQP)	Sample Location		Sample Collection		Field Measurements		Replacement? (✓)	Original Sample ID #	Original Sample Date (MMDDYY)	Lab Sample ID	Alkalinity (1927)	Calcium (1919)	Chloride (1017)	Conductivity (1064)	Hardness (1915)	Iron (1028)	Manganese (1032)	Sodium (1052)	Sulfate (1055)	TDS (1930)	O-Phosphate (1044)	Silica (1049)	
			Date (MMDDYY)	Time - 24 hr (HHMM)	pH	Temp (°C)																		
PBCU013	EWQP	3705 GUTHRIE		5-16-18	1309	8.51	26.6				18E2157-11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DS01	DSTWQP	718 BELMONT										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
DS01	DSTWQP	430 WINONA										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
DS01	DSTWQP	218 OLIVE										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
DS01	DSTWQP	306 ELM										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
DS01	DSTWQP	1111 REDBUD										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
I acknowledge that information on this form is true and correct and sites selected for sampling follow the instructions in the TCEQ Monitoring and Sample Collection Guidance for Water Quality Parameters. This includes, but not limited to the measurement of pH and temperature immediately upon collection. Falsification of this form or tampering with water samples is a crime punishable under state and/or federal law. (Texas Penal Code, Title 8, Chapter 37.10)												Sample Conditions Upon Receipt (✓)												
Name of Authorized PWS Representative (Print): James Baldwin Signature: James Baldwin Organization: COPASADUEA Date: 5-16-18												✓ Samples received unpreserved? ☒ Iced ☒ Ambient ☐												
												Rejection Code (if applicable): Date & Time of Sample Preservation (Acidified): 5/17/18 11:25 Thermometer ID #: IR #44												
Chain of Custody												Laboratory Comments:												
Relinquished By (Signature): [Signature]				Date/Time: 5/17/18 0820		Relinquished By Courier (Signature): [Signature]				Date/Time:														
Received By Courier (Signature): [Signature]				Date/Time:		Received By Lab (Signature): [Signature]				Date/Time: 5/17/18 820														



Envirodyne Laboratories, Inc
11011 Brooklet Dr., # 230
Houston, TX 77099
281.568.7880 Phone
www.envirodyne.com

06 June 2018

Pasadena, City of
Craig Parker
3105 St Augustine
Pasadena, TX 77503

Pasadena, City of - WQP

Enclosed are the results of analyses for samples received by the laboratory on 17-May-18 08:20. The analytical data provided relates only to the samples as received in this laboratory report.

ELI certifies that all results are NELAP compliant and performed in accordance with the referenced method except as noted in the Case Narrative or as noted with a qualifier. Any reproductions of this laboratory report should be in full and only with the written authorization from the client.

The total number of pages in this report is 21

Thank you for selecting ELI for your analytical needs. If you have any questions regarding this report, please contact us.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kyl y', is written over a light gray background.

Kyle Chernosky For Laura Bonjonia
Administrator



Certificate No: T104704265-18-14



Envirodyne Laboratories, Inc
11011 Brooklet Dr., # 230
Houston, TX 77099
281.568.7880 Phone
www.envirodyne.com

Client: Pasadena, City of
Project: Pasadena, City of - WQP
Work Order: 18E2157
PWS ID: TX1010293

Reported:
06-Jun-18 11:34

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EWQP	PBCU001 - TRT-TAP - 210 RICHEY RI 18E2157-01	Water	16-May-18 09:40	17-May-18 08:20
EWQP	PBCU002 - TRT-TAP - 5215 ALLEN GI 18E2157-02	Water	16-May-18 11:16	17-May-18 08:20
EWQP	PBCU003 - TRT-TAP - 1729 THOMAS 18E2157-03	Water	16-May-18 09:18	17-May-18 08:20
EWQP	PBCU004 - TRT-TAP - 3208 FLAMBOF 18E2157-04	Water	16-May-18 13:24	17-May-18 08:20
EWQP	PBCU007 - TRT-TAP - 3003 WESTSIDE 18E2157-05	Water	16-May-18 10:56	17-May-18 08:20
EWQP	PBCU008 - TRT-TAP - 305 GARNER 18E2157-06	Water	16-May-18 10:39	17-May-18 08:20
EWQP	PBCU009 - TRT-TAP - 2750 GENOA-R 18E2157-07	Water	16-May-18 11:32	17-May-18 08:20
EWQP	PBCU010 - TRT-TAP - 519 EL JARDIN 18E2157-08	Water	16-May-18 12:05	17-May-18 08:20
EWQP	PBCU011 - TRT-TAP - 1201 W SOUTH 18E2157-09	Water	16-May-18 10:17	17-May-18 08:20
EWQP	PBCU012 - TRT-TAP - 3336 1/2 TULIP 18E2157-10	Water	16-May-18 13:42	17-May-18 08:20
EWQP	PBCU013 - TRT-TAP - 3705 GUTHRIE 18E2157-11	Water	16-May-18 13:09	17-May-18 08:20

Envirodyne Laboratories, Inc.

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Kyle Chernosky For Laura Bonjonia, Administrator



Envirodyne Laboratories, Inc
11011 Brooklet Dr., # 230
Houston, TX 77099
281.568.7880 Phone
www.envirodyne.com

Client: Pasadena, City of
Project: Pasadena, City of - WQP
Work Order: 18E2157
PWS ID: TX1010293

Reported:
06-Jun-18 11:34

PBCU001 - TRT-TAP - 210 RICHEY RD
18E2157-01 (Water) Sampled: 16-May-18 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	Notes
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Envirodyne Laboratories, Inc.

Field Analysis

pH	7.85		SU	1	B8F0327	16-May-18	16-May-18 09:40	SM4500H+ B	KLC	
Temperature	31.3	10.0	°C	1	B8F0327	16-May-18	16-May-18 09:40	SM2550 B	KLC	

Wet Chemistry

Alkalinity (m) as CaCO ₃	100	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Alkalinity (p) as CaCO ₃	<20	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Total Alkalinity as CaCO ₃	100	20	mg/L	1	[CALC]	21-May-18	21-May-18 15:07	[CALC]	NVB	
Conductivity	352	10	uS/cm	1	B8E2925	21-May-18	21-May-18 15:02	SM2510 B	AT	
OrthoPhosphate as P	<0.10	0.10	mg/L	1	B8E2605	18-May-18	18-May-18 08:00	SM4500-P E	UEZ	
Silica	5.88	0.20	mg/L	1	B8F0061	31-May-18	01-Jun-18 14:13	EPA 200.5	XQH	
TDS	234	10.0	mg/L	1	B8E2680	18-May-18	18-May-18 12:28	SM2540 C	JCR	

Total Metals by ICP

Calcium	46.3	0.07	mg/L	1	B8E4192	29-May-18	30-May-18 11:06	EPA 200.7	XQH	
Total Hardness as CaCO ₃	129	0.79	mg/L	1	[CALC]	29-May-18	30-May-18 11:06	SM 2340B	XQH	
Iron	0.703	0.0037	mg/L	1	B8E4192	29-May-18	30-May-18 09:43	EPA 200.7	XQH	
Magnesium	3.25	0.15	mg/L	1	B8E4192	29-May-18	30-May-18 11:06	EPA 200.7	XQH	
Manganese	0.112	0.0005	mg/L	1	B8E4192	29-May-18	30-May-18 09:43	EPA 200.7	XQH	
Sodium	17.2	0.03	mg/L	1	B8E4192	29-May-18	30-May-18 11:06	EPA 200.7	XQH	

Envirodyne Laboratories, Inc.

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Kyle Chernosky For Laura Bonjonia, Administrator



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Houston, TX 77099
281.568.7880 Phone
www.envirodyne.com

Client: Pasadena, City of
Project: Pasadena, City of - WQP
Work Order: 18E2157
PWS ID: TX1010293

Reported:
06-Jun-18 11:34

PBCU002 - TRT-TAP - 5215 ALLEN GENOA
18E2157-02 (Water) Sampled: 16-May-18 11:16

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	Notes
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Envirodyne Laboratories, Inc.

Field Analysis

pH	7.68		SU	1	B8F0327	16-May-18	16-May-18 11:16	SM4500H+ B	KLC	
Temperature	27.7	10.0	°C	1	B8F0327	16-May-18	16-May-18 11:16	SM2550 B	KLC	

Wet Chemistry

Alkalinity (m) as CaCO ₃	86	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Alkalinity (p) as CaCO ₃	<20	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Total Alkalinity as CaCO ₃	86	20	mg/L	1	[CALC]	21-May-18	21-May-18 15:07	[CALC]	NVB	
Conductivity	384	10	uS/cm	1	B8E2925	21-May-18	21-May-18 15:02	SM2510 B	AT	
OrthoPhosphate as P	<0.10	0.10	mg/L	1	B8E2605	18-May-18	18-May-18 08:00	SM4500-P E	UEZ	
Silica	6.18	0.20	mg/L	1	B8F0060	31-May-18	01-Jun-18 14:33	EPA 200.5	XQH	
TDS	234	10.0	mg/L	1	B8E2891	21-May-18	21-May-18 13:16	SM2540 C	JCR	

Total Metals by ICP

Calcium	49.4	0.07	mg/L	1	B8E4192	29-May-18	30-May-18 11:04	EPA 200.7	XQH	
Total Hardness as CaCO ₃	138	0.79	mg/L	1	[CALC]	29-May-18	30-May-18 11:04	SM 2340B	XQH	
Iron	1.12	0.0037	mg/L	1	B8E4192	29-May-18	30-May-18 09:37	EPA 200.7	XQH	
Magnesium	3.55	0.15	mg/L	1	B8E4192	29-May-18	30-May-18 11:04	EPA 200.7	XQH	
Manganese	0.154	0.0005	mg/L	1	B8E4192	29-May-18	30-May-18 09:37	EPA 200.7	XQH	
Sodium	19.2	0.03	mg/L	1	B8E4192	29-May-18	30-May-18 11:04	EPA 200.7	XQH	

Envirodyne Laboratories, Inc.

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Kyle Chernosky For Laura Bonjonia, Administrator



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Houston, TX 77099
281.568.7880 Phone
www.envirodyne.com

Client: Pasadena, City of
Project: Pasadena, City of - WQP
Work Order: 18E2157
PWS ID: TX1010293

Reported:
06-Jun-18 11:34

PBCU003 - TRT-TAP - 1729 THOMAS
18E2157-03 (Water) Sampled: 16-May-18 09:18

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	Notes
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Envirodyne Laboratories, Inc.

Field Analysis

pH	7.42		SU	1	B8F0327	16-May-18	16-May-18 09:18	SM4500H+ B	KLC	
Temperature	25.9	10.0	°C	1	B8F0327	16-May-18	16-May-18 09:18	SM2550 B	KLC	

Wet Chemistry

Alkalinity (m) as CaCO ₃	222	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Alkalinity (p) as CaCO ₃	<20	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Total Alkalinity as CaCO ₃	222	20	mg/L	1	[CALC]	21-May-18	21-May-18 15:07	[CALC]	NVB	
Conductivity	546	10	uS/cm	1	B8E2925	21-May-18	21-May-18 15:02	SM2510 B	AT	
OrthoPhosphate as P	<0.10	0.10	mg/L	1	B8E2605	18-May-18	18-May-18 08:00	SM4500-P E	UEZ	
Silica	16.3	0.20	mg/L	1	B8F0061	31-May-18	01-Jun-18 14:13	EPA 200.5	XQH	
TDS	296	10.0	mg/L	1	B8E2680	18-May-18	18-May-18 12:28	SM2540 C	JCR	

Total Metals by ICP

Calcium	15.5	0.07	mg/L	1	B8E4192	29-May-18	30-May-18 11:12	EPA 200.7	XQH	
Total Hardness as CaCO ₃	52.2	0.79	mg/L	1	[CALC]	29-May-18	30-May-18 11:12	SM 2340B	XQH	
Iron	0.128	0.0037	mg/L	1	B8E4192	29-May-18	30-May-18 09:57	EPA 200.7	XQH	
Magnesium	3.30	0.15	mg/L	1	B8E4192	29-May-18	30-May-18 11:12	EPA 200.7	XQH	
Manganese	0.0175	0.0005	mg/L	1	B8E4192	29-May-18	30-May-18 09:57	EPA 200.7	XQH	
Sodium	106	0.03	mg/L	1	B8E4192	29-May-18	30-May-18 11:12	EPA 200.7	XQH	

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Kyle Chernosky For Laura Bonjonia, Administrator



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11011 Brooklet Dr., # 230
Houston, TX 77099
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www.envirodyne.com

Client: Pasadena, City of
Project: Pasadena, City of - WQP
Work Order: 18E2157
PWS ID: TX1010293

Reported:
06-Jun-18 11:34

PBCU004 - TRT-TAP - 3208 FLAMBOROUGH
18E2157-04 (Water) Sampled: 16-May-18 13:24

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	Notes
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Envirodyne Laboratories, Inc.

Field Analysis

pH	8.70		SU	1	B8F0327	16-May-18	16-May-18 13:24	SM4500H+ B	KLC	
Temperature	27.9	10.0	°C	1	B8F0327	16-May-18	16-May-18 13:24	SM2550 B	KLC	

Wet Chemistry

Alkalinity (m) as CaCO ₃	292	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Alkalinity (p) as CaCO ₃	<20	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Total Alkalinity as CaCO ₃	292	20	mg/L	1	[CALC]	21-May-18	21-May-18 15:07	[CALC]	NVB	
Conductivity	676	10	uS/cm	1	B8E2925	21-May-18	21-May-18 15:02	SM2510 B	AT	
OrthoPhosphate as P	<0.10	0.10	mg/L	1	B8E2605	18-May-18	18-May-18 08:00	SM4500-P E	UEZ	
Silica	14.2	0.20	mg/L	1	B8F0060	31-May-18	01-Jun-18 14:33	EPA 200.5	XQH	
TDS	392	10.0	mg/L	1	B8E2891	21-May-18	21-May-18 13:16	SM2540 C	JCR	

Total Metals by ICP

Calcium	6.80	0.07	mg/L	1	B8E4192	29-May-18	30-May-18 11:10	EPA 200.7	XQH	
Total Hardness as CaCO ₃	23.3	0.79	mg/L	1	[CALC]	29-May-18	30-May-18 11:10	SM 2340B	XQH	
Iron	0.114	0.0037	mg/L	1	B8E4192	29-May-18	30-May-18 09:48	EPA 200.7	XQH	
Magnesium	1.54	0.15	mg/L	1	B8E4192	29-May-18	30-May-18 11:10	EPA 200.7	XQH	
Manganese	0.0103	0.0005	mg/L	1	B8E4192	29-May-18	30-May-18 09:48	EPA 200.7	XQH	
Sodium	140	0.03	mg/L	1	B8E4192	29-May-18	30-May-18 11:10	EPA 200.7	XQH	

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Client: Pasadena, City of
Project: Pasadena, City of - WQP
Work Order: 18E2157
PWS ID: TX1010293

Reported:
06-Jun-18 11:34

PBCU007 - TRT-TAP - 3003 WESTSIDE
18E2157-05 (Water) Sampled: 16-May-18 10:56

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	Notes
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Envirodyne Laboratories, Inc.

Field Analysis

pH	8.34		SU	1	B8F0327	16-May-18	16-May-18 10:56	SM4500H+ B	KLC	
Temperature	28.6	10.0	°C	1	B8F0327	16-May-18	16-May-18 10:56	SM2550 B	KLC	

Wet Chemistry

Alkalinity (m) as CaCO ₃	482	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Alkalinity (p) as CaCO ₃	<20	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Total Alkalinity as CaCO ₃	482	20	mg/L	1	[CALC]	21-May-18	21-May-18 15:07	[CALC]	NVB	
Conductivity	1610	20	uS/cm	2	B8E2925	21-May-18	21-May-18 15:02	SM2510 B	AT	
OrthoPhosphate as P	0.27	0.10	mg/L	1	B8E2605	18-May-18	18-May-18 08:00	SM4500-P E	UEZ	
Silica	21.6	0.20	mg/L	1	B8F0060	31-May-18	01-Jun-18 14:33	EPA 200.5	XQH	
TDS	784	10.0	mg/L	1	B8E2891	21-May-18	21-May-18 13:16	SM2540 C	JCR	

Total Metals by ICP

Calcium	7.07	0.07	mg/L	1	B8E4192	29-May-18	30-May-18 10:54	EPA 200.7	XQH	
Total Hardness as CaCO ₃	24.1	0.79	mg/L	1	[CALC]	29-May-18	30-May-18 10:54	SM 2340B	XQH	
Iron	1.88	0.0037	mg/L	1	B8E4192	29-May-18	30-May-18 09:24	EPA 200.7	XQH	
Magnesium	1.56	0.15	mg/L	1	B8E4192	29-May-18	30-May-18 10:54	EPA 200.7	XQH	
Manganese	0.0299	0.0005	mg/L	1	B8E4192	29-May-18	30-May-18 09:24	EPA 200.7	XQH	
Sodium	300	0.2	mg/L	5	B8E4192	29-May-18	30-May-18 10:54	EPA 200.7	XQH	Q

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Client: Pasadena, City of
Project: Pasadena, City of - WQP
Work Order: 18E2157
PWS ID: TX1010293

Reported:
06-Jun-18 11:34

PBCU008 - TRT-TAP - 305 GARNER
18E2157-06 (Water) Sampled: 16-May-18 10:39

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	Notes
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Envirodyne Laboratories, Inc.

Field Analysis

pH	8.42		SU	1	B8F0327	16-May-18	16-May-18 10:39	SM4500H+ B	KLC	
Temperature	28.6	10.0	°C	1	B8F0327	16-May-18	16-May-18 10:39	SM2550 B	KLC	

Wet Chemistry

Alkalinity (m) as CaCO ₃	272	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Alkalinity (p) as CaCO ₃	36	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Total Alkalinity as CaCO ₃	308	20	mg/L	1	[CALC]	21-May-18	21-May-18 15:07	[CALC]	NVB	
Conductivity	1170	10	uS/cm	1	B8E2583	17-May-18	21-May-18 11:44	SM2510 B	AT	
OrthoPhosphate as P	<0.10	0.10	mg/L	1	B8E2605	18-May-18	18-May-18 08:00	SM4500-P E	UEZ	
Silica	17.1	0.20	mg/L	1	B8F0061	31-May-18	01-Jun-18 14:13	EPA 200.5	XQH	
TDS	674	10.0	mg/L	1	B8E2891	21-May-18	21-May-18 13:16	SM2540 C	JCR	

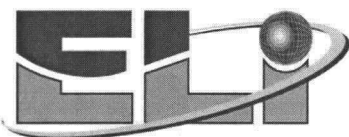
Total Metals by ICP

Calcium	5.25	0.07	mg/L	1	B8E4192	29-May-18	30-May-18 11:21	EPA 200.7	XQH	
Total Hardness as CaCO ₃	18.7	0.79	mg/L	1	[CALC]	29-May-18	30-May-18 11:21	SM 2340B	XQH	
Iron	0.435	0.0037	mg/L	1	B8E4192	29-May-18	30-May-18 10:03	EPA 200.7	XQH	
Magnesium	1.36	0.15	mg/L	1	B8E4192	29-May-18	30-May-18 11:21	EPA 200.7	XQH	
Manganese	0.0061	0.0005	mg/L	1	B8E4192	29-May-18	30-May-18 10:03	EPA 200.7	XQH	
Sodium	271	0.06	mg/L	2	B8E4192	29-May-18	30-May-18 11:21	EPA 200.7	XQH	

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Client: Pasadena, City of
Project: Pasadena, City of - WQP
Work Order: 18E2157
PWS ID: TX1010293

Reported:
06-Jun-18 11:34

PBCU009 - TRT-TAP - 2750 GENOA-REDBLUFF
18E2157-07 (Water) Sampled: 16-May-18 11:32

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	Notes
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Envirodyne Laboratories, Inc.

Field Analysis

pH	8.20		SU	1	B8F0327	16-May-18	16-May-18 11:32	SM4500H+ B	KLC	
Temperature	27.4	10.0	°C	1	B8F0327	16-May-18	16-May-18 11:32	SM2550 B	KLC	

Wet Chemistry

Alkalinity (m) as CaCO ₃	100	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Alkalinity (p) as CaCO ₃	<20	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Total Alkalinity as CaCO ₃	100	20	mg/L	1	[CALC]	21-May-18	21-May-18 15:07	[CALC]	NVB	
Conductivity	376	10	uS/cm	1	B8E2583	17-May-18	21-May-18 11:44	SM2510 B	AT	
OrthoPhosphate as P	<0.10	0.10	mg/L	1	B8E2605	18-May-18	18-May-18 08:00	SM4500-P E	UEZ	
Silica	6.60	0.20	mg/L	1	B8F0060	31-May-18	01-Jun-18 14:33	EPA 200.5	XQH	
TDS	244	10.0	mg/L	1	B8E2891	21-May-18	21-May-18 13:16	SM2540 C	JCR	

Total Metals by ICP

Calcium	49.4	0.07	mg/L	1	B8E4193	29-May-18	30-May-18 11:23	EPA 200.7	XQH	
Total Hardness as CaCO ₃	138	0.79	mg/L	1	[CALC]	29-May-18	30-May-18 11:23	SM 2340B	XQH	
Iron	0.107	0.0037	mg/L	1	B8E4193	29-May-18	30-May-18 10:06	EPA 200.7	XQH	
Magnesium	3.55	0.15	mg/L	1	B8E4193	29-May-18	30-May-18 11:23	EPA 200.7	XQH	
Manganese	<0.0005	0.0005	mg/L	1	B8E4193	29-May-18	30-May-18 10:06	EPA 200.7	XQH	
Sodium	20.6	0.03	mg/L	1	B8E4193	29-May-18	30-May-18 11:23	EPA 200.7	XQH	

Envirodyne Laboratories, Inc.

Kyle Chernosky For Laura Bonjonia, Administrator

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Houston, TX 77099
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www.envirodyne.com

Client: Pasadena, City of
Project: Pasadena, City of - WQP
Work Order: 18E2157
PWS ID: TX1010293

Reported:
06-Jun-18 11:34

PBCU010 - TRT-TAP - 519 EL JARDIN
18E2157-08 (Water) Sampled: 16-May-18 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	Notes
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Envirodyne Laboratories, Inc.

Field Analysis

pH	8.46		SU	1	B8F0327	16-May-18	16-May-18 12:05	SM4500H+ B	KLC	
Temperature	23.8	10.0	°C	1	B8F0327	16-May-18	16-May-18 12:05	SM2550 B	KLC	

Wet Chemistry

Alkalinity (m) as CaCO ₃	224	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Alkalinity (p) as CaCO ₃	<20	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Total Alkalinity as CaCO ₃	224	20	mg/L	1	[CALC]	21-May-18	21-May-18 15:07	[CALC]	NVB	
Conductivity	802	10	uS/cm	1	B8E2583	17-May-18	21-May-18 11:44	SM2510 B	AT	
OrthoPhosphate as P	<0.10	0.10	mg/L	1	B8E2605	18-May-18	18-May-18 08:00	SM4500-P E	UEZ	
Silica	11.6	0.20	mg/L	1	B8F0061	31-May-18	01-Jun-18 14:13	EPA 200.5	XQH	
TDS	458	10.0	mg/L	1	B8E2891	21-May-18	21-May-18 13:16	SM2540 C	JCR	

Total Metals by ICP

Calcium	5.53	0.07	mg/L	1	B8E4193	29-May-18	30-May-18 11:31	EPA 200.7	XQH	
Total Hardness as CaCO ₃	20.3	0.79	mg/L	1	[CALC]	29-May-18	30-May-18 11:31	SM 2340B	XQH	
Iron	0.713	0.0037	mg/L	1	B8E4193	29-May-18	30-May-18 10:17	EPA 200.7	XQH	
Magnesium	1.57	0.15	mg/L	1	B8E4193	29-May-18	30-May-18 11:31	EPA 200.7	XQH	
Manganese	0.0345	0.0005	mg/L	1	B8E4193	29-May-18	30-May-18 10:17	EPA 200.7	XQH	
Sodium	180	0.03	mg/L	1	B8E4193	29-May-18	30-May-18 11:31	EPA 200.7	XQH	

Envirodyne Laboratories, Inc.

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Houston, TX 77099
281.568.7880 Phone
www.envirodyne.com

Client: Pasadena, City of
Project: Pasadena, City of - WQP
Work Order: 18E2157
PWS ID: TX1010293

Reported:
06-Jun-18 11:34

PBCU011 - TRT-TAP - 1201 W SOUTHMORE-CASCADE
18E2157-09 (Water) Sampled: 16-May-18 10:17

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	Notes
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Envirodyne Laboratories, Inc.

Field Analysis

pH	8.58		SU	1	B8F0327	16-May-18	16-May-18 10:17	SM4500H+ B	KLC	
Temperature	26.7	10.0	°C	1	B8F0327	16-May-18	16-May-18 10:17	SM2550 B	KLC	

Wet Chemistry

Alkalinity (m) as CaCO ₃	306	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Alkalinity (p) as CaCO ₃	<20	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Total Alkalinity as CaCO ₃	306	20	mg/L	1	[CALC]	21-May-18	21-May-18 15:07	[CALC]	NVB	
Conductivity	704	10	uS/cm	1	B8E2583	17-May-18	21-May-18 11:44	SM2510 B	AT	
OrthoPhosphate as P	<0.10	0.10	mg/L	1	B8E2605	18-May-18	18-May-18 08:00	SM4500-P E	UEZ	
Silica	15.1	0.20	mg/L	1	B8F0060	31-May-18	01-Jun-18 14:33	EPA 200.5	XQH	
TDS	404	10.0	mg/L	1	B8E2891	21-May-18	21-May-18 13:16	SM2540 C	JCR	

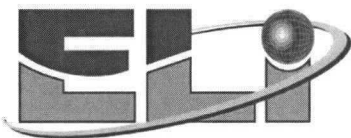
Total Metals by ICP

Calcium	5.11	0.07	mg/L	1	B8E4193	29-May-18	30-May-18 11:29	EPA 200.7	XQH	
Total Hardness as CaCO ₃	17.5	0.79	mg/L	1	[CALC]	29-May-18	30-May-18 11:29	SM 2340B	XQH	
Iron	0.265	0.0037	mg/L	1	B8E4193	29-May-18	30-May-18 10:14	EPA 200.7	XQH	
Magnesium	1.15	0.15	mg/L	1	B8E4193	29-May-18	30-May-18 11:29	EPA 200.7	XQH	
Manganese	0.0099	0.0005	mg/L	1	B8E4193	29-May-18	30-May-18 10:14	EPA 200.7	XQH	
Sodium	154	0.03	mg/L	1	B8E4193	29-May-18	30-May-18 11:29	EPA 200.7	XQH	

Envirodyne Laboratories, Inc.

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Kyle Chernosky For Laura Bonjonia, Administrator



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Houston, TX 77099
281.568.7880 Phone
www.envirodyne.com

Client: Pasadena, City of
Project: Pasadena, City of - WQP
Work Order: 18E2157
PWS ID: TX1010293

Reported:
06-Jun-18 11:34

PBCU012 - TRT-TAP - 3336 1/2 TULIP
18E2157-10 (Water) Sampled: 16-May-18 13:42

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	Notes
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Envirodyne Laboratories, Inc.

Field Analysis

pH	8.54		SU	1	B8F0327	16-May-18	16-May-18 13:42	SM4500H+ B	KLC	
Temperature	25.4	10.0	°C	1	B8F0327	16-May-18	16-May-18 13:42	SM2550 B	KLC	

Wet Chemistry

Alkalinity (m) as CaCO ₃	380	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Alkalinity (p) as CaCO ₃	24	20	mg/L	1	B8E2521	21-May-18	21-May-18 15:07	SM 2320 B	NVB	
Total Alkalinity as CaCO ₃	404	20	mg/L	1	[CALC]	21-May-18	21-May-18 15:07	[CALC]	NVB	
Conductivity	956	10	uS/cm	1	B8E2583	17-May-18	21-May-18 11:44	SM2510 B	AT	
OrthoPhosphate as P	<0.10	0.10	mg/L	1	B8E2605	18-May-18	18-May-18 08:00	SM4500-P E	UEZ	
Silica	15.1	0.20	mg/L	1	B8F0060	31-May-18	01-Jun-18 14:33	EPA 200.5	XQH	
TDS	528	10.0	mg/L	1	B8E2891	21-May-18	21-May-18 13:16	SM2540 C	JCR	

Total Metals by ICP

Calcium	4.71	0.07	mg/L	1	B8E4192	29-May-18	30-May-18 11:18	EPA 200.7	XQH	
Total Hardness as CaCO ₃	16.0	0.79	mg/L	1	[CALC]	29-May-18	30-May-18 11:19	SM 2340B	XQH	
Iron	0.312	0.0037	mg/L	1	B8E4192	29-May-18	30-May-18 10:00	EPA 200.7	XQH	
Magnesium	1.04	0.15	mg/L	1	B8E4192	29-May-18	30-May-18 11:19	EPA 200.7	XQH	
Manganese	0.0182	0.0005	mg/L	1	B8E4192	29-May-18	30-May-18 10:00	EPA 200.7	XQH	
Sodium	222	0.06	mg/L	2	B8E4192	29-May-18	30-May-18 11:18	EPA 200.7	XQH	

Envirodyne Laboratories, Inc.

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Client: Pasadena, City of
Project: Pasadena, City of - WQP
Work Order: 18E2157
PWS ID: TX1010293

Reported:
06-Jun-18 11:34

PBCU013 - TRT-TAP - 3705 GUTHRIE
18E2157-11 (Water) Sampled: 16-May-18 13:09

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	Notes
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Field Analysis

pH	8.51		SU	1	B8F0327	16-May-18	16-May-18 13:09	SM4500H+ B	KLC	
Temperature	26.6	10.0	°C	1	B8F0327	16-May-18	16-May-18 13:09	SM2550 B	KLC	

Wet Chemistry

Alkalinity (m) as CaCO ₃	224	20	mg/L	1	B8E2514	23-May-18	23-May-18 11:28	SM 2320 B	AT	
Alkalinity (p) as CaCO ₃	<20	20	mg/L	1	B8E2514	23-May-18	23-May-18 11:28	SM 2320 B	AT	
Total Alkalinity as CaCO ₃	224	20	mg/L	1	[CALC]	23-May-18	23-May-18 11:28	[CALC]	AT	
Conductivity	634	10	uS/cm	1	B8E2583	17-May-18	21-May-18 11:44	SM2510 B	AT	
OrthoPhosphate as P	<0.10	0.10	mg/L	1	B8E2607	18-May-18	18-May-18 10:00	SM4500-P E	UEZ	
Silica	13.2	0.20	mg/L	1	B8F0060	31-May-18	01-Jun-18 14:33	EPA 200.5	XQH	
TDS	358	10.0	mg/L	1	B8E2891	21-May-18	21-May-18 13:16	SM2540 C	JCR	

Total Metals by ICP

Calcium	5.51	0.07	mg/L	1	B8E4192	29-May-18	30-May-18 11:08	EPA 200.7	XQH	
Total Hardness as CaCO ₃	19.4	0.79	mg/L	1	[CALC]	29-May-18	30-May-18 11:08	SM 2340B	XQH	
Iron	0.236	0.0037	mg/L	1	B8E4192	29-May-18	30-May-18 09:46	EPA 200.7	XQH	
Magnesium	1.37	0.15	mg/L	1	B8E4192	29-May-18	30-May-18 11:08	EPA 200.7	XQH	
Manganese	0.0163	0.0005	mg/L	1	B8E4192	29-May-18	30-May-18 09:46	EPA 200.7	XQH	
Sodium	130	0.03	mg/L	1	B8E4192	29-May-18	30-May-18 11:08	EPA 200.7	XQH	

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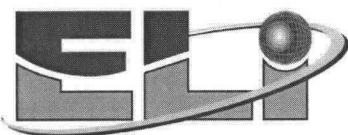
Wet Chemistry - Quality Control
Envirodyne Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B8E2514 - Inorganics										
Blank (B8E2514-BLK1)				Prepared & Analyzed: 23-May-18						
Alkalinity (m) as CaCO ₃	<20	20	mg/L							
Alkalinity (p) as CaCO ₃	<20	20	"							
LCS (B8E2514-BS1)				Prepared & Analyzed: 23-May-18						
Alkalinity (m) as CaCO ₃	51		mg/L	50.0		102	80-120			
Alkalinity (p) as CaCO ₃	47		"	50.0		94.0	80-120			
Duplicate (B8E2514-DUP1)				Source: 18E2667-04		Prepared & Analyzed: 23-May-18				
Alkalinity (m) as CaCO ₃	80	20	mg/L		74			7.79	20	
Alkalinity (p) as CaCO ₃	<20	20	"		<20			0	20	
Batch B8E2521 - Inorganics										
Blank (B8E2521-BLK1)				Prepared & Analyzed: 21-May-18						
Alkalinity (m) as CaCO ₃	<20	20	mg/L							
Alkalinity (p) as CaCO ₃	<20	20	"							
LCS (B8E2521-BS1)				Prepared & Analyzed: 21-May-18						
Alkalinity (m) as CaCO ₃	46		mg/L	50.0		92.0	80-120			
Alkalinity (p) as CaCO ₃	51		"	50.0		102	80-120			
Duplicate (B8E2521-DUP1)				Source: 18E2157-01		Prepared & Analyzed: 21-May-18				
Alkalinity (m) as CaCO ₃	98	20	mg/L		100			2.02	20	
Alkalinity (p) as CaCO ₃	<20	20	"		<20			0	20	
Batch B8E2583 - Inorganics										
Blank (B8E2583-BLK1)				Prepared: 17-May-18 Analyzed: 21-May-18						
Conductivity	<10	10	uS/cm							

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Wet Chemistry - Quality Control
Envirodyne Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B8E2583 - Inorganics										
Duplicate (B8E2583-DUP1) Source: 18E1734-01 Prepared: 17-May-18 Analyzed: 21-May-18										
Conductivity	839	10	uS/cm		841			0.238	20	
Reference (B8E2583-SRM1) Prepared: 17-May-18 Analyzed: 21-May-18										
Conductivity	184		uS/cm	180		102	0-200			
Batch B8E2605 - Inorganics										
Blank (B8E2605-BLK1) Prepared & Analyzed: 18-May-18										
OrthoPhosphate as P	<0.10	0.10	mg/L							
LCS (B8E2605-BS1) Prepared & Analyzed: 18-May-18										
OrthoPhosphate as P	0.310		mg/L	0.333		93.1	80-120			
Matrix Spike (B8E2605-MS1) Source: 18E2157-01 Prepared & Analyzed: 18-May-18										
OrthoPhosphate as P	0.310	0.10	mg/L	0.333	ND	93.0	80-120			
Matrix Spike Dup (B8E2605-MSD1) Source: 18E2157-01 Prepared & Analyzed: 18-May-18										
OrthoPhosphate as P	0.360	0.10	mg/L	0.333	ND	108	80-120	14.9	20	
Batch B8E2607 - Inorganics										
Blank (B8E2607-BLK1) Prepared & Analyzed: 18-May-18										
OrthoPhosphate as P	<0.10	0.10	mg/L							
LCS (B8E2607-BS1) Prepared & Analyzed: 18-May-18										
OrthoPhosphate as P	0.310		mg/L	0.333		93.1	80-120			

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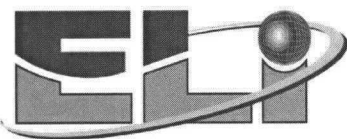
Wet Chemistry - Quality Control
Envirodyne Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B8E2607 - Inorganics										
Matrix Spike (B8E2607-MS1)		Source: 18E2157-11		Prepared & Analyzed: 18-May-18						
OrthoPhosphate as P	0.360	0.10	mg/L	0.333	ND	108	80-120			
Matrix Spike Dup (B8E2607-MSD1)		Source: 18E2157-11		Prepared & Analyzed: 18-May-18						
OrthoPhosphate as P	0.350	0.10	mg/L	0.333	ND	105	80-120	2.82	20	
Batch B8E2680 - Inorganics										
Blank (B8E2680-BLK1)		Prepared & Analyzed: 18-May-18								
TDS	<10.0	10.0	mg/L							
Duplicate (B8E2680-DUP1)		Source: 18E1513-01		Prepared & Analyzed: 18-May-18						
TDS	598	10.0	mg/L		574			4.10	20	
Batch B8E2891 - Inorganics										
Blank (B8E2891-BLK1)		Prepared & Analyzed: 21-May-18								
TDS	<10.0	10.0	mg/L							
Duplicate (B8E2891-DUP1)		Source: 18E1612-01		Prepared & Analyzed: 21-May-18						
TDS	354	10.0	mg/L		362			2.23	20	
Batch B8E2925 - Inorganics										
Blank (B8E2925-BLK1)		Prepared & Analyzed: 21-May-18								
Conductivity	<10	10	uS/cm							

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Wet Chemistry - Quality Control
Envirodyne Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B8E2925 - Inorganics										
Duplicate (B8E2925-DUP1)		Source: 18E2157-01		Prepared & Analyzed: 21-May-18						
Conductivity	355	10	uS/cm		352			0.849	20	
Reference (B8E2925-SRM1)				Prepared & Analyzed: 21-May-18						
Conductivity	188		uS/cm	180		104	0-200			
Batch B8F0060 - Metals - EPA 200.2										
Blank (B8F0060-BLK1)				Prepared: 31-May-18 Analyzed: 01-Jun-18						
Silica	<0.20	0.20	mg/L							
LCS (B8F0060-BS1)				Prepared: 31-May-18 Analyzed: 01-Jun-18						
Silica	40.9		mg/L	42.8		95.6	90-110			
Matrix Spike (B8F0060-MS1)		Source: 18E2859-01		Prepared: 31-May-18 Analyzed: 01-Jun-18						
Silica	75.3	0.20	mg/L	42.8	34.8	94.7	85-115			
Matrix Spike Dup (B8F0060-MSD1)		Source: 18E2859-01		Prepared: 31-May-18 Analyzed: 01-Jun-18						
Silica	73.8	0.20	mg/L	42.8	34.8	91.2	85-115	2.01	20	
Batch B8F0061 - Metals - EPA 200.2										
Blank (B8F0061-BLK1)				Prepared: 31-May-18 Analyzed: 01-Jun-18						
Silica	<0.20	0.20	mg/L							
LCS (B8F0061-BS1)				Prepared: 31-May-18 Analyzed: 01-Jun-18						
Silica	41.0		mg/L	42.8		95.7	90-110			

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06-Jun-18 11:34

Wet Chemistry - Quality Control
Envirodyne Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B8F0061 - Metals - EPA 200.2										
Matrix Spike (B8F0061-MS1)		Source: 18E2157-03		Prepared: 31-May-18 Analyzed: 01-Jun-18						
Silica	57.9	0.20	mg/L	42.8	16.3	97.2	85-115			
Matrix Spike Dup (B8F0061-MSD1)		Source: 18E2157-03		Prepared: 31-May-18 Analyzed: 01-Jun-18						
Silica	60.5	0.20	mg/L	42.8	16.3	103	85-115	4.39	20	

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Total Metals by ICP - Quality Control
Envirodyne Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B8E4192 - Metals - EPA 200.2										
Blank (B8E4192-BLK1)				Prepared: 29-May-18 Analyzed: 30-May-18						
Calcium	<0.07	0.07	mg/L							
Iron	<0.0037	0.0037	"							
Magnesium	<0.15	0.15	"							
Manganese	<0.0005	0.0005	"							
Sodium	<0.03	0.03	"							
LCS (B8E4192-BS1)				Prepared: 29-May-18 Analyzed: 30-May-18						
Calcium	20.2		mg/L	20.0		101	85-115			
Sodium	19.9		"	20.0		99.5	85-115			
Magnesium	20.0		"	20.0		100	85-115			
Iron	251		ug/L	250		101	85-115			
Manganese	253		"	250		101	85-115			
Matrix Spike (B8E4192-MS1)				Source: 18E2157-05		Prepared: 29-May-18 Analyzed: 30-May-18				
Sodium	342	0.2	mg/L	20.0	300	209	70-130			Q
Calcium	26.8	0.07	"	20.0	7.07	98.6	70-130			
Magnesium	21.1	0.15	"	20.0	1.56	97.7	70-130			
Iron	2.38	0.0037	"	0.500	1.88	100	70-130			
Manganese	0.507	0.0005	"	0.500	0.0299	95.3	70-130			
Matrix Spike Dup (B8E4192-MSD1)				Source: 18E2157-05		Prepared: 29-May-18 Analyzed: 30-May-18				
Iron	2.42	0.0037	mg/L	0.500	1.88	108	70-130	1.58	20	
Sodium	344	0.2	"	20.0	300	218	70-130	0.525	20	Q
Manganese	0.507	0.0005	"	0.500	0.0299	95.4	70-130	0.0217	20	
Magnesium	21.1	0.15	"	20.0	1.56	97.8	70-130	0.111	20	
Calcium	26.9	0.07	"	20.0	7.07	99.2	70-130	0.452	20	

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Total Metals by ICP - Quality Control
Envirodyne Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8E4193 - Metals - EPA 200.2

Blank (B8E4193-BLK1)

Prepared: 29-May-18 Analyzed: 30-May-18

Iron	<0.0037	0.0037	mg/L							
Magnesium	<0.15	0.15	"							
Sodium	<0.03	0.03	"							
Calcium	<0.07	0.07	"							
Manganese	<0.0005	0.0005	"							

LCS (B8E4193-BS1)

Prepared: 29-May-18 Analyzed: 30-May-18

Sodium	19.9		mg/L	20.0		99.5	85-115			
Calcium	20.2		"	20.0		101	85-115			
Iron	251		ug/L	250		101	85-115			
Manganese	253		"	250		101	85-115			
Magnesium	20.0		mg/L	20.0		100	85-115			

Matrix Spike (B8E4193-MS1)

Source: 18E2157-07

Prepared: 29-May-18 Analyzed: 30-May-18

Sodium	42.5	0.03	mg/L	20.0	20.6	110	70-130			
Manganese	0.483	0.0005	"	0.500	ND	96.6	70-130			
Magnesium	24.9	0.15	"	20.0	3.55	107	70-130			
Iron	0.474	0.0037	"	0.500	0.107	73.5	70-130			
Calcium	73.7	0.07	"	20.0	49.4	122	70-130			

Matrix Spike Dup (B8E4193-MSD1)

Source: 18E2157-07

Prepared: 29-May-18 Analyzed: 30-May-18

Calcium	68.8	0.07	mg/L	20.0	49.4	97.0	70-130	6.90	20	
Magnesium	23.3	0.15	"	20.0	3.55	98.5	70-130	6.78	20	
Iron	0.471	0.0037	"	0.500	0.107	72.9	70-130	0.606	20	
Manganese	0.480	0.0005	"	0.500	ND	96.0	70-130	0.609	20	
Sodium	39.7	0.03	"	20.0	20.6	95.4	70-130	6.94	20	

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