



County of Roanoke

FINANCE DEPARTMENT PURCHASING DIVISION

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September 4, 2019

IFB #2020-003

Water Treatment Services
for
Various locations in Roanoke County

ADDENDUM NO. 2

Answers to Questions

Due Date & Time:
September 10, 2019 2:00PM
(Local Prevailing Time)

Addendum No. 2
IFB 2020-003
Water Treatment Services
for
Various locations in Roanoke County

1. On Page 3, Specifications, Item B, it indicates the service frequency as monthly. During the tour it was noted that currently the service frequency for the evaporative systems (cooling towers and steam boilers) was monthly, and the closed systems (Chill, hot, etc.) were quarterly, which is the industry standard. Will the solicitation be modified to reflect this, or will the monthly frequency for all systems be maintained?

Answer: Monthly and quarterly as per industry standards

2. What is the current frequency for cooling tower cleaning and disinfections (For your application, OSHA prefers twice a year)?

Answer: This is not a part of this Contract.

3. Are the cooling towers routinely tested for legionella bacteria? If so, how often? Also if so, may we see a copy of the most recent results?

Answer: No testing

4. May we see copies of the last 3-6 months of service reports for the locations?

Answer: See Attached Reports

Addendum No. 2
IFB 2020-003
Water Treatment Services
for
Various locations in Roanoke County

*****REQUIRED*****

*****Sign and return with your bid package*****

Sign Name:

Print Name:

Date:

Company

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Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report
Service Date: 03/04/2019

TO:
COUNTY OF ROANOKE
1216 KESSLER MILL
ROAD
SALEM VA 24153

SITE #: 19354-002

FOR:
ROANOKE COUNTY
COURTHOUSE
305 EAST MAIN STREET
SALEM VA 24153

ANALYSIS

Call Slip: 3362686	Make Up	Limit		Equip # 4 – MER
Constituent		MIN	MAX	Low Pressure Boiler (LPB)
Conductivity	323	0	5000	8454
pH	7.9	10.2	12.0	11.6
Sodium Sulfite		30.0	60.0	200
Phosphonate		10.0	30.0	60
OH Alkalinity		200.0	500.0	750

Equipment 4 Remarks: Bleed Low - Adjusted. Please double blow down frequency. I filled chemical feed tank and lowered pump setting to 20% from 40%.

Call Slip: 3362687	Limit		Equip # 5 – MER
Constituent	MIN	MAX	Low Pressure Boiler (LPB)

Equipment 5 Remarks: System not operating during service visit.

Call Slip: 3362683	Limit		Equip # 1 – MER
Constituent	MIN	MAX	Hot Water System (HWS)
Conductivity	0	5000	605
pH	8.5	10.2	9.3
Sodium Nitrite	600.0	2000.0	200

Equipment 1 Remarks: Treatment Low - Adjusted

Call Slip: 3362684	Make Up	Limit		Equip # 2 – MER
Constituent		MIN	MAX	Chilled Water System (CWS)
Conductivity	323	0	5000	1906
pH	7.9	8.5	10.2	10.7
Sodium Nitrite		750.0	4000.0	720

Equipment 2 Remarks: Added 1.5 gal Bc15L to lower system pH.

Call Slip: 3362685	Make Up	Limit		Equip # 3 – MER
Constituent		MIN	MAX	Cooling Tower (CT)
Conductivity	323	0	1000	473
pH	7.9	8.3	10.5	8.6
Total Alkalinity	120	0	450	140
Calcium Hardness	80	0	500	110
Phosphonate		6.0	20.0	9

Equipment 3 Remarks: Tower conductivity remains low indicating water loss. I checked relays and pump prime.

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: *Andy Lowe*

Customer: *GILBERT*

Contact #: *(276) 451-0888*

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report
Service Date: 03/04/2019

TO:

ROANOKE CO.
SHERRIFF'S OFFICE
401 EAST MAIN ST.
SALEM VA 24153

SITE #: 19354-001

FOR:

ROANOKE CO. SHERRIFF'S
OFFICE
401 EAST MAIN ST.
SALEM VA 24153

ANALYSIS

Call Slip: 3362681	Make Up	Limit		Equip # 1 – ROOF
Constituent		MIN	MAX	Cooling Tower (CT)
Conductivity	323	0	1000	783
pH	7.9	8.3	10.0	8.7
Total Alkalinity	120	0	450	260
Calcium Hardness	80	0	500	180
Phosphonate		6.0	20.0	17

Equipment 1 Remarks: Added 1 lb 7346 tablets to basin dispenser.

Call Slip: 3362682	Make Up	Limit		Equip # 2 – MECH
Constituent		MIN	MAX	Closed Loop System (CLP)
Conductivity	323	0	5000	1445
pH	7.9	8.5	10.2	9.4
Sodium Nitrite		750.0	1500.0	520

Equipment 2 Remarks: Treatment Low - Adjusted

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: Andy Lowe

Contact #: (276) 451-0888

Customer: SCHACK

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report
Service Date: 03/06/2019

TO:

SITE #: 19354-006

FOR:

COUNTY OF ROANOKE
1220 KESSLER MILL RD
SALEM VA 24153

ROANOKE COUNTY FIRE
TRAINING
1220 KESSLER MILL RD
SALEM VA 24153

ANALYSIS

Call Slip: 3361187	Make Up	Limit		Equip # 1 – MECH ROOM
Constituent		MIN	MAX	Cooling Tower (CT)
Conductivity	297		1200	1002
pH	8.1	8.3	12.0	8.4
Total Alkalinity	120	0	450	200
Calcium Hardness	110	0	500	180
Phosphonate		6.0	20.0	6
MU Water (gal)		.0	9999.0	26300

Equipment 1 Remarks: system off

Call Slip: 3361188	Make Up	Limit		Equip # 2 – MECH ROOM
Constituent		MIN	MAX	Dual Temp. System (DT)
Conductivity	297	0	5000	4640
pH	8.1	8.5	10.2	9.0
Sodium Nitrite		600.0	2000.0	2000

Equipment 2 Remarks: Satisfactory

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: *Vernon Skeen*

Customer: *GILL*

Contact #: (423) 800-2530



An Ecolab Company

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report

Service Date: 03/06/2019

TO:

SITE #: 19354-005

FOR:

COUNTY OF ROANOKE
1216 KESSLER MILL
ROAD
SALEM VA 24153

ROANOKE COUNTY FLEET
SERVICE CENTER
5235 HOLLINS ROAD
ROANOKE VA 24019

ANALYSIS

Call Slip: 3361182	Make Up	Limit		Equip # 1 – MER
Constituent		MIN	MAX	Hot Water System (HWS)
Conductivity	297	0	5000	406
pH	8.1	8.5	10.2	9.1
Sodium Nitrite		750.0	1500.0	200

Equipment 1 Remarks: Treatment Low - Adjusted. Added 2 gal. B939L to hot loop bypass feeder.

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: *Vernon Skeen*

Customer: *VIAR*

Contact #: *(423) 800-2530*

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report
Service Date: 03/07/2019

TO: **SITE #:** 19354-003

COUNTY OF ROANOKE
1216 KESSLER MILL
ROAD
SALEM VA 24153

FOR:

ROANOKE COUNTY ADMIN
BLDG
5204 BERNARD DRIVE
SALEM VA 24153

ANALYSIS

Call Slip: 3361185	Make Up	Limit		Equip # 1 – MER
Constituent		MIN	MAX	Hot Water System (HWS)
Conductivity	308	0	5000	2275
pH	7.1	8.5	10.2	8.5
Sodium Nitrite		750.0	1500.0	900

Equipment 1 Remarks: Satisfactory

Call Slip: 3361186	Make Up	Limit		Equip # 2 – MER
Constituent		MIN	MAX	Chilled Water System (CWS)
Conductivity	308	0	5000	1061
pH	7.1	8.5	10.2	9.2
Sodium Nitrite		750.0	1500.0	0
Freeze Point		-30.0	32.0	28
Propylene Glycol		.0	50.0	7

Equipment 2 Remarks: Glycol is below normal level.

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: Vernon Skeen

Contact #: (423) 800-2530

Customer: CAMPBELL

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report
Service Date: 04/02/2019

TO:
COUNTY OF ROANOKE
1216 KESSLER MILL
ROAD
SALEM VA 24153

SITE #: 19354-002

FOR:
ROANOKE COUNTY
COURTHOUSE
305 EAST MAIN STREET
SALEM VA 24153

ANALYSIS

Call Slip: 3378677	Make Up	Limit		Equip # 3 – MER
Constituent		MIN	MAX	Cooling Tower (CT)
Conductivity	381	0	1000	546
pH	8.0	8.3	10.5	8.4
Total Alkalinity	130	0	450	200
Calcium Hardness	80	0	500	150
Phosphonate		6.0	20.0	9

Equipment 3 Remarks: Satisfactory I discussed possible water loss issue with Toby. A level adjustment may be needed in the future.

Call Slip: 3378678	Limit		Equip # 4 – MER
Constituent	MIN	MAX	Low Pressure Boiler (LPB)

Equipment 4 Remarks: System not operating during service visit.

Call Slip: 3378679	Make Up	Limit		Equip # 5 – MER
Constituent		MIN	MAX	Low Pressure Boiler (LPB)
Conductivity	381	100	5000	4106
pH	8.0	10.2	12.0	11.1
Sodium Sulfite		30.0	60.0	200
Phosphonate		10.0	30.0	60
OH Alkalinity		200.0	500.0	300

Equipment 5 Remarks: Treatment High - Adjusted The chemical has overfed despite pump setting of 10%. I am ordering chemical and will set pump to its lowest setting. The softener is producing soft water. Boiler 1 continues to be down with fireside problems.

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: *Andy Lowe*

Customer: *GILBERT*

Contact #: *(276) 451-0888*

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report
Service Date: 04/02/2019

TO:

ROANOKE CO.
SHERRIFF'S OFFICE
401 EAST MAIN ST.
SALEM VA 24153

SITE #: 19354-001

FOR:

ROANOKE CO. SHERRIFF'S
OFFICE
401 EAST MAIN ST.
SALEM VA 24153

ANALYSIS

Call Slip: 3378675	Make Up	Limit		Equip # 1 – ROOF
Constituent		MIN	MAX	Cooling Tower (CT)
Conductivity	345	0	1000	694
pH	8.0	8.3	10.0	8.8
Total Alkalinity	120	0	450	250
Calcium Hardness	80	0	500	170
Phosphonate		6.0	20.0	16

Equipment 1 Remarks: readings fall within normal range. I made no adjustments.

Call Slip: 3378676	Make Up	Limit		Equip # 2 – MECH
Constituent		MIN	MAX	Closed Loop System (CLP)
Conductivity	345	0	5000	1561
pH	8.0	8.5	10.2	9.1
Sodium Nitrite		750.0	1500.0	800

Equipment 2 Remarks: Satisfactory

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: Andy Lowe

Contact #: (276) 451-0888

Customer: SCHACK

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report
Service Date: 04/04/2019

TO:

SITE #: 19354-006

FOR:

COUNTY OF ROANOKE
1220 KESSLER MILL RD
SALEM VA 24153

ROANOKE COUNTY FIRE
TRAINING
1220 KESSLER MILL RD
SALEM VA 24153

ANALYSIS

Call Slip: 3377121	Make Up	Limit		Equip # 1 – MECH ROOM
Constituent		MIN	MAX	Cooling Tower (CT)
Conductivity	299		1200	1837
pH	7.1	8.3	12.0	6.7
MU Water (gal)		.0	9999.0	26300

Equipment 1 Remarks: system off. make up water off.

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: *Vernon Skeen*

Customer: *GILL*

Contact #: (423) 800-2530



An Ecolab Company

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report
Service Date: 05/06/2019

TO: **SITE #:** 19354-004

COUNTY OF ROANOKE
1216 KESSLER MILL
ROAD
SALEM VA 24153

FOR:

ROANOKE COUNTY
BRAMBLETON AVE
3738 BRAMBLETON AVE
ROANOKE VA 24019

ANALYSIS

Call Slip: 3393508	Limit		Equip # 1 – MER
Constituent	MIN	MAX	Hot Water System (HWS)

Equipment 1 Remarks: System not operating during service visit.

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: *Vernon Skeen*

Customer: *GILL*

Contact #: *(423) 800-2530*

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report
Service Date: 06/05/2019

TO:

ROANOKE CO.
SHERRIFF'S OFFICE
401 EAST MAIN ST.
SALEM VA 24153

SITE #: 19354-001

FOR:

ROANOKE CO. SHERRIFF'S
OFFICE
401 EAST MAIN ST.
SALEM VA 24153

ANALYSIS

Call Slip: 3410412	Make Up	Limit		Equip # 1 – ROOF
Constituent		MIN	MAX	Cooling Tower (CT)
Conductivity	398	0	1000	1046
pH	7.7	8.3	10.0	9.1
Total Alkalinity	140	0	450	360
Calcium Hardness	90	0	500	240
Phosphonate		6.0	20.0	12

Equipment 1 Remarks: Bleed Low - Adjusted I added an additional 30 sec to timers bleed duration.

Call Slip: 3410413	Make Up	Limit		Equip # 2 – MECH
Constituent		MIN	MAX	Closed Loop System (CLP)
Conductivity	398	0	5000	1598
pH	7.7	8.5	10.2	9.6
Nitrite		600.0	2000.0	640

Equipment 2 Remarks: Satisfactory

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: Andy Lowe

Contact #: (276) 451-0888

Customer: SCHACK

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report
Service Date: 06/05/2019

TO:
ROANOKE CO.
SHERRIFF'S OFFICE
401 EAST MAIN ST.
SALEM VA 24153

SITE #: 19354-001

FOR:
ROANOKE CO. SHERRIFF'S
OFFICE
401 EAST MAIN ST.
SALEM VA 24153

ANALYSIS

Call Slip: 3410412	Make Up	Limit		Equip # 1 – ROOF
Constituent		MIN	MAX	Cooling Tower (CT)
Conductivity	398	0	1000	1046
pH	7.7	8.3	10.0	9.1
Total Alkalinity	140	0	450	360
Calcium Hardness	90	0	500	240
Phosphonate		6.0	20.0	12

Equipment 1 Remarks: Bleed Low - Adjusted I added an additional 30 sec to timers bleed duration.

Call Slip: 3410413	Make Up	Limit		Equip # 2 – MECH
Constituent		MIN	MAX	Closed Loop System (CLP)
Conductivity	398	0	5000	1598
pH	7.7	8.5	10.2	9.6
Nitrite		600.0	2000.0	640

Equipment 2 Remarks: Satisfactory

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: Andy Lowe

Contact #: (276) 451-0888

Customer: SCHACK

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report
Service Date: 06/06/2019

TO:

SITE #: 19354-006

FOR:

COUNTY OF ROANOKE
1220 KESSLER MILL RD
SALEM VA 24153

ROANOKE COUNTY FIRE
TRAINING
1220 KESSLER MILL RD
SALEM VA 24153

ANALYSIS

Call Slip: 3409035	Make Up	Limit		Equip # 1 – MECH ROOM
Constituent		MIN	MAX	Cooling Tower (CT)
Conductivity	320		1200	1306
pH	8.2	8.3	12.0	9.3
Total Alkalinity	140	0	450	420
Calcium Hardness	100	0	500	450
Phosphonate		6.0	20.0	8
MU Water (gal)		.0	9999.0	31500

Equipment 1 Remarks: Bleed Low - Adjusted. Increased bleed by 1 minute.

Call Slip: 3409036	Make Up	Limit		Equip # 2 – MECH ROOM
Constituent		MIN	MAX	Dual Temp. System (DT)

Equipment 2 Remarks: Could not gain access to mechanical room

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: Vernon Skeen

Customer: GILL

Contact #: (423) 800-2530

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report
Service Date: 06/06/2019

TO: **SITE #:** 19354-003

COUNTY OF ROANOKE
1216 KESSLER MILL
ROAD
SALEM VA 24153

FOR:

ROANOKE COUNTY ADMIN
BLDG
5204 BERNARD DRIVE
SALEM VA 24153

ANALYSIS

Call Slip: 3409033	Make Up	Limit		Equip # 1 – MER
Constituent		MIN	MAX	Hot Water System (HWS)
Conductivity	306	0	5000	1873
pH	8.2	8.5	10.2	8.4
Nitrite		750.0	1500.0	850

Equipment 1 Remarks: system off

Call Slip: 3409034	Make Up	Limit		Equip # 2 – MER
Constituent		MIN	MAX	Chilled Water System (CWS)
Conductivity	306	0	5000	1077
pH	8.2	8.5	10.2	9.1
Nitrite		750.0	1500.0	0
Freeze Point		-30.0	32.0	28
Propylene Glycol		.0	50.0	7

Equipment 2 Remarks: Glycol level is low. 30-35 percent is required for optimal operation.

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: Vernon Skeen

Customer: CAMPBELL

Contact #: (423) 800-2530

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report
Service Date: 07/02/2019

TO:

SITE #: 19354-006

FOR:

COUNTY OF ROANOKE
1220 KESSLER MILL RD
SALEM VA 24153

ROANOKE COUNTY FIRE
TRAINING
1220 KESSLER MILL RD
SALEM VA 24153

ANALYSIS

Call Slip: 3425061	Make Up	Limit		Equip # 1 – MECH ROOM
Constituent		MIN	MAX	Cooling Tower (CT)
Conductivity	312		1200	1653
pH	8.2	8.3	12.0	9.2
Total Alkalinity	150	0	450	500
Calcium Hardness	100	0	500	380
Phosphonate		6.0	20.0	7
MU Water (gal)		.0	9999.0	35700

Equipment 1 Remarks: Increased bleed time by 1 minute.

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: *Vernon Skeen*

Customer: *GILL*

Contact #: (423) 800-2530

TO:
COUNTY OF ROANOKE
1216 KESSLER MILL
ROAD
SALEM VA 24153

SITE #: 19354-002

FOR:
ROANOKE COUNTY
COURTHOUSE
305 EAST MAIN STREET
SALEM VA 24153

ANALYSIS

Call Slip: 3426496	Make Up	Limit		Equip # 3 – MER
Constituent		MIN	MAX	Cooling Tower (CT)
Conductivity	322	0	1000	726
pH	7.8	8.3	10.5	8.8
Total Alkalinity	120	0	450	280
Calcium Hardness	80	0	500	170
Phosphonate		6.0	20.0	8

Equipment 3 Remarks: Satisfactory I checked controller relays and added chemical to both tanks.

Call Slip: 3426497	Make Up	Limit		Equip # 4 – MER
Constituent		MIN	MAX	Low Pressure Boiler (LPB)
Conductivity	322	0	5000	1355
pH	7.8	10.2	12.0	10.7
Sodium Sulfite		30.0	60.0	60
Phosphonate		10.0	30.0	16
OH Alkalinity		200.0	500.0	150

Equipment 4 Remarks: Satisfactory

Call Slip: 3426498	Make Up	Limit		Equip # 5 – MER
Constituent		MIN	MAX	Low Pressure Boiler (LPB)
Conductivity	322	100	5000	573
pH	7.8	10.2	12.0	10.3

Sodium Sulfite		30.0	60.0	40
Phosphonate		10.0	30.0	11
OH Alkalinity		200.0	500.0	100

Equipment 5 Remarks: System not operating during service visit.

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: *Andy Lowe*

Customer: *GILBERT*

Contact #: *(276) 451-0888*

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report
Service Date: 07/18/2019

TO: **SITE #:** 19354-005

COUNTY OF ROANOKE
1216 KESSLER MILL
ROAD
SALEM VA 24153

FOR:

ROANOKE COUNTY FLEET
SERVICE CENTER
5235 HOLLINS ROAD
ROANOKE VA 24019

ANALYSIS

Call Slip: 3425059	Make Up	Limit		Equip # 1 – MER
Constituent		MIN	MAX	Hot Water System (HWS)
Conductivity	106	0	5000	322
pH	8.2	8.5	10.2	8.9
Nitrite		750.0	1500.0	250

Equipment 1 Remarks: Treatment Low - Adjusted. Added 3 gal. B939L to hot loop.

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: *Vernon Skeen*

Customer: *VIAR*

Contact #: (423) 800-2530

TO:
COUNTY OF ROANOKE
1216 KESSLER MILL
ROAD
SALEM VA 24153

SITE #: 19354-002

FOR:
ROANOKE COUNTY
COURTHOUSE
305 E MAIN ST
SALEM VA 24153

ANALYSIS

Call Slip: 3441283	Make Up	Limit		Equip # 3 – MER
Constituent		MIN	MAX	Cooling Tower (CT)
Conductivity	325	0	1000	671
pH	7.7	8.3	10.5	8.9
Total Alkalinity	120	0	450	250
Calcium Hardness	80	0	500	160
Phosphonate		6.0	20.0	4

Equipment 3 Remarks: Treatment Low - Adjusted I mixed the inhibitor level 33% more concentrated to achieve higher OP residuals in condenser water.

Call Slip: 3441284	Make Up	Limit		Equip # 4 – MER
Constituent		MIN	MAX	Low Pressure Boiler (LPB)
Conductivity	325	0	5000	1950
pH	7.7	10.2	12.0	10.9
Sodium Sulfite		30.0	60.0	70
Phosphonate		10.0	30.0	18
OH Alkalinity		200.0	500.0	200

Equipment 4 Remarks: Satisfactory I added 2 gal BC27L to chemical feed tank to impart more alkalinity.

Call Slip: 3441285	Make Up	Limit		Equip # 5 – MER
Constituent		MIN	MAX	Low Pressure Boiler (LPB)
Conductivity	325	100	5000	2195

pH	7.7	10.2	12.0	11.1
Sodium Sulfite		30.0	60.0	70
Phosphonate		10.0	30.0	24
OH Alkalinity		200.0	500.0	250

Equipment 5 Remarks: Satisfactory

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: *Andy Lowe*

Customer: *GILBERT*

Contact #: *(276) 451-0888*

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report
Service Date: 08/05/2019

TO:

ROANOKE CO.
SHERRIFF'S OFFICE
401 EAST MAIN ST.
SALEM VA 24153

SITE #: 19354-001

FOR:

ROANOKE CO. SHERRIFF'S
OFFICE
401 E MAIN ST
SALEM VA 24153

ANALYSIS

Call Slip: 3441281	Make Up	Limit		Equip # 1 – ROOF
Constituent		MIN	MAX	Cooling Tower (CT)
Conductivity	325	0	1000	766
pH	7.7	8.3	10.0	9.0
Total Alkalinity	120	0	450	260
Calcium Hardness	80	0	500	190
Phosphonate		6.0	20.0	11

Equipment 1 Remarks: Satisfactory I filled inhibitor tank and bromine tablet dispenser. I Added .5 lb tower wash to basin and checked relays and pumps for prime.

Call Slip: 3441282	Make Up	Limit		Equip # 2 – MECH
Constituent		MIN	MAX	Closed Loop System (CLP)
Conductivity	325	0	5000	1501
pH	7.7	8.5	10.2	9.4
Nitrite		600.0	2000.0	640

Equipment 2 Remarks: Satisfactory

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: Andy Lowe

Contact #: (276) 451-0888

Customer: SCHACK

Phone: 800-247-3973

Fax: 516-932-0014

Field Service Report

Service Date: 08/07/2019

TO:

SITE #: 19354-006

FOR:

COUNTY OF ROANOKE
1220 KESSLER MILL RD
SALEM VA 24153

ROANOKE COUNTY FIRE
TRAINING
1220 KESSLER MILL RD
SALEM VA 24153

ANALYSIS

Call Slip: 3439923	Make Up	Limit		Equip # 1 – MECH ROOM
Constituent		MIN	MAX	Cooling Tower (CT)
Conductivity	336		1200	1033
pH	8.1	8.3	12.0	9.1
Total Alkalinity	130	0	450	360
Calcium Hardness	90	0	500	320
Phosphonate		6.0	20.0	13
MU Water (gal)		.0	9999.0	46700

Equipment 1 Remarks: Satisfactory

Analyses, except items marked *, in mg/l (milligrams per liter) ppm (parts per million)

Representative: *Vernon Skeen*

Customer: *GILL*

Contact #: (423) 800-2530