TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

WATER QUALITY PARAMETER MONITORING FORM 20679

20191125

PWS_0110025_AC_202

Completed by PWS (or Agent)

PWS Name:	MD ANDERSON CANCER RESEARCH SMITHVILLE
PWS ID#:	TX 0110025
PWS Address:	1808 Park Road 1C, Smithville, TX 78951
PWS Contact:	Jimmy Gibbs
PWS Contact Phone #:	512-332-7364

Inhibitor or Stabilizer Used (√): X Phosphate | Silica | Calcium carbonate

TREATMENT — Alkalinity Dosage Rate: | Inhibitor Dosage Rate: 4.3

Sample Information

Sample Type (√): X Compliance | Non-compliance

Sample Collector (√): X Public Water System | X Accredited Lab | X 3rd Party Contractor --> LAB ID AL0110025

Temperature and pH (Y or N): X Are temperature and pH included on the sampling entity's Laboratory Approval Form on file at the TCEQ? | X Were temperature and pH measured in the field within 15 minutes of sample collection?

Completed by Laboratory

Laboratory Name:	AQUA WSC Laboratory ~~Water~~ WQP Analysis
TCEQ Lab ID #:	
Laboratory Address:	239 Industrial Blvd. Bastrop, Texas 78602
Laboratory Contact:	
Laboratory Contact Phone #:	512-581-0705

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.

Facility ID (e.g. DS01, PBCU001)	Sample Point ID (e.g. DSTWQP, EWQP)	Sample Location ##	Sample Collection Date (MMDDYY)	Sample Collection Time - 24 hr (HHMM)	Field Measurements pH	Field Measurements Temp (°C)	Replacement? (√)	Original Sample ID #	Original Sample Date (MMDDYY)	Lab Sample ID ##	Alkalinity (1927)	Calcium (1919)	Chloride (1017)	Conductivity (1084)	Hardness (1915)	Iron (1028)	Manganese (1032)	Sodium (1052)	Sulfate (1055)	TDS (1930)	O-Phosphate (1044) *	Silica (1049) *
PBCU002	EWQP	Aqua Entry 01 02 03	11/25/19	9:40	7.77	20.8				19112502-01	√	√	√	√	√	√	√	√	√	√	√	Δ
DS01	DSTWQP	Office Supply 04 05 06	11/25/19	9:52	8.15	21.9				19112502-02	√	√	√	√	√	√	X	√	√	√	√	pH 22
										19112502-03	√	X	√	√	√	√	√	√	√	√	√	
										19112502-04	√	√	√	√	√	√	√	√	√	√	√	
										19112502-05	√	√	√	√	√	√	√	√	√	√	√	pH 23
										19112502-06	√	X	√	√	√	√	√	√	√	√	√	

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)

Name of Authorized PWS Representative (Print)	Signature	Organization	Date
Cari Harrington		H2O GeoSolutions	11/25/19

Chain of Custody

Relinquished By (Signature)	Date	Relinquished By Courier (Signature)	Date
11-25-19 10:50			
Received By Courier (Signature)	**Date**	**Received By Lab (Signature)**	**Date**
			11/25/19 10:50

Sample Conditions Upon Receipt (√)

* √ Samples received unpreserved?	√ Iced	Ambient
Rejection Code (if applicable):	Actual / Corrected sample temperature:	7.3°C / 4.3°C
Date & Time of Sample Preservation (Acidified): 11/25/19 @ 13:15 MD	Thermometer ID #:	1

Laboratory Comments:

√ 6 Containers Rec'd Intact
- Hardness in 1 vial - preserved w/ H_2SO_4 Lot # 4108905
* Metals unpreserved.

TCEQ 20679 (Rev 01/2018)

Δ352-1

AQUA
WATER SUPPLY CORPORATION
LABORATORY

Aqua WSC Laboratory
293 Industrial Blvd.
Bastrop, TX 78602
Phone 512-581-0705
Fax 512-581-0720

1/2/2020

UT MD Anderson Cancer Center
PO Box 389
Smithville, Texas 78957

RE: Final Analytical Report OrderID: 19112502

On 11/25/2019 Aqua Water Supply Corporation Laboratory (Aqua WSC Lab) received 6 samples for analysis. This final analytical report includes 7 pages, including this cover letter plus additional attachments.

This report contains results only related to the sample received referenced above. Aqua WSC Lab will not reproduce or disclose the analytical results in this report without written approval.

This report may not be reproduced, except in full, without the written consent from Aqua WSC Lab.

Aqua WSC Lab conducted sample analysis according to the methods noted in the report. The sample results contained in this report meet the most current TNI standards unless otherwise stated in the body of the report. The signature below authorizes this test report.

Thank you for selecting Aqua WSC Lab as your analytical laboratory. If you have any questions concerning the information in this report, please contact me at (512) 581-0705. We look forward to

Sincerely,

Steve Dunn
Lab Director

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Aqua WSC Laboratory
293 Industrial Blvd.
Bastrop, TX 78602
Phone 512-581-0705
Fax 512-581-0720

Sample Summary

Lab ID	Site	Matrix	Date & Time Collected	Date & Time Received
19112502-01	EWQP Aqua Entry	Drinking Water	11/25/2019 9:40	11/25/2019 10:50
19112502-02	EWQP Aqua Entry	Drinking Water	11/25/2019 9:40	11/25/2019 10:50
19112502-03	EWQP Aqua Entry	Drinking Water	11/25/2019 9:40	11/25/2019 10:50
19112502-04	DSTWQP Office Support	Drinking Water	11/25/2019 9:52	11/25/2019 10:50
19112502-05	DSTWQP Office Support	Drinking Water	11/25/2019 9:52	11/25/2019 10:50
19112502-06	DSTWQP Office Support	Drinking Water	11/25/2019 9:52	11/25/2019 10:50

Cl, SO4-ICV/CCV/LCS/LFM=100 mg/L O-phos-ICV/CCV/LCS/LFM=5.0 mg/L Alk-LCS=100 mg/L conc.

Ca-LCS=40 mg/L conc. Hardness-LCS=100 mg/L conc.

Mn- ICV/CCV/LCS/LFM=1.0 mg/L Conc. Fe-ICV/CCV/LCS/LFM=2.0 mg/L conc. Na-ICV/CCV/LCS/LFM=50 mg/L Conc.

Note: QC1912017 Duplicate and QC1912019 are using actual values below the MDL and LOQ, therefore %RPD out of Range is not applicable to Control limits, Control limits are for values >LOQ

QC 1912026 LFM Matrix Interference

Report Definitions

% Rec	Percent Recovery
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
DF	Dilution Factor
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
LFB	Laboratory Fortified Blank
LFM	Lab Fortified Matrix Spike
LOQ	Limit of Quantitation. Used as MRL and RDL
LRB	Laboratory Reagent Blank
mg/L	milligrams per liter
MRL	Method Reporting Limit
NELAC	National Environmental Laboratory Accreditation Conference
QC	Quality Control
QCS	Quality Control Sample
Qual	Qualifier
RDL	Reportable Detection Limit
RPD	Relative Percent Difference
TNI	The NELAC Institute

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Aqua WSC Laboratory
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Phone 512-581-0705
Fax 512-581-0720

Report of Analysis

For: **UT MD Anderson Cancer Center**
PO Box 389
Smithville, Texas 78957
Attn: James Ruston

Client Sample ID: **Lab Sample ID:** 19112502-01
Site: EWQP Aqua Entry **Collection Date Time:** 11/25/2019 9:40:00 AM

Analyte	Method	Qual	DF	Sample Result	Units	LOQ	Analyst	Analysis Date Time
Chloride	EPA 300.0		1	25.5	mg/L	2	JCL	11/26/2019 19:16
O-Phosphate	EPA 300.0	M	1	0.28	mg/L	0.25	JCL	11/26/2019 19:16
Sulfate	EPA 300.0		1	8.7	mg/L	2	JCL	11/26/2019 19:16
Alkalinity	SM 2320 B		1	182.9	mg/L	25	JCL	12/03/2019 15:57
Specific Conductance	SM 2510 B		1	444.0	uS/cm	0.01	JCL	12/03/2019 18:55
TDS	SM 2540 C.		1	268	mg/L	50	MO	11/26/2019 17:00

Client Sample ID: **Lab Sample ID:** 19112502-02
Site: EWQP Aqua Entry **Collection Date Time:** 11/25/2019 9:40:00 AM

Analyte	Method	Qual	DF	Sample Result	Units	LOQ	Analyst	Analysis Date Time
Calcium	SM 3500-Ca B		1	< 8.0	mg/L	8	JCL	12/11/2019 15:00
Total Hardness	SM2340 C		1	< 20	mg/L	20	JCL	12/09/2019 12:07

Client Sample ID: **Lab Sample ID:** 19112502-03
Site: EWQP Aqua Entry **Collection Date Time:** 11/25/2019 9:40:00 AM

Analyte	Method	Qual	DF	Sample Result	Units	LOQ	Analyst	Analysis Date Time
Iron	EPA 200.7		1	< 0.100	mg/L	0.1	JCL	12/03/2019 13:22
Manganese	EPA 200.7		1	< 0.040	mg/L	0.04	JCL	12/03/2019 13:22
Sodium	EPA 200.7		1	99.940	mg/L	1	JCL	12/03/2019 13:22

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Client Sample ID: **Lab Sample ID:** 19112502-04
Site: DSTWQP Office Support **Collection Date Time:** 11/25/2019 9:52:00 AM

Analyte	Method	Qual	DF	Sample Result	Units	LOQ	Analyst	Analysis Date Time
Chloride	EPA 300.0		1	25.4	mg/L	2	JCL	11/26/2019 20:21
O-Phosphate	EPA 300.0	M	1	0.34	mg/L	0.25	JCL	11/26/2019 20:21
Sulfate	EPA 300.0		1	8.9	mg/L	2	JCL	11/26/2019 20:21
Alkalinity	SM 2320 B		1	191.2	mg/L	25	JCL	12/03/2019 14:13
Specific Conductance	SM 2510 B		1	455.0	uS/cm	0.01	JCL	12/03/2019 18:55
TDS	SM 2540 C.		1	270	mg/L	50	MO	11/26/2019 17:00

Client Sample ID: **Lab Sample ID:** 19112502-05
Site: DSTWQP Office Support **Collection Date Time:** 11/25/2019 9:52:00 AM

Analyte	Method	Qual	DF	Sample Result	Units	LOQ	Analyst	Analysis Date Time
Calcium	SM 3500-Ca B		1	< 8.0	mg/L	8	JCL	12/11/2019 14:49
Total Hardness	SM2340 C		1	< 20	mg/L	20	JCL	12/09/2019 12:32

Client Sample ID: **Lab Sample ID:** 19112502-06
Site: DSTWQP Office Support **Collection Date Time:** 11/25/2019 9:52:00 AM

Analyte	Method	Qual	DF	Sample Result	Units	LOQ	Analyst	Analysis Date Time
Iron	EPA 200.7		1	< 0.100	mg/L	0.1	JCL	12/03/2019 13:39
Manganese	EPA 200.7		1	< 0.040	mg/L	0.04	JCL	12/03/2019 13:39
Sodium	EPA 200.7		1	100.400	mg/L	1	JCL	12/03/2019 13:39

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QC Results

QCBatch ID	QC ID	Parameter	Result	Units	% Rec / RPD	Control Limits
QC1911029	LCS 1	TDS	503.000	mg/L	100.6	80 - 120
	19112502-01: Duplicate 1	TDS	269.000	mg/L	0.37	0 - 20
QC1912010	19112502-01: Duplicate 1	Specific Conductance	447.000	uS/cm	0.67	0 - 20
	LCS 1	Specific Conductance	990.000	mg/L	99.0	90 - 110
	LRB 1	Specific Conductance	1.300	uS/cm		< 2
QC1912013	19112502-03: Duplicate 1	Total Hardness	0.000	mg/L	0.0	0 - 20
	LCS 1	Total Hardness	102.640	mg/L	102.64	80 - 120
	LRB 1	Total Hardness	0.000	mg/L		< 20
QC1912017	19112502-05: Duplicate 1	Calcium	4.030	mg/L	39.44	0 - 20
	LCS 1	Calcium	40.100	mg/L	100.25	80 - 120
	LRB 1	Calcium	0.000	mg/L		< 4
QC1912018	19112502-01: Duplicate 1	Alkalinity	185.100	mg/L	1.2	< 20
	LCS 1	Alkalinity	111.700	mg/L	111.7	80 - 120
	LOQ 1	Alkalinity	26.700	mg/L	106.8	70 - 130
QC1912019	19112502-03: Duplicate 1	Iron	0.006	mg/L	40.0	0 - 20
	19112502-03: LFM 1	Iron	1.015	mg/L	100.6	85 - 115
	CCB/LRB 1	Iron	0.001	mg/L		< 0.004
	CCV/LCS 1	Iron	2.049	mg/L	102.45	85 - 115
	ICB 1	Iron	0.002	mg/L		< 0.004
	ICV 1	Iron	1.967	mg/L	98.35	85 - 115
QC1912020	ICV 1	Manganese	0.983	mg/L	98.3	85 - 115
	19112502-03: Duplicate 1	Manganese	0.002	mg/L	0.0	0 - 20
	19112502-03: LFM 1	Manganese	0.499	mg/L	99.4	85 - 115
	CCB/LRB 1	Manganese	0.000	mg/L		< 0.002
	CCV/LCS 1	Manganese	1.007	mg/L	100.7	85 - 115
	ICB 1	Manganese	0.000	mg/L		< 0.002
QC1912021	19112502-03: Duplicate 1	Sodium	102.664	mg/L	2.69	0 - 20
	19112502-03: LFM 1	Sodium	75.215	mg/L	100.3	85 - 115
	CCB/LRB 1	Sodium	0.001	mg/L		< 0.048

OrderID: 19112502

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	CCV/LCS 1	Sodium	51.046	mg/L	102.09	85 - 115
	ICB 1	Sodium	0.023	mg/L		< 0.048
	ICV 1	Sodium	51.287	mg/L	102.57	85 - 115
QC1912024	CCV/LCS 1	Chloride	101.103	mg/L	101.1	90 - 110
	ICV 1	Chloride	101.322	mg/L	101.32	90 - 110
	CCB/LRB 1	Chloride	0.000	mg/L		< 0.32
	19112502-01: LFM 1	Chloride	64.140	mg/L	102.18	90 - 110
	19112502-01: Duplicate 1	Chloride	25.373	mg/L	0.68	0 - 20
QC1912025	19112502-01: LFM 1	Sulfate	51.268	mg/L	94.3	90 - 110
	CCB/LRB 1	Sulfate	0.000	mg/L		< 0.14
	CCV/LCS 1	Sulfate	95.216	mg/L	95.22	90 - 110
	ICB 1	Sulfate	0.000	mg/L		< 0.14
	ICV 1	Sulfate	95.597	mg/L	95.6	90 - 110
	19112502-01: Duplicate 1	Sulfate	8.599	mg/L	0.97	0 - 20
QC1912026	ICV 1	O-Phosphate	4.839	mg/L	96.78	90 - 110
	19112502-01: Duplicate 1	O-Phosphate	0.278	mg/L	1.08	0 - 20
	19112502-01: LFM 1	O-Phosphate	2.519	mg/L	89.76	90 - 110
	CCB/LRB 1	O-Phosphate	0.000	mg/L		< 0.25
	CCV/LCS 1	O-Phosphate	4.826	mg/L	96.52	90 - 110
	ICB 1	O-Phosphate	0.000	mg/L		< 0.25

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Qualifiers	
N	Non-target analyte, Tentatively identified compound (using mass spectroscopy)
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J1	Reported value is estimated; Surrogate recoveries limits were exceeded
J2	Reported value is estimated; No known QC criteria for this component
J3	Reported value is estimated; The value failed to meet QC criteria for either precision or accuracy
J4	Reported value is estimated; The sample matrix interfered with the analysis
K	Off-scale low. Actual value is known to be less than the value given
B	Blank contamination; Analyte detected above the method detection limit in an associated blank
M	Matrix interference
Z	Too numerous to count (TNTC)
NA	Not Accredited
Q	Sample held beyond the accepted holding time
R	Rejected data; Not suitable for the projects intended use
T	Value reported is less than the laboratory method detection limit
U	Compound was analyzed for but not detected
V	Analyte was detected in both the sample and the associated method blank
L	Off-scale high. Actual value is known to be greater than value given

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

WATER QUALITY PARAMETER MONITORING FORM 20679

Completed by PWS (or Agent)

PWS Name:	MD ANDERSON CANCER RESEARCH SMITHVILLE
PWS ID#:	TX 0110025
PWS Address:	1808 Park Road 1C, Smithville, TX 78951
PWS Contact:	Jimmy Gibbs
PWS Contact Phone #:	512-332-7364

Inhibitor or Stabilizer Used (√): X Phosphate | Silica | Calcium carbonate

TREATMENT — Alkalinity Dosage Rate: | Inhibitor Dosage Rate: 4.3

Completed by Laboratory

Laboratory Name:	AQUA WSC Laboratory
TCEQ Lab ID #:	
Laboratory Address:	239 Industrial Blvd. Bastrop, Texas 78602
Laboratory Contact:	
Laboratory Contact Phone #:	512-581-0705

Sample Information

Sample Type (√): X Compliance | Non-compliance

Sample Collector (√): X Public Water System | X Accredited Lab | X 3rd Party Contractor --> LAB ID: AL0110025

Temperature and pH (Y or N): X Are temperature and pH included on the sampling entity's Laboratory Approval Form on file at the TCEQ? | X Were temperature and pH measured in the field within 15 minutes of sample collection?

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.

Facility ID (e.g. DSC1, PBCU001)	Sample Point ID (e.g. DSTWQP, EWQP)	Sample Location	Sample Collection Date (MMDDYY)	Sample Collection Time - 24 hr (HHMM)	Field Measurements pH	Field Measurements Temp (°C)	Replacement? (√)	Original Sample ID #	Original Sample Date (MMDDYY)	Lab Sample ID	Alkalinity (1927)	Calcium (1919)	Chloride (1017)	Conductivity (1084)	Hardness (1915)	Iron (1028)	Manganese (1032)	Sodium (1052)	Sulfate (1055)	TDS (1930)	O-Phosphate (1044)*	Silica (1049)*
PBCU002	EWQP	Aqua Entry 01 02 03	11/25/19	9:40	7.77	20.8				1911250201	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Δ
DS01	DSTWQP	Aqua Support 01 02	11/25/19	9:52	8.15	21.9				1911250202	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓	ph 22
										1911250203	✓	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	
										1911250204	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
										1911250205	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	23
										1911250206	✓	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	

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Name of Authorized PWS Representative (Print)	Signature	Organization	Date
Cari Harrington		H2O GeoSolutions	11/25/19

Chain of Custody

Relinquished By (Signature)	Date	Relinquished By Courier (Signature)	Date
11-25-19 10:50			
Received By Courier (Signature)	**Date**	**Received By Lab (Signature)**	**Date**
			11/25/19 10:50

Sample Conditions Upon Receipt (√)

✓ Samples received unpreserved? ✓ Iced | Ambient

Rejection Code (if applicable): | Actual / Corrected sample temperature: 7.3°C / 4.3°C

Date & Time of Sample Preservation (Acidified): 11/25/19 @ 13:15 40 | Thermometer ID #: 1

Laboratory Comments:

✓ 6 Containers Rcvd Intact
- Hardness in 1911250204 - preserved w/ H_2SO_4 Lot # 44081905
* Metals unpreserved.

TCEQ 20679 (Rev 01/2018)

Δ352-1