

Final Commissioning Report

School District 23 - Mount Prospect, IL

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E Cube | 1017.2 - Dist 23 Schools Phase 2



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Executive Summary

Prospect Heights School District 23 Sullivan and Ross Elementary Schools



Commissioning Report Summary

10/14/2020

Overview

This Final Commissioning Report includes documentation developed and collected as part of the commissioning process led by E Cube, Inc. for the **Anne Sullivan and Betsy Ross Elementary School HVAC Retrofit** projects in Prospect Heights, IL. Commissioning services were provided in the interest of helping ensure that systems in the scope of work operate in accordance with the design intent.

Completed commissioning documentation is included in this report package and constitutes a record of the independent quality assurance program executed by E Cube and the project commissioning team.

Commissioning Team

The commissioning process was a comprehensive effort led by E Cube, Inc. and supported by the following team members:

- Owner Prospect Heights School District 23
- Architect of Record ARCON Associates, Inc.
- Engineer of Record AMSCO Engineering
- Mechanical Contractor EMCOR Services Team Mechanical
- Building Automation Contractor Honeywell Controls, Inc.
- Test, Adjust & Balance Contractor Superior Test & Balance, Inc.

Systems Scope of Work

The scope of work included the following systems. This scope does not constitute an exhaustive effort to review all installed equipment / systems and spaces served.

Total for Sullivan and Ross Schools:

Description	Total Quantity	Sampling Rate	Quantity Commissioned
Vertical Cabinet Heat Pumps (Bard)	32	25%	8
Vertical & Horizontal Heat Pumps	N/A	N/A	N/A
Rooftop Units	N/A	N/A	N/A
Exhaust Fans	N/A	N/A	N/A

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Documentation / Reporting

E Cube utilized *CxAlloy* web-based software to document various steps of the commissioning process and to collect and organize test reports, startup reports, balancing reports and other relevant documentation provided by the installing contractors. All commissioning documentation developed for this project can be found on *CxAlloy* using the following link:

<https://tq.cxalloy.com/project/14986>

The *CxAlloy* site for this project will now be "archived". In this mode, all documentation will still be available for viewing and downloading, but modifications to the content will not be possible. We recommend *CxAlloy* content be referenced as the facility is operated and any future issues are addressed, as this site contains valuable information pertaining to the construction phase commissioning process.

Process

The commissioning process was a comprehensive, multi-phase effort led by E Cube, Inc. and supported by the Commissioning Team. As part of the commissioning process for this project, the following key tasks were completed:

Commissioning Meetings / Status Reporting

At the beginning of the project, a pre-construction Commissioning Kickoff meeting was held to discuss and plan for the Commissioning process. Due to the brief schedule of this project, commissioning discussions were managed directly with team members on site or via phone and email. E Cube provided regular commissioning status updates to the team using *CxAlloy*.

The final Cx Status Report can be found in this package.

Submittals

Submittals for equipment in the commissioning scope of work were reviewed. This helped identify deviations from design requirements, missing information or coordination issues.

Pre-Functional Checklists

Pre-Functional Procedures / Checklists were developed and completed by E Cube. These checklists helped ensure equipment installation matched the design intent and manufacturers' requirements. They also serve as a record of equipment installation procedures and issues. E Cube spot-checked installation in the field as part of this work.

Based on this, the equipment in the scope of work appears to be installed per the design intent, except where noted and unresolved on the Cx Issues Log (described below).

Completed Pre-Functional checklists can be found in this report.

Contractor Testing, Startup and Reporting

Contractor procedures and reports for and equipment / component testing, equipment startup, and test, adjust & balance were reviewed by E Cube. Some on-site witnessing of these procedures was also completed. This helped ensure integrity of system components, proper energizing and initial operation, proper integration to the building automation system and proper balancing and calibration.

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This project included existing unit ventilators heat pumps retrofitted with hot gas reheat coils, refrigerant piping, valves, and related controls. The installing contractor (Emcor) leak tested the associated piping and performed startup of the new equipment. They also provided a letter stating all equipment had been installed and is operating per the manufacturer – this letter served as the startup report for each unit. BAS point to point testing was completed by the BAS contractor (Honeywell) prior to the main equipment being energized. E Cube witnessed a portion of these startups and point to point testing activities.

Completed contractor testing, startup and balancing reports (as submitted by the contractors) can be found in this report.

Functional Testing / Checklists

Functional Test Checklists were developed by E Cube per the design documents. The checklists were completed in the field with the assistance of trade contractors. These tests verified and documented system performance and BAS sequences of operation.

During testing systems were operating under automatic control, but the facility was not occupied with students. Only some staff were on site. Therefore, a full occupant load was not available at the time of testing.

During testing, there were issues noted with control points, sequences, and mechanical equipment but when completed, the testing was successful, and the equipment and controls appeared to be operating per the design intent. Functional testing included system operation in heating, cooling and dehumidification modes. Testing for demand ventilation and CO2 monitoring was also completed.

E Cube recommends closely monitoring space temperatures and relative humidity levels to help ensure proper system performance. It would also be important to confirm proper condenser water system performance (temperature, flowrate, etc.), especially since that base-building system was not in the scope of work of this project.

Completed functional test checklists can be found in this report.

Warranty Phase Review

E Cube still needs to complete a Warranty Phase Review as part of the scope of work for this project. This is to occur 10 months after turnover (i.e. June 2021). We will communicate with the Owner to schedule this at that time. This review will include a general discussion with facility operations staff to discuss overall performance of the system and document any issues discovered during that time. The responsible parties would then address those issues prior to the end of the warranty period.

A blank warranty review checklist is included in this report for information. This will be completed at the warranty phase review.

Field Observations and Issues

During the Commissioning process for this project, several deficiencies were noted by E Cube. Examples include installation concerns, control points that did not function or report properly, controls sequence issues, etc. These issues were documented in a Commissioning Issues Log on *CxAlloy*. The responsible parties responded to these issues as they were reported.

To date and to the best of our knowledge, all reported issues been corrected except for a few that are related to BAS trend reports, BAS point display and dehumidification performance. Those are

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summarized below. Full details can be found in the Commissioning Issues Log.

- While the newly installed equipment, components appear to meet the design requirements, some spaces are still having difficulty maintaining proper space humidity. Based on field testing, it appears there may be an issue with incorrect or insufficient condenser water temperature from the facilities' main condenser water plant (which was not in the scope of work of this project). As stated above, the cooling load in the facility during testing was lower than normal, which may have some connection to the observed condenser water temperatures. We recommend District 23 staff review the operation of the plant to ensure proper condenser water flowrate and temperature to the unit ventilators.
- The TAB contractor also noted some issues related to low condenser water flow and low minimum outdoor airflow in a couple locations as well as a couple of damper actuators that were not functioning properly. To the best of our knowledge, these were corrected prior to occupancy.
- To date, the BAS contractor has submitted trend data for the design sequence, as currently programmed and installed. However, due to the issues observed with proper space humidity and temperature control, an alternate controls sequence was proposed whereby the system would control for space temperature rather than relative humidity. This was an experimental sequence (outside of the design requirements). Our understanding is the system was not left programmed this way. Further, E Cube has not received any trends for this experimental sequence, but it may be worth investigating if temperature / humidity control issues persist.

The final Commissioning Issues Log for this project can be found in this Final Commissioning Report.

Future Operations

The Commissioning Process has aimed to ensure proper operation of systems in the scope of work at the point of facility turnover to the Owner. **The long-term success of this facility depends in part by proactive and regular monitoring of systems performance, and especially within the first few seasons of operation.**

We recommend that the Facility Operations staff continue to evaluate the operation of the facility by setting up and using diagnostic trend reports on the building automation system as well as conducting a review on the local control panels and diagnostic histories for the MEP equipment. In this way, they can continue to monitor issues, but also identify opportunities for optimization and/or fine-tuning of set points related to this system's operation.

If any of these key trends indicate trouble areas, further trends can be set up to help trouble shoot those areas. For instance, if a particular space is out of range on space temperature, the user can set up trends for that space's condenser water and hot gas operation, damper positions, etc. This process of spot-checking trend logs can help ensure a properly operating facility over time and is highly recommended.

If desired, E Cube can provide post-occupancy monitoring-based commissioning services to implement automated notification (fault detection diagnostics) of systems, which is very effective in improving systems efficiency and reducing operation costs.

Thank You

We would like to acknowledge the support provided by the project team including staff from School District 23, Arcon Associates, Amsco Engineering, Emcor, and Honeywell in helping achieve a successful commissioning process. We look forward to working with this team on more projects in the near future.

1017.2 Cx Rpt Summary 2020 1008.docx

Design Reviews

1 Review

Design Review,
E Cube, Inc. 2020 0113

Author Jim Radzienda
Date Reviewed 1/13/2020
Submittal Dwgs. for Bid Set 12-06-2020
Type Design Documents

Issues 20

DR-1-1 FOR INFORMATION ONLY **LOW**

This design review on Cx Alloy will show all comments as issues, but the intent is they are comments

Assigned To Amsco Engineering
Created By Jim Radzienda
Identified On 1/13/2020 4:25 PM

DR-1-2 FOR INFORMATION ONLY **HIGH**

On the controls drawing detail for the Bard units shows a hot gas reheat temperature sensor. It looks like it is not in the correct position on the drawing if it is to measure air temperature. Recommend verifying the layout of the coils and sensors is correct. Based on the previous project at Eisenhower, it would have been a valuable feature to have a duct temp sensor between the 2 coils as well as the final DAT sensor that is visible from the BAS. This allows monitoring of equipment and verifying individual coil performance and operation.

Assigned To Amsco Engineering
Discipline Controls
Drawing M4.0
Created By Jim Radzienda
Identified On 1/13/2020 4:51 PM

DR-1-3 FOR INFORMATION ONLY **MODERATE**

The control drawing indicates digital input points for the compressor, and is noted as required. From the previous project at Ike, we believe the compressor status was not monitored at the BAS but rather only monitored at the internal control board. It would be beneficial if compressor status is available at the BAS for monitoring, troubleshooting, and trending.

Assigned To Amsco Engineering
Discipline Controls
Drawing M4.0
Created By Jim Radzienda
Identified On 1/13/2020 4:54 PM

DR-1-4 FOR INFORMATION ONLY **MODERATE**

Recommend adding glycol circulation pump status to the BAS for monitoring, troubleshooting, and trending.

Assigned To Amsco Engineering
Discipline Controls
Drawing M4.0
Created By Jim Radzienda
Identified On 1/13/2020 5:06 PM

DR-1-5 FOR INFORMATION ONLY MODERATE

Consider adding an alarm to the condensate pan to monitor high water level in the event of condensate drain blockage. Monitor at the BAS.

Assigned To Amsco Engineering
Discipline Controls
Created By Jim Radzienda
Identified On 1/13/2020 5:09 PM

DR-1-6 FOR INFORMATION ONLY LOW

Consider adding the Bard internal control boards to the Honeywell communication network. This is for monitoring of internal operation of the equipment if possible.

Assigned To Amsco Engineering
Discipline Controls
Drawing M4.0
Created By Jim Radzienda
Identified On 1/13/2020 5:11 PM

DR-1-7 FOR INFORMATION ONLY MODERATE

Note 11 indicates a UPS be installed on the main control panel to provide 30 minutes of power. Does this apply to all panels required so monitoring of all heat pumps is possible? Or is this requirement intended to keep the BAS from having to reboot if there is a minor power outage. If so we agree this is a good feature, the main question is does this apply to all panels if there is more than 1 in the building.

Assigned To Amsco Engineering
Discipline Controls
Drawing M4.0
Created By Jim Radzienda
Identified On 1/13/2020 5:17 PM

DR-1-8 FOR INFORMATION ONLY MODERATE

Note 6 refers to an outdoor air temperature sensor and it is not noted in the analog point list for the heat pump. Please clarify this is just 1 sensor that is used throughout the building? Possibly existing and being replaced with a new device?

Assigned To Amsco Engineering
Discipline Controls
Drawing M4.0
Created By Jim Radzienda
Identified On 1/13/2020 5:21 PM

DR-1-9 FOR INFORMATION ONLY MODERATE

The sequence describes the units controlling for discharge air temperature. However we learned during functional testing Cx on the Ike project the units do not control for DAT they control for space temperature.

Assigned To Amsco Engineering
Discipline Controls
Drawing M4.0
Created By Jim Radzienda
Identified On 1/14/2020 7:28 AM

DR-1-10 FOR INFORMATION ONLY HIGH

For the summer mode when units are most frequently sequenced to the unoccupied mode, it may be a good idea to control space temperatures for unoccupied temperature, as well as for unoccupied humidity setpoints. This would help keep the geo field active properly for operation during the heating season. This would also maintain temperature and humidity levels in the unoccupied mode during hot weather so when the rooms go occupied it doesn't take so long for the room to recover.

Assigned To Amsco Engineering
Discipline Controls
Drawing M4.0
Created By Jim Radzienda
Identified On 1/14/2020 7:30 AM

DR-1-11 FOR INFORMATION ONLY HIGH

Overall it would be beneficial to coordinate and update the sequence of operation on the drawings with the actual sequence the existing units control to. This comment is due to issues noted our test scripts for the Ike project..

Assigned To Amsco Engineering
Discipline Controls
Drawing M4.0
Created By Jim Radzienda
Identified On 1/14/2020 7:36 AM

DR-1-12 FOR INFORMATION ONLY HIGH

On the previous project at Eisenhower, the design review noted several items related to outdoor air flow and building pressure. Knowing it will be difficult for the test and balance contractor to accurately measure outdoor air flow due to the layout of the units. It might be a good idea to install a building static pressure sensor for monitoring only. The concern is if the building is negative compared to outdoors, then infiltration will affect building temperature and humidity levels.

Assigned To Amsco Engineering
Discipline Test & Balance
Created By Jim Radzienda
Identified On 1/20/2020 10:36 AM

DR-1-13 FOR INFORMATION ONLY HIGH

Recommend adding equipment schedules for existing exhaust fans for use by the test and balance contractor for overall building air balancing. Additionally it would be good to add the exhaust fans to the scope of work. It appears all systems in the building are part of the balancer's scope but still a good idea to include the "existing" exhaust fans.

Assigned To Amsco Engineering
Discipline Test & Balance
Created By Jim Radzienda
Identified On 1/20/2020 10:39 AM

DR-1-14 FOR INFORMATION ONLY HIGH

Recommend the geothermal system be added to the TAB scope of work. Include flow and temperature.

Assigned To Amsco Engineering
Discipline Test & Balance
Created By Jim Radzienda
Identified On 1/20/2020 10:48 AM

DR-1-15 FOR INFORMATION ONLY HIGH

The sequence of operation indicate the summer/winter mode is set by the BAS. Based on CX testing at the Ike project we believe this is not the case. Recommend updating the sequence to reflect how the equipment actually is intended to operate.

Assigned To Amsco Engineering
Discipline Controls
Created By Jim Radzienda
Identified On 1/20/2020 10:50 AM

DR-1-16 FOR INFORMATION ONLY MODERATE

we recommend adding to the sequence that BAS alarms, as selected by the owner, are sent via email

Assigned To Amsco Engineering
Discipline Controls
Created By Jim Radzienda
Identified On 1/20/2020 10:59 AM

DR-1-17 FOR INFORMATION ONLY HIGH

We recommend the BAS submittal indicate any and all updates to the sequence be included in the submittal. Equipment that is controlled within the BARD units so be indicated as such within the sequence. This is to prevent any mysteries from appearing in the final sequence and in equipment operation.

Assigned To Amsco Engineering
Discipline Controls
Created By Jim Radzienda
Identified On 1/20/2020 11:08 AM

DR-1-18 FOR INFORMATION ONLY HIGH

Recommend the BAS submittal drawings include all devices even if they are controlled by the BARD internal controller. These devices should be indicated as "controlled internally" or similar.

Assigned To Amsco Engineering
Discipline Controls
Created By Jim Radzienda
Identified On 1/20/2020 11:18 AM

DR-1-19 FOR INFORMATION ONLY HIGH

Recommend the specs require the BAS to provide point to point test reports for new devices. The reports should be submitted to the EOR and CxA for review. The same requirement for point trend reports.

Assigned To Amsco Engineering
Discipline Controls
Created By Jim Radzienda
Identified On 1/20/2020 11:23 AM

DR-1-20 FOR INFORMATION ONLY MODERATE

We recommend the construction team notify E Cube in advance of startup activities so we can be part of and witness a portion. This is typically a valuable exercise to confirm operation of the equipment when under internal and BAS control.

Assigned To Amsco Engineering
Discipline Mechanical - Airside
Created By Jim Radzienda
Identified On 1/20/2020 11:42 AM

Cx Status Report

DASHBOARD

Overview

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Design Issues 20



Checklists 9



Tests 2



Equipment 34



Construction Issues 20



Checklist Lines 285



Test Lines 86



Tasks 0

Design Issues 20

Status	Count	Percentage
Open	0	0%
Ready for E Cube Review	0	0%
Overdue	0	0%
Wish List	0	0%
Closed	0	0%
For Information Only	20	100%

Tests 2

Status	Count	Percentage
Not Started	0	0%
In Progress	0	0%
Completed	2	100%
Failed	0	0%

Construction Issues 20

Status	Count	Percentage
Open	3	15%
Ready for E Cube Review	0	0%
Overdue	0	0%
Wish List	0	0%
Closed	17	85%
For Information Only	0	0%

Test Lines 86

Answer	Count	Percentage
Yes	85	98.83%
No	1	1.16%
N/A	0	0%

Checklists 9

Status	Count	Percentage
Not Started	1	11.11%
In Progress	0	0%
Finished	8	88.88%

Equipment 34

Status	Count	Percentage
Not Installed	0	0%
On Site	0	0%
Installed	34	100%
Deleted From Project Scope	0	0%
Future Equipment (NIC)	0	0%

Checklist Lines 285

Answer	Count	Percentage
Yes	224	78.59%
No	0	0%
N/A	32	11.22%
No Answer	29	10.17%

Tasks 0

Status	Count	Percentage
Not Done	0	0%
Done	0	0%



Construction Issues

20 Issues sorted by date identified

FO-1-1 CLOSED LOW

In class room 153 verify the occupancy sensor turns unit on and off as it continued to operate when no one was in the room maybe work in progress

Assigned To Honeywell
Asset ⚙️ HP-153
Discipline Controls
Created By Chuck Cusack
Identified On 7/31/2020 9:05 AM

Verified

Chuck Cusack on 08/17/2020 at 07:50 AM
Commissioning Authority, E Cube, Inc.

FO-1-2 CLOSED LOW

In Class room 130 tstat is hanging by its wires please repair

Assigned To Honeywell
Asset ⚙️ HP-130
Discipline Controls
Created By Chuck Cusack
Identified On 7/31/2020 9:07 AM

Verified


Chuck Cusack on 08/17/2020 at 07:50 AM
Commissioning Authority, E Cube, Inc.



IMG_0483.jpg

FO-1-3 CLOSED LOW

In class room 148 occupancy sensor did not bring on unit please verify that unit is operational. Maybe a work in progress

Assigned To Honeywell
Asset  CR 148
Discipline Controls
Created By Chuck Cusack
Identified On 7/31/2020 9:09 AM


verified operational

Chuck Cusack on 08/14/2020 at 08:09 AM
Commissioning Authority, E Cube, Inc.

TST-3-1 CLOSED MODERATE

Please confirm that the damper motors are correctly opening and closing to the correct position

- Rm 114 BAS 70% open Act 50%
- Rm 113 BAS 75% open Act 95%
- Rm 111 BAS 75% Act 50%
- Rm 110 BAS 30% Act 5%
- Rm 109 BAS 20% Act 0%
- Rm 300 BAS 10% Act 0%
- Rm 101 BAS 25% Act 5%
- Rm 104 BAS 20% Act 5%
- Rm 103 BAS 25% Act 60%
- Rm 105 BAS 25% Act 0%
- Rm 108 BAS 30% Act 5%

Assigned To Honeywell
Asset  Ross GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/12/2020 4:25 PM

Verified

Chuck Cusack on 08/17/2020 at 03:41 PM
Commissioning Authority, E Cube, Inc.

TST-3-2 CLOSED MODERATE

Rm 101 No humidity sensor currently installed

Assigned To Controls Contractor
Asset 🚪🚪🚪 Ross GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/12/2020 4:25 PM

Room 101 trends are attached herewith.

Satnam Singh on 08/20/2020 at 07:20 PM
Controls Contractor, Honeywell

Will close when trends are provided to ensure sensor is operating properly

Chuck Cusack on 08/19/2020 at 08:15 AM
Commissioning Authority, E Cube, Inc.

Sensor is replaced and working.

Satnam Singh on 08/18/2020 at 07:46 AM
Controls Contractor, Honeywell

Object Name	Object Type	Present Value	Mode	Event State
ROS_HP101_RmCO2	AI	395.3002	AUTO	NORMAL
ROS_HP101_RmTemp	AI	55.96296	AUTO	NORMAL
ROS_HP101_RmTemp	AI	55.96296	AUTO	NORMAL
ROS_HP101_RmTempSpKob	AI	<-110613	AUTO	NORMAL
ROS_HP101_RmTemp	AI		AUTO	NORMAL

Room 101 HUmidity and Temp.JPG

TST-3-3 CLOSED MODERATE

Rm 102 Actuator for OAD did not operate when told to please confirm actuator is receiving proper signal

Assigned To Honeywell
Asset 🚪🚪🚪 Ross GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/12/2020 4:26 PM

Verified actuator operates correctly

Chuck Cusack on 08/14/2020 at 08:08 AM
Commissioning Authority, E Cube, Inc.

TST-3-4 CLOSED MODERATE

Rm 104 OAD actuator is very loud when operated

Assigned To EMCOR
Asset 🚪🚪🚪 Ross GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/12/2020 4:27 PM

Changing status to for info only based on discussions with Ted from Emcor actuator operates correctly

Chuck Cusack on 08/19/2020 at 08:14 AM
Commissioning Authority, E Cube, Inc.

Actuator was checked for normal operation and was working as demanded. Actuator linkage was lubricated to assist with noise issue

Kameron Koehlhoeffer on 08/18/2020 at 03:39 PM
Mechanical Contractor, EMCOR

Honeywell has not provided the OAD actuators. Mechanical contractor to address this.

Satnam Singh on 08/18/2020 at 07:49 AM
Controls Contractor, Honeywell

TST-3-5 CLOSED MODERATE

All rooms CO2 monitors are reading between 700 and 900 PPM. Range units where set to was found to be set at 2v-10v instead of 0v-10v. Currently a WIP will verify when work is completed

Assigned To Honeywell
Asset 🚒🚒🚒 Ross GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/12/2020 4:29 PM

Verified that the scaling was corrected
Chuck Cusack on 08/14/2020 at 08:06 AM
Commissioning Authority, E Cube, Inc.

TST-3-6 CLOSED HIGH

Graphics and trend logs are incomplete at this time

Assigned To Honeywell
Asset 🚒🚒🚒 Ross GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/14/2020 8:11 AM

Verified
Chuck Cusack on 08/17/2020 at 07:50 AM
Commissioning Authority, E Cube, Inc.

TST-4-1 CLOSED HIGH

Graphics and trends are currently incomplete

Assigned To Honeywell
Asset 🚒🚒🚒 Sullivan GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/14/2020 8:19 AM

Verified
Chuck Cusack on 08/17/2020 at 08:26 PM
Commissioning Authority, E Cube, Inc.

Verified
Chuck Cusack on 08/17/2020 at 07:49 AM
Commissioning Authority, E Cube, Inc.

TST-3-7 CLOSED HIGH

Room 112 did not go into dehum mode in the unocc sequence

Assigned To Honeywell
Asset 🚒🚒🚒 Ross GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/14/2020 9:09 AM

Verified unit had points override not allowing it to go into dehum
Chuck Cusack on 08/17/2020 at 03:42 PM
Commissioning Authority, E Cube, Inc.

TST-4-2 CLOSED HIGH

Rooms 152,150,138,154,148 were found to be tripped on the freeze stats please verify that the units operating correctly as they seem to do this when they are operated in dehum mode for long periods of time

Assigned To Honeywell
Asset 🚧🚧 Sullivan GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/14/2020 9:12 AM

Verified all where online all weekend
Chuck Cusack on 08/17/2020 at 03:48 PM
Commissioning Authority, E Cube, Inc.

TST-4-3 CLOSED HIGH

room 138 has a bad damper actuator it is currently on order

Assigned To EMCOR
Asset 🚧🚧 Sullivan GSHPs
Discipline Mechanical - Airside
Created By Chuck Cusack
Identified On 8/14/2020 9:13 AM

After speaking with Ted from Emcor and he confirmed actuator is operating correctly
Chuck Cusack on 08/19/2020 at 08:13 AM
Commissioning Authority, E Cube, Inc.

Damper actuator replaced and tested 8/21/2020
Kameron Koehlhoeffer on 08/17/2020 at 03:50 PM
Mechanical Contractor, EMCOR

Went to check actuator operation and found it was now closing all the way except when it was told to open it continued trying to drive past 100% please confirm proper operation
Chuck Cusack on 08/17/2020 at 03:46 PM
Commissioning Authority, E Cube, Inc.

TST-4-4 CLOSED HIGH

please verify that all temp and humidity sensors are reading properly (all rooms)

Assigned To Honeywell
Asset 🚧🚧 Sullivan GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/14/2020 9:14 AM

Verified operation via trend logs
Chuck Cusack on 08/17/2020 at 03:49 PM
Commissioning Authority, E Cube, Inc.

TST-3-8 CLOSED HIGH

please confirm all temp and humidity sensors are reading and operating correctly (all rooms)

Assigned To Honeywell
Asset 🚧🚧 Ross GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/14/2020 9:15 AM

This was verified by Honeywell on 8/15
Chuck Cusack on 08/17/2020 at 07:47 AM
Commissioning Authority, E Cube, Inc.

TST-3-9 OPEN HIGH

Class room 108 did not operate correctly in dehumid mode (Emcor is currently working on resolution)

Assigned To EMCOR
Asset 🏠🏠🏠 Ross GSHPs
Discipline Mechanical
Created By Chuck Cusack
Identified On 8/17/2020 3:37 PM

Team also noted there may be some temperature control issues on the base-building condenser water, as supply temperatures were noted to be lower than expected. Recommend Dist 23 investigate this system.

Mandeep Singh on 10/15/2020 at 03:46 PM
E Cube, Inc.

After reviewing the trend report for this room (Ross 108) it appears the hot gas reheat is not able to reach temperature of over 100F during dehumidification mode. Chuck noted when on site that over 100F was typical in other rooms. This is effecting dehum mode. Also please confirm that the OA damper is opening to the correct position as commanded by the BAS. There is concern it does not open to the correct position.

Changing assignment to EMCOR. Note that the controls appear to be operating properly and it appears this is a mechanical issue.

Jim Radzienda on 09/03/2020 at 02:21 PM
Commissioning Authority, E Cube, Inc.

Satnam, thank you for uploading the trend report. We relocated the report in the files section under "BAS Trends".

Jim Radzienda on 09/03/2020 at 12:36 PM
Commissioning Authority, E Cube, Inc.

Trend for 108 is attached herewith.

Satnam Singh on 09/03/2020 at 09:01 AM
Controls Contractor, Honeywell

Changing status back to "open" until trend reports are provided as requested. We need trend reports from Honeywell to confirm operation. Honeywell please send trend reports as soon as you can so we can close.

Jim Radzienda on 09/02/2020 at 08:18 AM
Commissioning Authority, E Cube, Inc.

Changing status to for info only based on discussions with Ted from Emcor will need to review trend logs to ensure problem is fixed

Chuck Cusack on 08/19/2020 at 08:12 AM
Commissioning Authority, E Cube, Inc.

Adjust supply register to direct air from blowing on t-stat. Air blowing direct on t-stat was causing wide temp/humid swings. and also eliminated 'heat delay' after re-heat mode to help maintain temp set point. Unit operating normally and space temp is satisfied

Kameron Koehlhoeffer on 08/18/2020 at 03:39 PM
Mechanical Contractor, EMCOR

TST-3-10 CLOSED HIGH

Class room 114 seems to get frozen between modes not allowing unit to switch between heating and dehumid modes assigning to Honeywell and would suggest working with Emcor to ensure problems are corrected

Assigned To Honeywell
Asset 🏠🏠 Ross GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/17/2020 3:38 PM

E Cube review the trends related to this issue. The controls appear to be operating properly and maintaining temp and humidity setpoints.

Jim Radzienda on 09/03/2020 at 02:18 PM
Commissioning Authority, E Cube, Inc.

Satnam, thank you for uploading the trend report. We relocated the report in the files section under "BAS Trends".

Jim Radzienda on 09/03/2020 at 12:36 PM
Commissioning Authority, E Cube, Inc.

Trend attached for the unit.

Satnam Singh on 09/03/2020 at 08:58 AM
Controls Contractor, Honeywell

Changing status back to "open" until trend reports are provided as requested. We need trend reports from Honeywell to confirm operation. Honeywell please send trend reports as soon as you can so we can close.

Jim Radzienda on 09/02/2020 at 08:17 AM
Commissioning Authority, E Cube, Inc.

Changing status to for info only based on discussions with Ted from Emcor will need to review trend logs to ensure problem is fixed

Chuck Cusack on 08/19/2020 at 08:12 AM
Commissioning Authority, E Cube, Inc.

Worked with Emcor to check the unit functioning. Changed the response for heating PID to react faster in heating mode. Currently the room is maintaining the room conditions per setpoint.

Satnam Singh on 08/18/2020 at 11:57 PM
Controls Contractor, Honeywell

TST-3-11 CLOSED MODERATE

Class room 109 and 107 missing fan failure points Honeywell WIP

Assigned To Honeywell
Asset 🏠🏠 Ross GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/17/2020 3:45 PM

Changing to closed based on graphic screen shots

Chuck Cusack on 08/19/2020 at 08:11 AM
Commissioning Authority, E Cube, Inc.

FO-3-1 OPEN HIGH

Honeywell, please provide trend reports for all heat pumps for Ross and Sullivan. Trend reports should be typical of what has been sent for Ross 108 and Ross 114 with the exception, please include OAT and OAH on the trend report. Please send trend report to E Cube for review or upload direct to the files section on Cx Alloy to the mailbox "00 Cx in-box". Also when you send a report please note occ/unocc RH% setpoint or include within the trend if space is available. Setpoints should be 55%/58% per Brian.

Assigned To Honeywell
Discipline Controls
Created By Jim Radzienda
Identified On 9/3/2020 2:28 PM

FO-3-2 OPEN HIGH

Honeywell, please provide a screenshot for each of the Ross & Sullivan heatpump graphics for E Cube review. Per discussion with Brian, the graphics are to be the same as for Eisenhower school. These can be emailed direct to E Cube, or they can be uploaded to Cx Alloy files section mailbox "00 Cx in-box".

Assigned To Honeywell
Discipline Controls
Created By Jim Radzienda
Identified On 9/3/2020 2:30 PM

Field Observations

3 Field Observations

Site visit

Author Chuck Cusack
Present Chuck E3
Date Observed 7/31/2020
Weather 70 sunny
Location Sullivan school
Type Prefunctional Observations

Comments 16

Class rm 154

#1 Chuck Cusack on 07/31/2020 at 08:28 AM



IMG_0456.jpg



IMG_0457.jpg

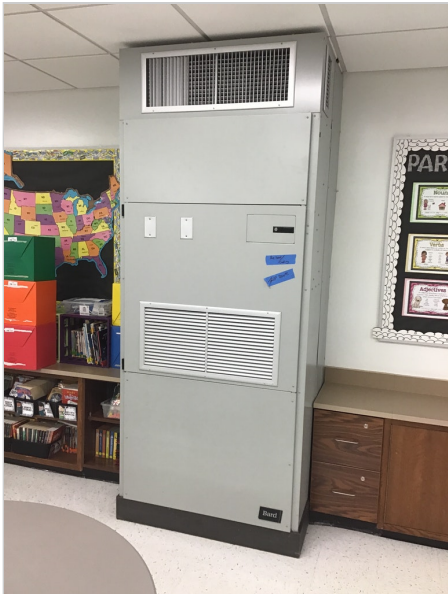


IMG_0486.jpg

Class rm 153

Unit was operating not on occ sensor

#2 Chuck Cusack on 07/31/2020 at 08:28 AM



IMG_0458.jpg



IMG_0459.jpg

Class rm 150

#3 Chuck Cusack on 07/31/2020 at 08:28 AM



IMG_0460.jpg



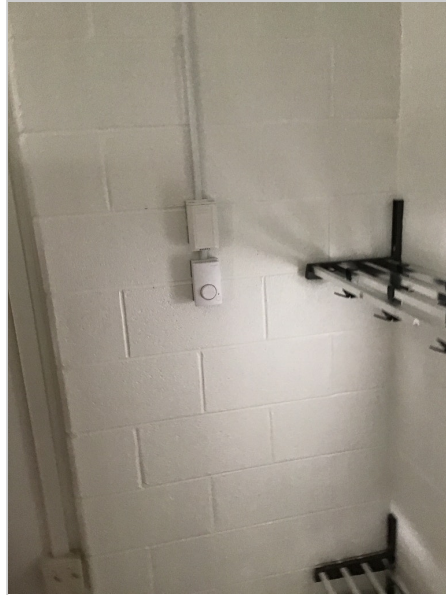
IMG_0461.jpg

Class rm 149

#4 Chuck Cusack on 07/31/2020 at 08:28 AM



IMG_0462.jpg



IMG_0463.jpg

Class rm 148

Check occ sensor as unit didn't come on when tripped

#5 Chuck Cusack on 07/31/2020 at 08:28 AM



IMG_0464.jpg



IMG_0465.jpg

Class rm 147

#6 Chuck Cusack on 07/31/2020 at 08:28 AM



IMG_0466.jpg

Class rm 145

#7 Chuck Cusack on 07/31/2020 at 08:28 AM



IMG_0468.jpg



IMG_0469.jpg

Class rm 119

#8 Chuck Cusack on 07/31/2020 at 08:28 AM



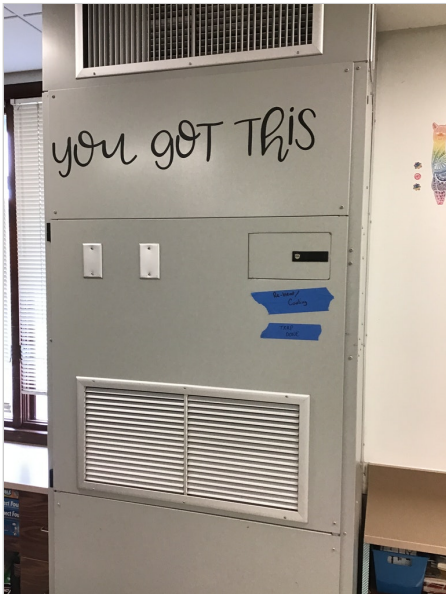
IMG_0470.jpg



IMG_0471.jpg

Class rm 121

#9 Chuck Cusack on 07/31/2020 at 08:28 AM



IMG_0472.jpg



IMG_0473.jpg

Class rm 138

#10 Chuck Cusack on 07/31/2020 at 08:28 AM



IMG_0474.jpg



IMG_0475.jpg

Class rm 136

#11 Chuck Cusack on 07/31/2020 at 08:28 AM



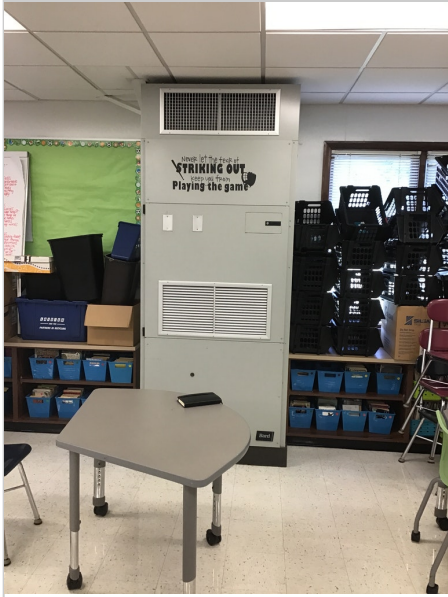
IMG_0476.jpg



IMG_0477.jpg

Class rm 134

#12 Chuck Cusack on 07/31/2020 at 08:28 AM



IMG_0478.jpg



IMG_0479.jpg

Class rm 132

#13 Chuck Cusack on 07/31/2020 at 08:28 AM



IMG_0480.jpg



IMG_0481.jpg

Class rm 130

Tstat wires are showing

#14 Chuck Cusack on 07/31/2020 at 08:28 AM



IMG_0482.jpg



IMG_0483.jpg

Class rm 152

#15 Chuck Cusack on 07/31/2020 at 08:28 AM



IMG_0484.jpg

Class rm 151

#16 Chuck Cusack on 07/31/2020 at 08:28 AM



IMG_0485.jpg

No. 2

E Cube | 1017.2 - Dist 23 Schools Phase 2

Site visit

Author Chuck Cusack

Present Chuck E3, bruno emcor

Date Observed 8/7/2020

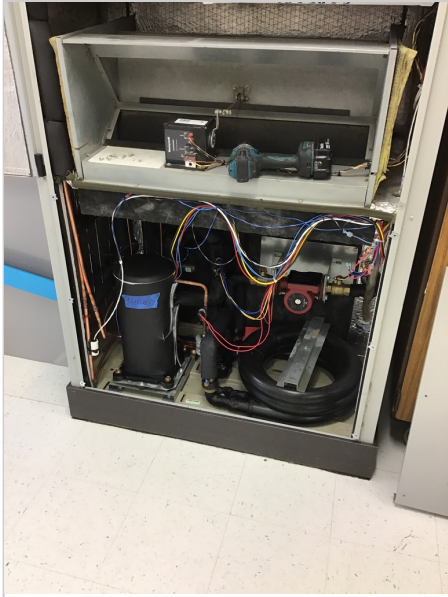
Location Site

Type Prefunctional Observations

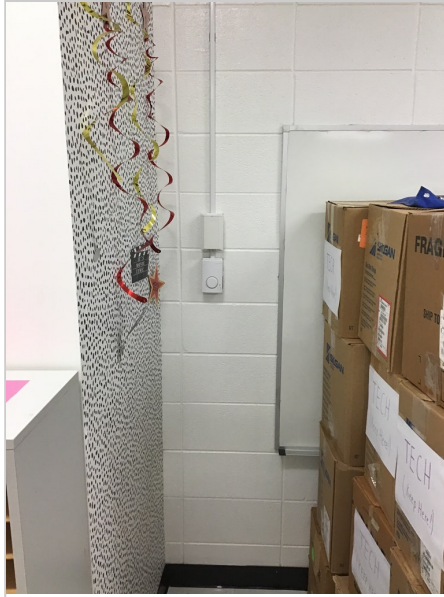
Comments 8

Class room 100

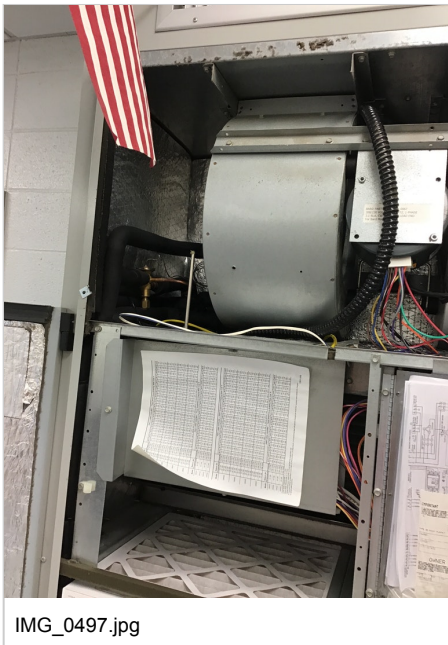
#1 Chuck Cusack on 08/07/2020 at 09:57 AM



IMG_0496.jpg



IMG_0498.jpg



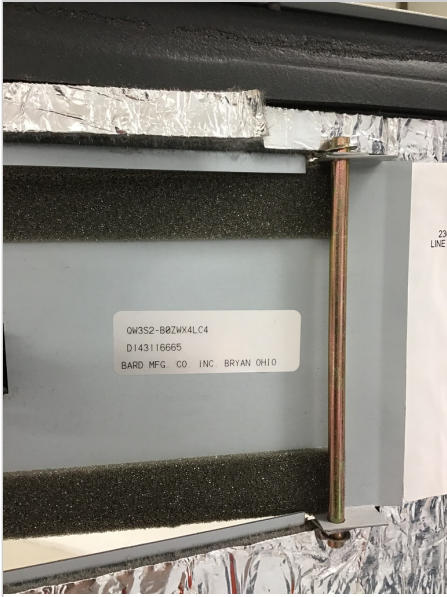
IMG_0497.jpg



IMG_0499.jpg

Class room 109

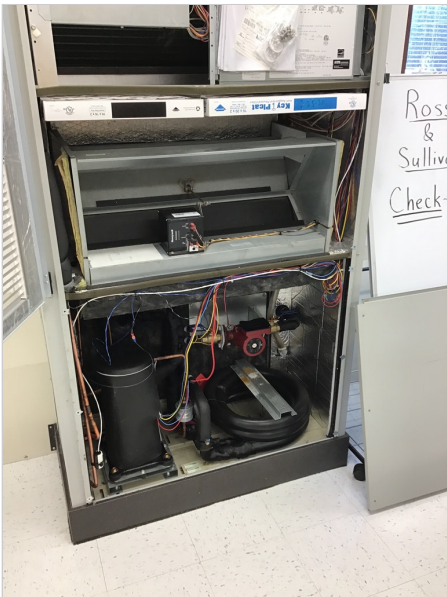
#2 Chuck Cusack on 08/07/2020 at 09:57 AM



IMG_0501.jpg



IMG_0503.jpg



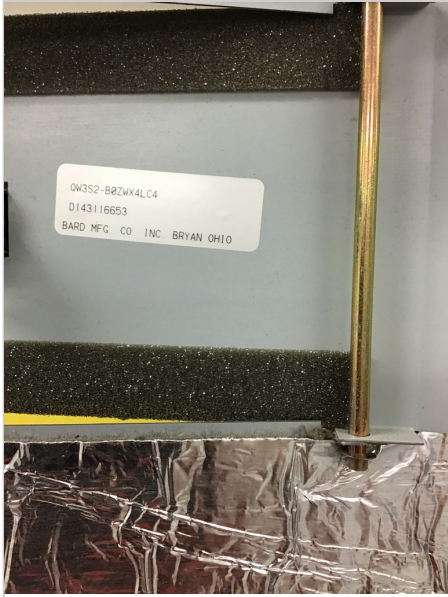
IMG_0502.jpg



IMG_0504.jpg

Class room 116

#3 Chuck Cusack on 08/07/2020 at 09:57 AM



IMG_0505.jpg



IMG_0506.jpg



IMG_0507.jpg

Teachers lounge 300

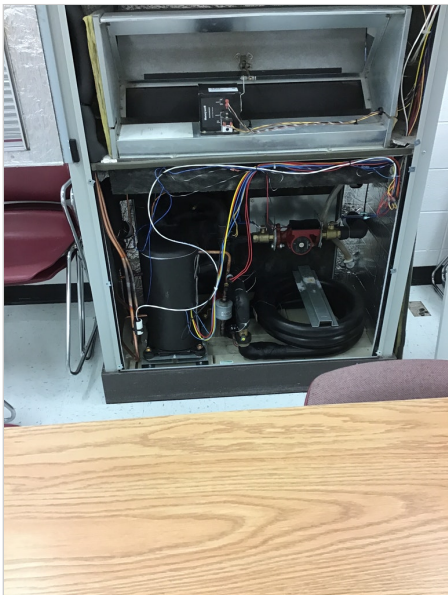
#4 Chuck Cusack on 08/07/2020 at 09:57 AM



IMG_0508.jpg



IMG_0510.jpg



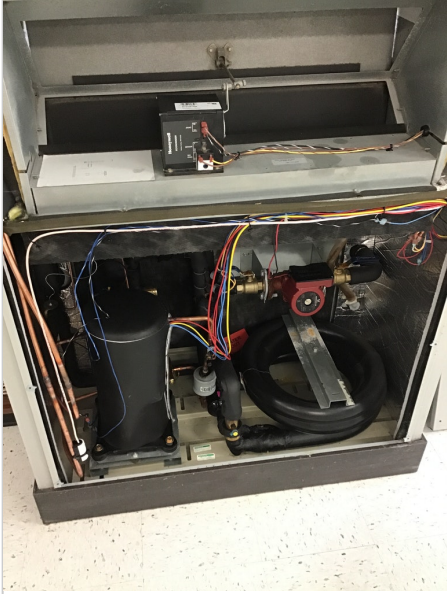
IMG_0509.jpg



IMG_0511.jpg

Class rm 153

#5 Chuck Cusack on 08/07/2020 at 09:57 AM



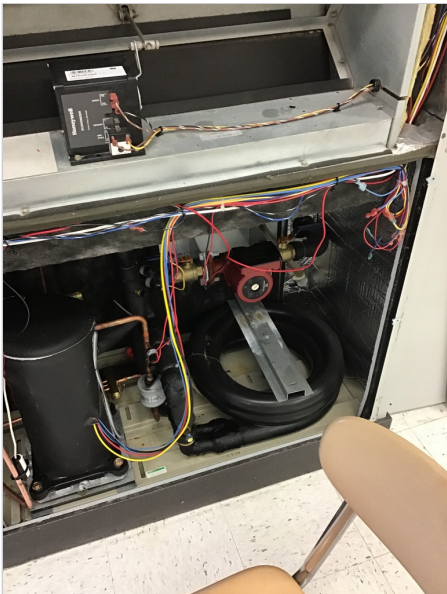
IMG_0512.jpg



IMG_0513.jpg

Class rm 138

#6 Chuck Cusack on 08/07/2020 at 09:57 AM



IMG_0514.jpg



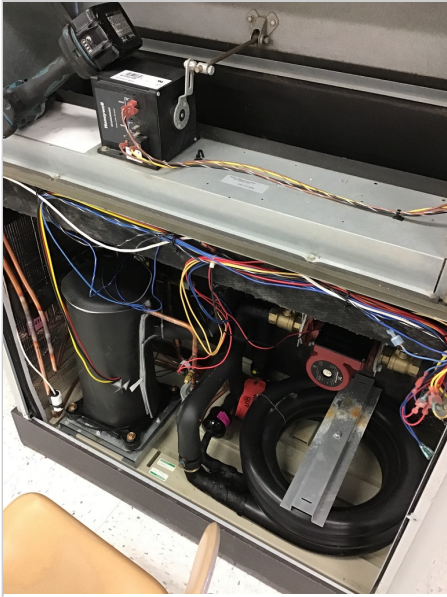
IMG_0515.jpg



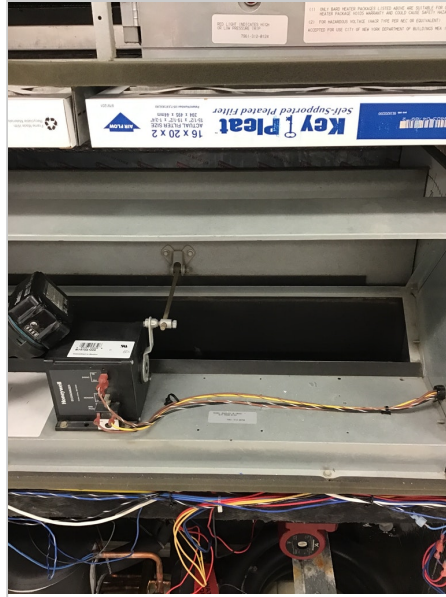
IMG_0516.jpg

Class rm 132

#7 Chuck Cusack on 08/07/2020 at 09:57 AM



IMG_0517.jpg



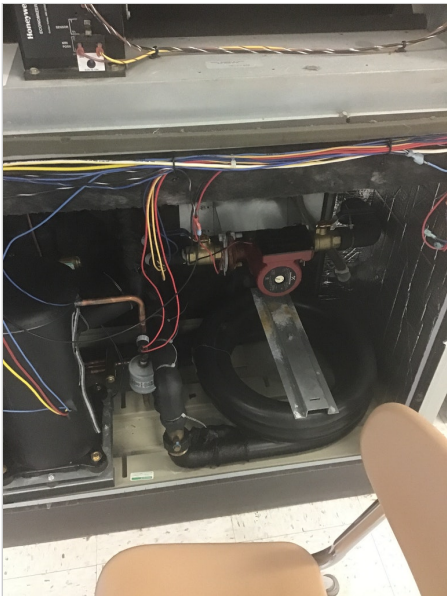
IMG_0518.jpg



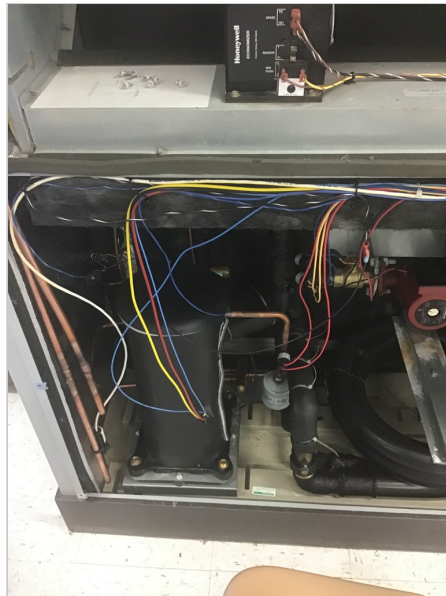
IMG_0519.jpg

Class rm 121

#8 Chuck Cusack on 08/07/2020 at 09:57 AM



IMG_0520.jpg



IMG_0521.jpg



IMG_0522.jpg

No. 3

E Cube | 1017.2 - Dist 23 Schools Phase 2

Trend review and issues report during review of project closeout.

Author Jim Radzienda

Present Chuck Cusack & Jim
Radzienda

Date Observed 9/3/2020

Type Testing Observations

Checklists

9 Checklists sorted by name

#9 2020 HVAC Retrofits - Cx

Warranty Review

E Cube | 1017.2 - Dist 23 Schools Phase 2

NOT STARTED

0% Yes | 0% No | 0% N/A

 Type Warranty Review
 Asset 🏠🏠🏠 2020 HVAC Retrofits

Lines 35

DESCRIPTION

- 1 This Cx warranty review checklist is intended to be reviewed by the owner or facilities engineer. E Cube, Inc. will review with owner via a phone call or site visit based on the owner's needs. The schedule to complete this checklist is June 2021.

BUILDING OPERATING CONDITIONS:

- 2 OAT:
- 3 OAH:
- 4 % of occupancy (number of people during occupied mode):
- 5 Weather/Season:

GENERAL

- 6 In general are the classroom heat pumps operating properly?
- 7 Are there any rooms or areas with hot or cold complaints?
- 8 Are space temperature levels being maintained at setpoint during occupied and unoccupied modes?
- 9 Are space humidity levels being maintained at setpoint during occupied and unoccupied modes?
- 10 Do the occupancy sensors in classrooms operate properly?
- 11 Equipment shuts down during unoccupied modes if not needed for temperature or humidity control?
- 12 Is building comfortable at all times?
- 13 Any particular times of high/low temperatures?

CX ALLOY ISSUES

- 14 Have any issues noted during construction reoccurred since project completion?
- 15 Are there any new issues with heat pumps?

CONTROLS

- 16 Is control system functioning as expected?
- 17 Do the controls and graphics workstation operate properly?
- 18 Are trends being collected and reviewed??
- 19 Are BAS alarms at an acceptable level? No excessive or annoying alarms?
- 20 Have there been any sequence changes?

- 21 Does equipment respond properly to setpoint changes?
- 22 Is building CO2 level monitoring working ok?
- 23 If alarm emails or texts are programmed, do they function properly?
- 24 Is remote access to BAS functional?


MECHANICAL

- 25 Have any issues been noted with the new reheat coils or refrigeration equipment
- 26 Are the OA dampers operating properly
- 27 Have any alarms been noted within the classroom heat pumps
- 28 Does the geothermal field, pumps, etc. operate properly?
- 29 Any leaks, air, water, glycol, condensate?

#1 HP-100 - HGBP Reheat Coil

E Cube | 1017.2 - Dist 23 Schools Phase 2

 FINISHED  87% Yes | 0% No | 12% N/A

 Type Pre-Functional
 Asset  HP-100

Lines 38

HGBP REHEAT COIL

 ✓ 1 Manufacturer
 Bard

 ✓ 2 Model Number
 QWS32BOZWX4LC4

 ✓ 3 Serial Number
 D143116662

STORAGE / HANDLING

✓ 4 Unit covered during storage, protected from debris

✓ 5 Openings covered until installation

GENERAL INSTALLATION

✓ 6 Coil located per manufacturer & design

✓ 7 Coil size and ratings per coordination

✓ 8 Installed in unit/duct per manufacturer

✓ 9 Access doors installed upstream for maintenance if applicable

✓ 10 Unit cleaned and new air filters installed in unit after modifications complete

✗/A 11 Firestopping complete on wall, floor, or roof penetrations where applicable

PIPING AND ACCESSORIES

✓ 12 Piping per dwgs and spec (to coils, drains, valves, etc.)

✓ 13 All piping devices accessible, adequate clearance for maintenance

✓ 14 Piping supported independent of unit and coils

✓ 15 Piping system purged with nitrogen during brazing or silver soldering

✓ 16 Pipe ends cleaned inside & out, and reamed before assembly

✗/A 17 Control valve / solenoid installed per manufacturer

✓ 18 Pipe insulation installed where applicable

✓ 19 Any damaged pipe insulation has been repaired

Checklists | Printed on 10/15/2020

CONTROLS

- ✓ 20 Wiring terminations and modifications complete on internal GSHP controller
- ✓ 21 BAS network & hardwire point terminations complete at GSHP controller
- ✗ 22 Power to any new BAS controllers is from an emergency source
- ✓ 23 New combo space temp, humidity, CO2 sensor installed and functional
- ✓ 24 Wire guard installed at space sensor where applicable in gym, toilet room, etc.
- ✓ 25 GSHP controller powered and communicating to BAS network
- ✓ 26 Hot gas temperature sensor installed on HG piping and terminated at GSHP or BAS controller
- ✓ 27 HG temperature sensor mapped to BAS
- ✓ 28 Point to point checkout complete
- ✓ 29 Control points and graphics updated with new control points
- ✓ 30 Graphics are functional


LABELING AND IDENTIFICATION

- ✓ 31 All mfg'rs nameplates are installed, visible and legible
- ✗ 32 Pipe labeling complete where applicable

#2 HP-109 - HGBP Reheat Coil

E Cube | 1017.2 - Dist 23 Schools Phase 2

 FINISHED  87% Yes | 0% No | 12% N/A

 Type Pre-Functional
 Asset  HP-109

Lines 38

HGBP REHEAT COIL

 ✓ 1 Manufacturer
 Bard

 ✓ 2 Model Number
 QW3S2-BOZWX4LC4

 ✓ 3 Serial Number
 D143116665

STORAGE / HANDLING

✓ 4 Unit covered during storage, protected from debris

✓ 5 Openings covered until installation

GENERAL INSTALLATION

✓ 6 Coil located per manufacturer & design

✓ 7 Coil size and ratings per coordination

✓ 8 Installed in unit/duct per manufacturer

✓ 9 Access doors installed upstream for maintenance if applicable

✓ 10 Unit cleaned and new air filters installed in unit after modifications complete

✗/A 11 Firestopping complete on wall, floor, or roof penetrations where applicable

PIPING AND ACCESSORIES

✓ 12 Piping per dwgs and spec (to coils, drains, valves, etc.)

✓ 13 All piping devices accessible, adequate clearance for maintenance

✓ 14 Piping supported independent of unit and coils

✓ 15 Piping system purged with nitrogen during brazing or silver soldering

✓ 16 Pipe ends cleaned inside & out, and reamed before assembly

✗/A 17 Control valve / solenoid installed per manufacturer

✓ 18 Pipe insulation installed where applicable

✓ 19 Any damaged pipe insulation has been repaired

Checklists | Printed on 10/15/2020

CONTROLS

- ✓ 20 Wiring terminations and modifications complete on internal GSHP controller
- ✓ 21 BAS network & hardwire point terminations complete at GSHP controller
- ✗ 22 Power to any new BAS controllers is from an emergency source
- ✓ 23 New combo space temp, humidity, CO2 sensor installed and functional
- ✓ 24 Wire guard installed at space sensor where applicable in gym, toilet room, etc.
- ✓ 25 GSHP controller powered and communicating to BAS network
- ✓ 26 Hot gas temperature sensor installed on HG piping and terminated at GSHP or BAS controller
- ✓ 27 HG temperature sensor mapped to BAS
- ✓ 28 Point to point checkout complete
- ✓ 29 Control points and graphics updated with new control points
- ✓ 30 Graphics are functional


LABELING AND IDENTIFICATION

- ✓ 31 All mfg'rs nameplates are installed, visible and legible
- ✗ 32 Pipe labeling complete where applicable

#3 HP-116 - HGBP Reheat Coil

E Cube | 1017.2 - Dist 23 Schools Phase 2

 FINISHED  87% Yes | 0% No | 12% N/A

 Type Pre-Functional
 Asset  HP-116

Lines 38

HGBP REHEAT COIL

 ✓ 1 Manufacturer
 Bard

 ✓ 2 Model Number
 QW3S2-BOZWX4LC4

 ✓ 3 Serial Number
 D143116653

STORAGE / HANDLING

✓ 4 Unit covered during storage, protected from debris

✓ 5 Openings covered until installation

GENERAL INSTALLATION

✓ 6 Coil located per manufacturer & design

✓ 7 Coil size and ratings per coordination

✓ 8 Installed in unit/duct per manufacturer

✓ 9 Access doors installed upstream for maintenance if applicable

✓ 10 Unit cleaned and new air filters installed in unit after modifications complete

✗/A 11 Firestopping complete on wall, floor, or roof penetrations where applicable

PIPING AND ACCESSORIES

✓ 12 Piping per dwgs and spec (to coils, drains, valves, etc.)

✓ 13 All piping devices accessible, adequate clearance for maintenance

✓ 14 Piping supported independent of unit and coils

✓ 15 Piping system purged with nitrogen during brazing or silver soldering

✓ 16 Pipe ends cleaned inside & out, and reamed before assembly

✗/A 17 Control valve / solenoid installed per manufacturer

✓ 18 Pipe insulation installed where applicable

✓ 19 Any damaged pipe insulation has been repaired

Checklists | Printed on 10/15/2020

CONTROLS

- ✓ 20 Wiring terminations and modifications complete on internal GSHP controller
- ✓ 21 BAS network & hardwire point terminations complete at GSHP controller
- ✗ 22 Power to any new BAS controllers is from an emergency source
- ✓ 23 New combo space temp, humidity, CO2 sensor installed and functional
- ✓ 24 Wire guard installed at space sensor where applicable in gym, toilet room, etc.
- ✓ 25 GSHP controller powered and communicating to BAS network
- ✓ 26 Hot gas temperature sensor installed on HG piping and terminated at GSHP or BAS controller
- ✓ 27 HG temperature sensor mapped to BAS
- ✓ 28 Point to point checkout complete
- ✓ 29 Control points and graphics updated with new control points
- ✓ 30 Graphics are functional


LABELING AND IDENTIFICATION

- ✓ 31 All mfg'rs nameplates are installed, visible and legible
- ✗ 32 Pipe labeling complete where applicable

#5 HP-121 - HGBP Reheat Coil

E Cube | 1017.2 - Dist 23 Schools Phase 2

 FINISHED  87% Yes | 0% No | 12% N/A

 Type Pre-Functional
 Asset  HP-121

Lines 38

HGBP REHEAT COIL

 ✓ 1 Manufacturer
 Bard

 ✓ 2 Model Number
 QW32B02WX4LC4

 ✓ 3 Serial Number
 D143116681

STORAGE / HANDLING

✓ 4 Unit covered during storage, protected from debris

✓ 5 Openings covered until installation

GENERAL INSTALLATION

✓ 6 Coil located per manufacturer & design

✓ 7 Coil size and ratings per coordination

✓ 8 Installed in unit/duct per manufacturer

✓ 9 Access doors installed upstream for maintenance if applicable

✓ 10 Unit cleaned and new air filters installed in unit after modifications complete

✗/A 11 Firestopping complete on wall, floor, or roof penetrations where applicable

PIPING AND ACCESSORIES

✓ 12 Piping per dwgs and spec (to coils, drains, valves, etc.)

✓ 13 All piping devices accessible, adequate clearance for maintenance

✓ 14 Piping supported independent of unit and coils

✓ 15 Piping system purged with nitrogen during brazing or silver soldering

✓ 16 Pipe ends cleaned inside & out, and reamed before assembly

✗/A 17 Control valve / solenoid installed per manufacturer

✓ 18 Pipe insulation installed where applicable

✓ 19 Any damaged pipe insulation has been repaired

Checklists | Printed on 10/15/2020

CONTROLS

- ✓ 20 Wiring terminations and modifications complete on internal GSHP controller
- ✓ 21 BAS network & hardwire point terminations complete at GSHP controller
- ✗ 22 Power to any new BAS controllers is from an emergency source
- ✓ 23 New combo space temp, humidity, CO2 sensor installed and functional
- ✓ 24 Wire guard installed at space sensor where applicable in gym, toilet room, etc.
- ✓ 25 GSHP controller powered and communicating to BAS network
- ✓ 26 Hot gas temperature sensor installed on HG piping and terminated at GSHP or BAS controller
- ✓ 27 HG temperature sensor mapped to BAS
- ✓ 28 Point to point checkout complete
- ✓ 29 Control points and graphics updated with new control points
- ✓ 30 Graphics are functional


LABELING AND IDENTIFICATION

- ✓ 31 All mfg'rs nameplates are installed, visible and legible
- ✗ 32 Pipe labeling complete where applicable

#6 HP-132 - HGBP Reheat Coil

E Cube | 1017.2 - Dist 23 Schools Phase 2

 FINISHED  87% Yes | 0% No | 12% N/A

 Type Pre-Functional
 Asset  HP-132

Lines 38

HGBP REHEAT COIL

 ✓ 1 Manufacturer
 Bard

 ✓ 2 Model Number
 QW32B02WX4LC4

 ✓ 3 Serial Number
 D143116678

STORAGE / HANDLING

✓ 4 Unit covered during storage, protected from debris

✓ 5 Openings covered until installation

GENERAL INSTALLATION

✓ 6 Coil located per manufacturer & design

✓ 7 Coil size and ratings per coordination

✓ 8 Installed in unit/duct per manufacturer

✓ 9 Access doors installed upstream for maintenance if applicable

✓ 10 Unit cleaned and new air filters installed in unit after modifications complete

✗/A 11 Firestopping complete on wall, floor, or roof penetrations where applicable

PIPING AND ACCESSORIES

✓ 12 Piping per dwgs and spec (to coils, drains, valves, etc.)

✓ 13 All piping devices accessible, adequate clearance for maintenance

✓ 14 Piping supported independent of unit and coils

✓ 15 Piping system purged with nitrogen during brazing or silver soldering

✓ 16 Pipe ends cleaned inside & out, and reamed before assembly

✗/A 17 Control valve / solenoid installed per manufacturer

✓ 18 Pipe insulation installed where applicable

✓ 19 Any damaged pipe insulation has been repaired

Checklists | Printed on 10/15/2020

CONTROLS

- ✓ 20 Wiring terminations and modifications complete on internal GSHP controller
- ✓ 21 BAS network & hardwire point terminations complete at GSHP controller
- ✗ 22 Power to any new BAS controllers is from an emergency source
- ✓ 23 New combo space temp, humidity, CO2 sensor installed and functional
- ✓ 24 Wire guard installed at space sensor where applicable in gym, toilet room, etc.
- ✓ 25 GSHP controller powered and communicating to BAS network
- ✓ 26 Hot gas temperature sensor installed on HG piping and terminated at GSHP or BAS controller
- ✓ 27 HG temperature sensor mapped to BAS
- ✓ 28 Point to point checkout complete
- ✓ 29 Control points and graphics updated with new control points
- ✓ 30 Graphics are functional


LABELING AND IDENTIFICATION

- ✓ 31 All mfg'rs nameplates are installed, visible and legible
- ✗ 32 Pipe labeling complete where applicable

#7 HP-138 - HGBP Reheat Coil

E Cube | 1017.2 - Dist 23 Schools Phase 2

 FINISHED  87% Yes | 0% No | 12% N/A

 Type Pre-Functional
 Asset  HP-138

Lines 38

HGBP REHEAT COIL

 ✓ 1 Manufacturer
 Bard

 ✓ 2 Model Number
 QW32B02WX4LC4

 ✓ 3 Serial Number
 D143116683

STORAGE / HANDLING

✓ 4 Unit covered during storage, protected from debris

✓ 5 Openings covered until installation

GENERAL INSTALLATION

✓ 6 Coil located per manufacturer & design

✓ 7 Coil size and ratings per coordination

✓ 8 Installed in unit/duct per manufacturer

✓ 9 Access doors installed upstream for maintenance if applicable

✓ 10 Unit cleaned and new air filters installed in unit after modifications complete

✗/A 11 Firestopping complete on wall, floor, or roof penetrations where applicable

PIPING AND ACCESSORIES

✓ 12 Piping per dwgs and spec (to coils, drains, valves, etc.)

✓ 13 All piping devices accessible, adequate clearance for maintenance

✓ 14 Piping supported independent of unit and coils

✓ 15 Piping system purged with nitrogen during brazing or silver soldering

✓ 16 Pipe ends cleaned inside & out, and reamed before assembly

✗/A 17 Control valve / solenoid installed per manufacturer

✓ 18 Pipe insulation installed where applicable

✓ 19 Any damaged pipe insulation has been repaired

Checklists | Printed on 10/15/2020

CONTROLS

- ✓ 20 Wiring terminations and modifications complete on internal GSHP controller
- ✓ 21 BAS network & hardwire point terminations complete at GSHP controller
- ✗ 22 Power to any new BAS controllers is from an emergency source
- ✓ 23 New combo space temp, humidity, CO2 sensor installed and functional
- ✓ 24 Wire guard installed at space sensor where applicable in gym, toilet room, etc.
- ✓ 25 GSHP controller powered and communicating to BAS network
- ✓ 26 Hot gas temperature sensor installed on HG piping and terminated at GSHP or BAS controller
- ✓ 27 HG temperature sensor mapped to BAS
- ✓ 28 Point to point checkout complete
- ✓ 29 Control points and graphics updated with new control points
- ✓ 30 Graphics are functional


LABELING AND IDENTIFICATION

- ✓ 31 All mfg'rs nameplates are installed, visible and legible
- ✗ 32 Pipe labeling complete where applicable

#8 HP-153 - HGBP Reheat Coil

E Cube | 1017.2 - Dist 23 Schools Phase 2

 FINISHED  87% Yes | 0% No | 12% N/A

 Type Pre-Functional
 Asset  HP-153

Lines 38

HGBP REHEAT COIL

 ✓ 1 Manufacturer
 Bard

 ✓ 2 Model Number
 QW32B02WX4LC4

 ✓ 3 Serial Number
 D143116669

STORAGE / HANDLING

✓ 4 Unit covered during storage, protected from debris

✓ 5 Openings covered until installation

GENERAL INSTALLATION

✓ 6 Coil located per manufacturer & design

✓ 7 Coil size and ratings per coordination

✓ 8 Installed in unit/duct per manufacturer

✓ 9 Access doors installed upstream for maintenance if applicable

✓ 10 Unit cleaned and new air filters installed in unit after modifications complete

✗/A 11 Firestopping complete on wall, floor, or roof penetrations where applicable

PIPING AND ACCESSORIES

✓ 12 Piping per dwgs and spec (to coils, drains, valves, etc.)

✓ 13 All piping devices accessible, adequate clearance for maintenance

✓ 14 Piping supported independent of unit and coils

✓ 15 Piping system purged with nitrogen during brazing or silver soldering

✓ 16 Pipe ends cleaned inside & out, and reamed before assembly

✗/A 17 Control valve / solenoid installed per manufacturer

✓ 18 Pipe insulation installed where applicable

✓ 19 Any damaged pipe insulation has been repaired

Checklists | Printed on 10/15/2020

CONTROLS

- ✓ 20 Wiring terminations and modifications complete on internal GSHP controller
- ✓ 21 BAS network & hardwire point terminations complete at GSHP controller
- ✗ 22 Power to any new BAS controllers is from an emergency source
- ✓ 23 New combo space temp, humidity, CO2 sensor installed and functional
- ✓ 24 Wire guard installed at space sensor where applicable in gym, toilet room, etc.
- ✓ 25 GSHP controller powered and communicating to BAS network
- ✓ 26 Hot gas temperature sensor installed on HG piping and terminated at GSHP or BAS controller
- ✓ 27 HG temperature sensor mapped to BAS
- ✓ 28 Point to point checkout complete
- ✓ 29 Control points and graphics updated with new control points
- ✓ 30 Graphics are functional


LABELING AND IDENTIFICATION

- ✓ 31 All mfg'rs nameplates are installed, visible and legible
- ✗ 32 Pipe labeling complete where applicable

#4 HP-300 - HGBP Reheat Coil

E Cube | 1017.2 - Dist 23 Schools Phase 2

 FINISHED  87% Yes | 0% No | 12% N/A

 Type Pre-Functional
 Asset  HP-300

Lines 38

HGBP REHEAT COIL

 ✓ 1 Manufacturer
 Bard

 ✓ 2 Model Number
 QW2S2-BOZWX4LC4

 ✓ 3 Serial Number
 D143116684

STORAGE / HANDLING

✓ 4 Unit covered during storage, protected from debris

✓ 5 Openings covered until installation

GENERAL INSTALLATION

✓ 6 Coil located per manufacturer & design

✓ 7 Coil size and ratings per coordination

✓ 8 Installed in unit/duct per manufacturer

✓ 9 Access doors installed upstream for maintenance if applicable

✓ 10 Unit cleaned and new air filters installed in unit after modifications complete

✗/A 11 Firestopping complete on wall, floor, or roof penetrations where applicable

PIPING AND ACCESSORIES

✓ 12 Piping per dwgs and spec (to coils, drains, valves, etc.)

✓ 13 All piping devices accessible, adequate clearance for maintenance

✓ 14 Piping supported independent of unit and coils

✓ 15 Piping system purged with nitrogen during brazing or silver soldering

✓ 16 Pipe ends cleaned inside & out, and reamed before assembly

✗/A 17 Control valve / solenoid installed per manufacturer

✓ 18 Pipe insulation installed where applicable

✓ 19 Any damaged pipe insulation has been repaired

Checklists | Printed on 10/15/2020

CONTROLS

- ✓ 20 Wiring terminations and modifications complete on internal GSHP controller
- ✓ 21 BAS network & hardwire point terminations complete at GSHP controller
- ✗ 22 Power to any new BAS controllers is from an emergency source
- ✓ 23 New combo space temp, humidity, CO2 sensor installed and functional
- ✓ 24 Wire guard installed at space sensor where applicable in gym, toilet room, etc.
- ✓ 25 GSHP controller powered and communicating to BAS network
- ✓ 26 Hot gas temperature sensor installed on HG piping and terminated at GSHP or BAS controller
- ✓ 27 HG temperature sensor mapped to BAS
- ✓ 28 Point to point checkout complete
- ✓ 29 Control points and graphics updated with new control points
- ✓ 30 Graphics are functional

LABELING AND IDENTIFICATION

- ✓ 31 All mfg'rs nameplates are installed, visible and legible
- ✗ 32 Pipe labeling complete where applicable

Tests

2 Tests sorted by name

#3 Ross GSHPs - Heat Pump Functional Test

E Cube | 1017.2 - Dist 23 Schools Phase 2

COMPLETED  97% Yes | 2% No | 0% N/A

11 ISSUES

Assigned To E Cube, Inc.
Asset  Ross GSHPs

Attempts


Attempt No. 1 


Status set by Chuck Cusack on 8/17/2020.


DESCRIPTION


BARD UNIT VENTILATOR W/HGBP RHC

USER INTERFACE VERIFICATION


 1 Point mapping complete and live data displayed on graphic
1 Issue: [TST-3-6](#)


 2 Outdoor air temperature and humidity displayed on main graphic

 3 Graphic layout is per owner requirements


 4 Background graphic of heat pump matches equipment configuration


 5 Links to related graphics operational

 6 Trends setup and recording data

 7 Global setpoint on graphic are adjustable


COOLING MODE - DEHUMIDIFICATION MODE OFF - FUNCTIONAL GROUP TEST

 8 Command all heat pumps to occupied mode


 9 Note Cooling Set point
Please see attached spreadsheet for reference


 10 Command global setpoint to put all heat pumps in cooling mode


 11 Command global setpoint so dehumidification mode remains off


 12 Heat pumps cycle on and stage compressors on in cooling mode


 13 Discharge air temperature falls below return or space temperature, cooling provided

 14 Note Discharge Air Temperature
Please see attached spreadsheet for reference

 15 Note Return (Room) Air Temperature
Please see attached spreadsheet for reference

 16 Hot gas reheat coil not active

 17 Verify reheat piping temperature sensor does not increase temperature

 18 Controls stage to maintain space temperature setpoints

- NO** 19 Note any units that do not function with this sequence
Class room 108 and 114 see issues

2 Issues: [TST-3-10](#) | [TST-3-9](#)

- YES** 20 Collect screenshot of graphics in cooling only mode
Honeywell to send screen shots

COOLING MODE - DEHUMIDIFICATION MODE ON - FUNCTIONAL GROUP TEST

- YES** 21 Command all heat pumps to occupied mode
- YES** 22 Note Humidity Set Point
- YES** 23 Command global setpoint to put all heat pumps in cooling mode
- YES** 24 Heat pumps cycle on and stage compressors on in cooling mode
- YES** 25 Discharge air temperature falls below return or space temperature, cooling provided
- YES** 26 Adjust global setpoint so dehumidification mode activates
- YES** 27 Hot gas reheat coil becomes active, discharge air temperature increases
- YES** 28 Note Discharge Air Temperature
Please see attached spreadsheet for reference
- YES** 29 Note Return (Room) Air Temperature
Please see attached spreadsheet for reference
- YES** 30 Verify reheat piping temperature sensor increases temperature
- YES** 31 Controls stage to maintain space temperature setpoints
- YES** 32 Note any units that do not function with this sequence
- YES** 33 Collect screenshot of graphics in cooling / dehumidification mode
Honeywell to provide these to us

ALARMS AND CO2 MODE

- YES** 34 If space CO2 \leq 600 ppm, OAD = 25% open or position based on TAB
- YES** 35 If space CO2 \geq 1000 ppm, OAD = 100% open or position based on TAB
- YES** 36 Modulate damper linearly when space CO2 > 600 ppm and < 1000 ppm
- YES** 37 CO2 Alarm shall be generated if CO2 rises above 850 PPM (adj) for 2 min (adj) time delay
1000 PPM
- YES** 38 If the DAT sensor reaches 40°F, the supply fan shall be disabled
- YES** 39 If supply fan status \neq command, alarm at BAS
- YES** 40 Note any other alarms that are monitored
See attached spreadsheets
- YES** 41 Verify Occ Sensor operation Note time delay (15 min adj)
- YES** 42 Verify Room Thermostat operation
Please see attached spreadsheet for reference
- YES** 43 Note Room Thermostat limits
Please see attached spreadsheet for reference

Issues 11

TST-3-1 CLOSED MODERATE

Please confirm that the damper motors are correctly opening and closing to the correct position

- Rm 114 BAS 70% open Act 50%
- Rm 113 BAS 75% open Act 95%
- Rm 111 BAS 75% Act 50%
- Rm 110 BAS 30% Act 5%
- Rm 109 BAS 20% Act 0%
- Rm 300 BAS 10% Act 0%
- Rm 101 BAS 25% Act 5%
- Rm 104 BAS 20% Act 5%
- Rm 103 BAS 25% Act 60%
- Rm 105 BAS 25% Act 0%
- Rm 108 BAS 30% Act 5%

Source Test 3

Ross GSHPs - Heat Pump Functional Test

Assigned To Honeywell

Asset 🚪🚪🚪 Ross GSHPs

Discipline Controls

Created By Chuck Cusack

Identified On 8/12/2020 4:25 PM

Verified

Chuck Cusack on 08/17/2020 at 03:41 PM
Commissioning Authority, E Cube, Inc.

TST-3-2 CLOSED MODERATE

Rm 101 No humidity sensor currently installed

Source Test 3

Ross GSHPs - Heat Pump Functional Test

Assigned To Controls Contractor

Asset 🚪🚪🚪 Ross GSHPs

Discipline Controls

Created By Chuck Cusack

Identified On 8/12/2020 4:25 PM

Room 101 trends are attached herewith.

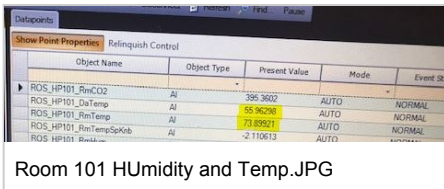
Satnam Singh on 08/20/2020 at 07:20 PM
Controls Contractor, Honeywell

Will close when trends are provided to ensure sensor is operating properly

Chuck Cusack on 08/19/2020 at 08:15 AM
Commissioning Authority, E Cube, Inc.

Sensor is replaced and working.

Satnam Singh on 08/18/2020 at 07:46 AM
Controls Contractor, Honeywell



TST-3-3 CLOSED MODERATE

Rm 102 Actuator for OAD did not operate when told to please confirm actuator is receiving proper signal

Source Test 3

Ross GSHPs - Heat Pump Functional Test

Assigned To Honeywell

Asset 🏠🏠 Ross GSHPs

Discipline Controls

Created By Chuck Cusack

Identified On 8/12/2020 4:26 PM

Verified actuator operates correctly

Chuck Cusack on 08/14/2020 at 08:08 AM

Commissioning Authority, E Cube, Inc.

TST-3-4 CLOSED MODERATE

Rm 104 OAD actuator is very loud when operated

Source Test 3

Ross GSHPs - Heat Pump Functional Test

Assigned To EMCOR

Asset 🏠🏠 Ross GSHPs

Discipline Controls

Created By Chuck Cusack

Identified On 8/12/2020 4:27 PM

Changing status to for info only based on discussions with Ted from Emcor actuator operates correctly

Chuck Cusack on 08/19/2020 at 08:14 AM

Commissioning Authority, E Cube, Inc.

Actuator was checked for normal operation and was working as demanded. Actuator linkage was lubricated to assist with noise issue

Kameron Koehlhoeffer on 08/18/2020 at 03:39 PM

Mechanical Contractor, EMCOR

Honeywell has not provided the OAD actuators. Mechanical contractor to address this.

Satnam Singh on 08/18/2020 at 07:49 AM

Controls Contractor, Honeywell

TST-3-5 CLOSED MODERATE

All rooms CO2 monitors are reading between 700 and 900 PPM. Range units where set to was found to be set at 2v-10v instead of 0v-10v. Currently a WIP will verify when work is completed

Source Test 3

Ross GSHPs - Heat Pump Functional Test

Assigned To Honeywell

Asset 🏠🏠 Ross GSHPs

Discipline Controls

Created By Chuck Cusack

Identified On 8/12/2020 4:29 PM

Verified that the scaling was corrected

Chuck Cusack on 08/14/2020 at 08:06 AM

Commissioning Authority, E Cube, Inc.

TST-3-6 CLOSED HIGH

Graphics and trend logs are incomplete at this time

Source Test 3, Attempt 1, Line 1

Point mapping complete and live data displayed on graphic

Assigned To Honeywell

Asset 🏠🏠🏠 Ross GSHPs

Discipline Controls

Created By Chuck Cusack

Identified On 8/14/2020 8:11 AM

Verified

Chuck Cusack on 08/17/2020 at 07:50 AM

Commissioning Authority, E Cube, Inc.

TST-3-7 CLOSED HIGH

Room 112 did not go into dehum mode in the unocc sequence

Source Test 3

Ross GSHPs - Heat Pump Functional Test

Assigned To Honeywell

Asset 🏠🏠🏠 Ross GSHPs

Discipline Controls

Created By Chuck Cusack

Identified On 8/14/2020 9:09 AM

Verified unit had points override not allowing it to go into dehum

Chuck Cusack on 08/17/2020 at 03:42 PM

Commissioning Authority, E Cube, Inc.

TST-3-8 CLOSED HIGH

please confirm all temp and humidity sensors are reading and operating correctly (all rooms)

Source Test 3

Ross GSHPs - Heat Pump Functional Test

Assigned To Honeywell

Asset 🏠🏠🏠 Ross GSHPs

Discipline Controls

Created By Chuck Cusack

Identified On 8/14/2020 9:15 AM

This was verified by Honeywell on 8/15

Chuck Cusack on 08/17/2020 at 07:47 AM

Commissioning Authority, E Cube, Inc.

TST-3-9 OPEN HIGH

Class room 108 did not operate correctly in dehumid mode (Emcor is currently working on resolution)

Source Test 3, Attempt 1, Line 19

Note any units that do not function with this sequence

Assigned To EMCOR

Asset 🏠🏠🏠 Ross GSHPs

Discipline Mechanical

Created By Chuck Cusack

Identified On 8/17/2020 3:37 PM

Team also noted there may be some temperature control issues on the base-building condenser water, as supply temperatures were noted to be lower than expected. Recommend Dist 23 investigate this system.

Mandeep Singh on 10/15/2020 at 03:46 PM
E Cube, Inc.

After reviewing the trend report for this room (Ross 108) it appears the hot gas reheat is not able to reach temperature of over 100F during dehumidification mode. Chuck noted when on site that over 100F was typical in other rooms. This is effecting dehum mode. Also please confirm that the OA damper is opening to the correct position as commanded by the BAS. There is concern it does not open to the correct position.

Changing assignment to EMCOR. Note that the controls appear to be operating properly and it appears this is a mechanical issue.

Jim Radzienda on 09/03/2020 at 02:21 PM
Commissioning Authority, E Cube, Inc.

Satnam, thank you for uploading the trend report. We relocated the report in the files section under "BAS Trends".

Jim Radzienda on 09/03/2020 at 12:36 PM
Commissioning Authority, E Cube, Inc.

Trend for 108 is attached herewith.

Satnam Singh on 09/03/2020 at 09:01 AM
Controls Contractor, Honeywell

Changing status back to "open" until trend reports are provided as requested. We need trend reports from Honeywell to confirm operation. Honeywell please send trend reports as soon as you can so we can close.

Jim Radzienda on 09/02/2020 at 08:18 AM
Commissioning Authority, E Cube, Inc.

Changing status to for info only based on discussions with Ted from Emcor will need to review trend logs to ensure problem is fixed

Chuck Cusack on 08/19/2020 at 08:12 AM
Commissioning Authority, E Cube, Inc.

Adjust supply register to direct air from blowing on t-stat. Air blowing direct on t-stat was causing wide temp/humid swings. and also eliminated 'heat delay' after re-heat mode to help maintain temp set point. Unit operating normally and space temp is satisfied

Kameron Koehlhoeffer on 08/18/2020 at 03:39 PM
Mechanical Contractor, EMCOR

TST-3-10 CLOSED HIGH

Class room 114 seems to get frozen between modes not allowing unit to switch between heating and dehumid modes assigning to Honeywell and would suggest working with Emcor to ensure problems are corrected

Source Test 3, Attempt 1, Line 19

Note any units that do not function with this sequence

Assigned To Honeywell
Asset 🚪🚪🚪 Ross GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/17/2020 3:38 PM

E Cube review the trends related to this issue. The controls appear to be operating properly and maintaining temp and humidity setpoints.

Jim Radzienda on 09/03/2020 at 02:18 PM
Commissioning Authority, E Cube, Inc.

Satnam, thank you for uploading the trend report. We relocated the report in the files section under "BAS Trends".

Jim Radzienda on 09/03/2020 at 12:36 PM
Commissioning Authority, E Cube, Inc.

Trend attached for the unit.

Satnam Singh on 09/03/2020 at 08:58 AM
Controls Contractor, Honeywell

Changing status back to "open" until trend reports are provided as requested. We need trend reports from Honeywell to confirm operation. Honeywell please send trend reports as soon as you can so we can close.

Jim Radzienda on 09/02/2020 at 08:17 AM
Commissioning Authority, E Cube, Inc.

Changing status to for info only based on discussions with Ted from Emcor will need to review trend logs to ensure problem is fixed

Chuck Cusack on 08/19/2020 at 08:12 AM
Commissioning Authority, E Cube, Inc.

Worked with Emcor to check the unit functioning. Changed the response for heating PID to react faster in heating mode. Currently the room is maintaining the room conditions per setpoint.

Satnam Singh on 08/18/2020 at 11:57 PM
Controls Contractor, Honeywell

TST-3-11 CLOSED MODERATE

Class room 109 and 107 missing fan failure points Honeywell WIP

Source Test 3

Ross GSHPs - Heat Pump Functional Test

Assigned To Honeywell
Asset 🚪🚪🚪 Ross GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/17/2020 3:45 PM

Changing to closed based on graphic screen shots

Chuck Cusack on 08/19/2020 at 08:11 AM
Commissioning Authority, E Cube, Inc.

Files 1

Ross School temps.xlsx	16.9 KB	8/17/2020 3:50 PM
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Room	Cooling		Dehum			Dehum Unocc			Min Pc
	RAT	DAT	RAT	DAT	HG Temp	RAT	DAT	OAD %	OAD ACT
116	62	48	62	58	111	65	58	0	10%
115	64	44	67	58	106	64	54	0	10%
114	60	44	60	55	114	58	52	0	10%
113	63	45	66	60	116	64	55	0	10%
112	62	45	67	61	100	65	59	0	10%
111	60	42	64	58	114	61	53	0	8%
110	61	45	66	61	112	62	57	0	5%
109	63	46	66	60	116	63	57	0	2%
107	61	48	66	62	112	60	52	0	10%
108	60	47	63	55	115	62	57	0	5%
105	61	47	67	64	119	64	58	0	100%
106	59	45	60	55	118	60	52	0	90%
103	62	46	66	60	117	63	55	0	10%
104	62	47	64	58	120	65	62	0	10%
102	68	50	66	60	118	69	64	0	0%
101	65	50	72	64	118	68	62	0	25%
100	64	48	66	58	111	66	58	0	70%
300	72	57	68	50	100	68	59	0	2%

Position
TAB OAD
25%
25%
25%
25%
25%
25%
25%
20%
20%
25%
20%
25%
25%
20%
20%
35%
20%
5%

Room	OCC Heating		CO2 Actual and SP Confirmed			
	RAT	DAT	ACT (PPM)	MIN OAD %	SP (PPM)	OAD SP %
116	78	102	730	10	600	40
115	81	109	747	25	600	30
114	78	104	753	20	600	50
113	87	106	770	10	600	60%
112	82	112	734	20	600	50
111	84	112	720	25	600	48
110	82	105	731	30	600	50
109	82	108	740	20	600	50
107	88	112	760	25	600	50
108	78	107	726	30	600	50
105	89	115	738	25	600	30
106	84	112	740	25	600	50
103	85	111	716	25	600	NA
104	83	106	722	20	600	48
102	86	115	728	25	600	NA
101	84	108	716	25	600	47
100	83	111	735	25	600	50
300	85	112	790	10	600	65

Room	Tstat operation						
	Set Point	Offset +/-	Actual	Humid	Humid SP	Mode	Stat Setting
116	NA	2	NA	NA		NA	NA
115	73	2	73	51	55	Cool	70
114	75	2	64	58	55	Dehum	74
113	72	2	72	50	55	Cool	68
112	72	2	72	63	55	Cool	68
111	73	2	70	55	55	Dehum	70
110	72	2	70	52	55	Dehum	70
109	73	2	70	50	55	Dehum	70
107	72	2	68	55	55	Dehum	70
108	76	2	64	56	55	Dehum	82
105	72	2	69	52	55	Dehum	68
106	75	2	66	52	55	Dehum	74
103	72	2	71	56	55	Dehum	60
104	72	2	72	44	55	Cool	70
102	74	2	74	50	55	Deadband	69
101	75	2	75	NA	55	NA	NA
100	75	2	72	57	55	Dehum	80
300	73	2	74	51	55	Deadband	70

Stat needs'

to be replaced with a temp and humidity one TST3-1

Room	Alarms				
	Temperature		CO2 (1000)	Humidity	Fan Fail
	High (120)	Low (40)			
116	Good	Good	Good	Good	Good
115	Good	Good	Good	Good	Good
114	Good	Good	Good	Good	Good
113	Good	Good	Good	Good	Good
112	Good	Good	Good	Good	Good
111	Good	Good	Good	Good	Good
110	Good	Good	Good	Good	Good
109	Good	Good	Good	Good	No point
107	Good	Good	Good	Good	No point
108	Good	Good	Good	Good	Good
105	Good	Good	Good	Good	Good
106	Good	Good	Good	Good	Good
103	Good	Good	Good	Good	Good
104	Good	Good	Good	Good	Good
102	Good	Good	Good	Good	Good
101	Good	Good	Good	Good	Good
100	Good	Good	Good	NA	Good
300	NA	NA	NA	NA	NA

Unit was shut off

#4 Sullivan GSHPs - Heat Pump Functional Test

E Cube | 1017.2 - Dist 23 Schools Phase 2

COMPLETED

100% Yes | 0% No | 0% N/A

4 ISSUES

Assigned To E Cube, Inc.

Asset Sullivan GSHPs

Attempts

Attempt No. 1 **COMPLETED**

Status set by Chuck Cusack on 8/17/2020.

DESCRIPTION

BARD UNIT VENTILATOR W/HGBP RHC

USER INTERFACE VERIFICATION

YES 1 Point mapping complete and live data displayed on graphic
1 Issue: [TST-4-1](#)

YES 2 Outdoor air temperature and humidity displayed on main graphic

YES 3 Graphic layout is per owner requirements

YES 4 Background graphic of heat pump matches equipment configuration

YES 5 Links to related graphics operational

YES 6 Trends setup and recording data

YES 7 Global setpoint on graphic are adjustable

COOLING MODE - DEHUMIDIFICATION MODE OFF - FUNCTIONAL GROUP TEST

YES 8 Command all heat pumps to occupied mode

YES 9 Note Cooling Set point
Please see attached spreadsheet for reference

YES 10 Command global setpoint to put all heat pumps in cooling mode

YES 11 Command global setpoint so dehumidification mode remains off

YES 12 Heat pumps cycle on and stage compressors on in cooling mode

YES 13 Discharge air temperature falls below return or space temperature, cooling provided

YES 14 Note Discharge Air Temperature
Please see attached spreadsheet for reference

YES 15 Note Return (Room) Air Temperature
Please see attached spreadsheet for reference

YES 16 Hot gas reheat coil not active

YES 17 Verify reheat piping temperature sensor does not increase temperature

YES 18 Controls stage to maintain space temperature setpoints

YES 19 Note any units that do not function with this sequence

YES 20 Collect screenshot of graphics in cooling only mode
Honeywell to provide

COOLING MODE - DEHUMIDIFICATION MODE ON - FUNCTIONAL GROUP TEST

YES 21 Command all heat pumps to occupied mode

YES 22 Note Humidity Set Point
Please see attached spreadsheet for reference

YES 23 Command global setpoint to put all heat pumps in cooling mode

YES 24 Heat pumps cycle on and stage compressors on in cooling mode

YES 25 Discharge air temperature falls below return or space temperature, cooling provided

YES 26 Adjust global setpoint so dehumidification mode activates

YES 27 Hot gas reheat coil becomes active, discharge air temperature increases

YES 28 Note Discharge Air Temperature
Please see attached spreadsheet for reference

YES 29 Note Return (Room) Air Temperature
Please see attached spreadsheet for reference

YES 30 Verify reheat piping temperature sensor increases temperature

YES 31 Controls stage to maintain space temperature setpoints

YES 32 Note any units that do not function with this sequence

YES 33 Collect screenshot of graphics in cooling / dehumidification mode
Honeywell to provide

ALARMS AND CO2 MODE

YES 34 If space CO2 \leq 600 ppm, OAD = 25% open or position based on TAB

YES 35 If space CO2 \geq 1000 ppm, OAD = 100% open or position based on TAB

YES 36 Modulate damper linearly when space CO2 > 600 ppm and < 1000 ppm

YES 37 CO2 Alarm shall be generated if CO2 rises above 850 PPM (adj) for 2 min (adj) time delay
1000 PPM

YES 38 If the DAT sensor reaches 40°F, the supply fan shall be disabled

YES 39 If supply fan status \neq command, alarm at BAS

YES 40 Note any other alarms that are monitored
See attached spreadsheet for reference

YES 41 Verify Occ Sensor operation Note time delay (15 min adj)

YES 42 Verify Room Thermostat operation
Please see attached spreadsheet for reference

YES 43 Note Room Thermostat limits
Please see attached spreadsheet for reference

Issues 4

TST-4-1 CLOSED HIGH

Graphics and trends are currently incomplete

Source Test 4, Attempt 1, Line 1

Point mapping complete and live data displayed on graphic

Assigned To Honeywell

Asset 🏠🏠 Sullivan GSHPs

Discipline Controls

Created By Chuck Cusack

Identified On 8/14/2020 8:19 AM

Verified

Chuck Cusack on 08/17/2020 at 08:26 PM
Commissioning Authority, E Cube, Inc.

Verified

Chuck Cusack on 08/17/2020 at 07:49 AM
Commissioning Authority, E Cube, Inc.

TST-4-2 CLOSED HIGH

Rooms 152,150,138,154,148 were found to be tripped on the freeze stats please verify that the units operating correctly as they seem to do this when they are operated in dehum mode for long periods of time

Source Test 4

Sullivan GSHPs - Heat Pump Functional Test

Assigned To Honeywell

Asset 🏠🏠 Sullivan GSHPs

Discipline Controls

Created By Chuck Cusack

Identified On 8/14/2020 9:12 AM

Verified all where online all weekend

Chuck Cusack on 08/17/2020 at 03:48 PM
Commissioning Authority, E Cube, Inc.

TST-4-3 CLOSED HIGH

room 138 has a bad damper actuator it is currently on order

Source Test 4

Sullivan GSHPs - Heat Pump Functional Test

Assigned To EMCOR

Asset 🏠🏠 Sullivan GSHPs

Discipline Mechanical - Airside

Created By Chuck Cusack

Identified On 8/14/2020 9:13 AM

After speaking with Ted from Emcor and he confirmed actuator is operating correctly

Chuck Cusack on 08/19/2020 at 08:13 AM
Commissioning Authority, E Cube, Inc.

Damper actuator replaced and tested 8/21/2020

Kameron Koehlhoeffer on 08/17/2020 at 03:50 PM
Mechanical Contractor, EMCOR

Went to check actuator operation and found it was now closing all the way except when it was told to open it continued trying to drive past 100% please confirm proper operation


Chuck Cusack on 08/17/2020 at 03:46 PM
Commissioning Authority, E Cube, Inc.

TST-4-4 CLOSED HIGH

please verify that all temp and humidity sensors are reading properly (all rooms)

Source Test 4

Sullivan GSHPs - Heat Pump Functional Test

Assigned To Honeywell
Asset  Sullivan GSHPs
Discipline Controls
Created By Chuck Cusack
Identified On 8/14/2020 9:14 AM

Verified operation via trend logs

Chuck Cusack on 08/17/2020 at 03:49 PM
Commissioning Authority, E Cube, Inc.

Files 1

Sullivan School Temps.xlsx	16.2 KB	8/17/2020 3:51 PM
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Room	Tstat operation						
	Set Point	Offset +/-	Actual	Mode	Stat setting	Humidity	Hum SP
154	72	2	71	Deadband	70	50	55
153	72	2	72	Dehum	70	51	55
152	73	2	64	Cooling	70	54	55
151	74	2	76	Cooling	70	50	55
150	74	2	74	Cooling	70	71	55
149	74	2	74	Cooling	70	48	55
148	72	2	73	Cooling	70	53	55
147	72	2	74	Cooling	70	52	55
145	72	2	71	Cooling	70	53	55
119	72	2	73	Cooling	70	54	55
121	72	2	73	Cooling	70	49	55
138	72	2	77	CLG/DH	70	55	55
136	72	2	74	CLG/DH	70	59	55
134	72	2	75	Cooling	70	50	55
132	72	2	73	Cooling	70	51	55
130	73	2	73	CLG/DH	70	56	55

Room	CO2 Operation					
	Actual	Damper		Set point	Min Damper	
		Command	Actual		Command	Actual
154	470	50	50	600	25	10
153	430	50	40	600	25	10
152	480	80	75	600	30	5
151	420	60	60	600	30	20
150	427	60	75	600	30	20
149	419	60	60	600	25	30
148	428	60	80	600	30	30
147	425	60	45	600	25	51
145	414	60	50	600	20	10
119	416	50	40	600	30	5
121	418	65	50	600	25	20
138	403	NA	NA	600	NA	NA
136	424	55	40	600	25	25
134	416	60	50	600	20	20
132	437	60	70	600	30	30
130	408	50	30	600	25	25

Actuator no operation:

al

	Dehumidification Mode				
	Air Temp			Damper	
Room	RAT	DAT	HGT	ACT	CMD
154	65	56	110	5	25
153	67	60	114	10	25
152	59	54	113	5	30
151	68	61	111	10	30
150	65	60	113	10	30
149	66	61	115	5	25
148	65	60	113	10	30
147	65	60	113	5	25
145	66	60	113	5	20
119	64	59	112	5	25
121	66	61	114	15	30
138	67	61	115	5	25
136	69	65	110	5	25
134	69	63	122	5	30
132	67	62	122	5	30
130	68	62	116	5	25

	Cooling heating modes				
	Cooling			Heating	
Room	RAT	DAT	Damper	RAT	DAT
154	68	50	5	78	102
153	67	50	5	80	104
152	59	47	0	76	100
151	68	50	20	80	103
150	63	48	10	80	104
149	63	48	10	81	105
148	62	47	10	81	106
147	65	46	5	81	104
145	65	47	5	80	98
119	62	48	5	82	111
121	62	48	5	85	110
138	64	48	5	80	97
136	65	54	10	81	99
134	66	48	5	85	107
132	65	50	7	73	111
130	67	49	5	84	107

	Alarms				
	Temperature				
Room	High (120)	Low (40)	CO2 (1000)	Humidity	Fan Fail
154	Good	Good	Good	Good	Good
153	Good	Good	Good	Good	Good
152	Good	Good	Good	Good	Good
151	Good	Good	Good	Good	Good
150	Good	Good	Good	Good	Good
149	Good	Good	Good	Good	Good
148	Good	Good	Good	Good	Good
147	Good	Good	Good	Good	Good
145	Good	Good	Good	Good	Good
119	Good	Good	Good	Good	Good
121	Good	Good	Good	Good	Good
138	Good	Good	Good	Good	Good
136	Good	Good	Good	Good	Good
134	Good	Good	Good	Good	Good
132	Good	Good	Good	Good	Good
130	Good	Good	Good	Good	Good

Startup Reports



EMCOR Services Team Mechanical
431 Lexington Dr.
Buffalo Grove, IL 60089
847-229-7600 • Fax: 847.229.7699
www.emcortmi.com

Re-Heat Coil Installation Summary

Date: 9/2/2020

Attention: Brian S. Rominski, CPS Director of Buildings & Grounds

Project: 2020 HVAC Retrofits for Anna Sullivan and Betsy Ross Elementary Schools

Mr. Rominski,

This letter is to inform you and your commissioning personnel of EMCOR's procedure when installing the re-heat kits at Anne Sullivan and Betsy Ross middle school. EMCOR Services Team Mechanical, Inc. has completed the upgrade and installation of dehumidification retrofit kits for thirty-four (34) Bard Heat Pumps serving the Betsy Ross and Anne Sullivan classrooms. All materials furnished on this project are in ordinance with the Occupational Safety and Health Act. No products containing asbestos were used during this project.

Installation Guidelines/Procedures:

Recover existing refrigerant from the system and weigh the charge. Once the coil was mounted and piping completed on the Bard units, each unit's refrigerant piping system was pressure tested with nitrogen at 200PSI for 30 minutes. Once this was completed and no leaks verified, the system is then put into a vacuum at 300 microns. EMCOR then charged the units with R410A using "charge-by weight" procedure. Charge by weight means we weigh the refrigerant storage tank while on a scale, and then add refrigerant to the unit until the level of refrigerant matches what is specified on the unit nameplate. EMCOR then powered on units and checked for proper operation in cooling, dehumidification, and heating modes.

Kameron Koehlhoeffer
Office: (847)-229-7600
Cell Phone # (224) 477-7193
Email: kkoehlhoeffer@emcor.net

Thank you for this opportunity to be of service.

Sincerely,

Kameron Koehlhoeffer
EMCOR Services Team Mechanical

Additional Location: 431 Lexington Drive • Buffalo Grove, IL 60089

TAB Report

Superior Test & Balance, Inc.

1320 Chase St STE
Algonquin, IL. 60102

Office (847) 458-8877
NEBB CERT 3438

**Certified Test, Adjust, and
Balance Report**

for

Prospect Heights School District

Address:

700 N Schoenbeck Rd
Prospect Heights, IL 60070

HVAC Contractor:

Emcor Team Mechanical

Architect:

ARCON


Engineer:

AMSCO Engineering


Start Date: 8/5/2020

Finish Date: 8/7/2020




Superior Test & Balance, Inc. 1320 Chase St. Ste 1 Algonquin, IL. 60102		SUPPLEMENTAL REPORT
PROJECT: <u>Prospect Heights School District</u>		
<p>Place text here:</p> <p>HP-300 is low on condenser water GPM. The unit is at the end of a long run. Refrigerant Operations Check out OK.</p> <p>HP-105, HP-119 has a Bad Economizer Actuator - Manual set up Min OA - Honeywell was going to look at Economizers</p>		
Report by: <u>Jon Books</u> Date: <u>8/5/2020 to 8/7/2020</u>		


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102				TESTING/BALANCING Certified AND ADJUSTING		AIR OUTLET TEST REPORT		
PROJECT: <u>Prospect Heights School District</u>				SYSTEM: <u>HP-100</u>				
LOCATION: <u>Class Room 100</u>			TEST APPARATUS: <u>Air Flow Hood</u>					
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN	
	NO.	TYPE	SIZE					
HP-100								
Total Supply	1	Sidewall	-	1150	1145	1145	100%	
Return	1	Sidewall	30"x14"	-735	-1000	-695	95%	
Outside	1	Duct	-	415	145	450	108%	
Notes: 20% Min Position for OA Damper								
READINGS BY: <u>Jon Books</u>				TEST DATE: <u>8/5/20 to 8/7/20</u>				


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Office (847) 458-8877 Algonquin, IL. 60102 FAX (847) 458-8811						<h2 style="margin: 0;">AIR OUTLET TEST REPORT</h2>			
PROJECT: <u>Prospect Heights School District</u>				SYSTEM: <u>HP-300</u>					
LOCATION: <u>Teacher Lounge Room 300</u>				TEST APPARATUS: <u>Air Flow Hood</u>					
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN		
	NO.	TYPE	SIZE						
HP-300									
Total Supply	1	Sidewall	-	1000	800	1020	102%		
Return	1	Sidewall	30"x14"	-735	-830	-720	98%		
Outside	1	Duct	-	100	50	110	110%		
Notes: 5% Min Position for OA Damper									
READINGS BY: <u> n Books </u> TEST DATE: <u> 8/5/20 to 8/7/20 </u>									





Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102						AIR OUTLET TEST REPORT		
PROJECT: <u>Prospect Heights School District</u>				SYSTEM: <u>HP-101</u>				
LOCATION: <u>Class Room 101</u>			TEST APPARATUS: <u>Air Flow Hood</u>					
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN	
	NO.	TYPE	SIZE					
HP-101								
Total Supply	1	Sidewall	-	1400	1480	1480	106%	
Return	1	Sidewall	48"x14"	-870	-1255	-950	109%	
Outside	1	Duct	-	530	225	530	100%	
Notes: 35% Min Position for OA Damper								
READINGS BY: <u>Jon Books</u> TEST DATE: <u>8/5/20 to 8/7/20</u>								

Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102 Office (847) 458-8877 FAX (847) 458-8811					AIR OUTLET TEST REPORT		
PROJECT: <u>Prospect Heights School District</u>				SYSTEM: <u>HP-102</u>			
LOCATION: <u>Class Room 102</u>			TEST APPARATUS: <u>Air Flow Hood</u>				
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-102							
Total Supply	1	Sidewall	-	1150	1165	1165	101%
Return	1	Sidewall	30"x14"	-735	-1000	-775	105%
Outside	1	Duct	-	415	145	450	108%
Notes: 20% Min Position for OA Damper							
READINGS BY: <u>Jon Books</u> TEST DATE: <u>8/5/20 to 8/7/20</u>							

Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102				TESTING/BALANCING  AND ADJUSTING		<h2 style="margin: 0;">AIR OUTLET TEST REPORT</h2>			
PROJECT: <u>Prospect Heights School District</u>				SYSTEM: <u>HP-103</u>					
LOCATION: <u>Class Room 103</u>			TEST APPARATUS: <u>Air Flow Hood</u>						
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN		
	NO.	TYPE	SIZE						
HP-103									
Total Supply	1	Sidewall	-	1150	1265	1265	110%		
Return	1	Sidewall	30"x14"	-735	-1150	-810	110%		
Outside	1	Sidewall	-	415	115	455	110%		
Notes: 25% Min Position for OA Damper									
READINGS BY: <u>Jon Books</u>				TEST DATE: <u>8/5/20 to 8/7/20</u>					

Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102				Office (847) 458-8877 FAX (847) 458-8811				<h2 style="text-align: center;">AIR OUTLET TEST REPORT</h2>	
PROJECT: <u>Prospect Heights School District</u>			SYSTEM: <u>HP-104</u>						
LOCATION: <u>Class Room 104</u>			TEST APPARATUS: <u>Air Flow Hood</u>						
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN		
	NO.	TYPE	SIZE						
HP-100									
Total Supply	1	Sidewall	-	1150	850	1260	110%		
Return	1	Sidewall	30"x14"	-735	-1000	-810	110%		
Outside	1	Duct	-	415	270	450	108%		
Notes: 20% Min Position for OA Damper									
READINGS BY: <u>Jon Books</u>					TEST DATE: <u>8/5/20 to 8/7/20</u>				


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102				 Office (847) 458-8877 FAX (847) 458-8811		AIR OUTLET TEST REPORT	
PROJECT: Prospect Heights School District				SYSTEM: HP-105			
LOCATION: Class Room 105				TEST APPARATUS: Air Flow Hood			
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-100							
Total Supply	1	Sidewall	-	1150	1230	1230	107%
Return	1	Sidewall	30"x14"	-735	-970	-850	116%
Outside	1	Duct	-	415	225	400	96%
Notes: Bad Economizer Actuator - Manual set up Min OA 20% Min Position for OA Damper							
READINGS BY: Jon Books				TEST DATE: 8/5/20 to 8/7/20			


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102			 TESTING/BALANCING Certified AND ADJUSTING			<h2 style="margin: 0;">AIR OUTLET TEST REPORT</h2>			
PROJECT: <u>Prospect Heights School District</u>				SYSTEM: <u>HP-106</u>					
LOCATION: <u>Room 106</u>			TEST APPARATUS: <u>Air Flow Hood</u>						


AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-106							
Total Supply	1	Sidewall	-	1150	1260	1260	110%
Return	1	Sidewall	30"x14"	-735	-1115	-810	110%
Outside	1	Duct	-	415	145	450	108%

Notes: 25% Min Position for OA Damper


READINGS BY: Jon Books TEST DATE: 8/5/20 to 8/7/20


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102			TESTING/BALANCING  AND ADJUSTING		<h2 style="margin: 0;">AIR OUTLET TEST REPORT</h2>		
PROJECT: <u>Prospect Heights School District</u>				SYSTEM: <u>HP-107</u>			
LOCATION: <u>Class Room 107</u>			TEST APPARATUS: <u>Air Flow Hood</u>				
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-107							
Main Supply	1	Sidewall	-	1150	1265	1265	110%
Return	1	Sidewall	30"x14"	-735	-1000	-810	110%
Outside	1	Duct	-	415	265	455	110%
Notes: 20% Min Position for OA Damper							
READINGS BY: <u>Jon Books</u> TEST DATE: <u>8/5/20 to 8/7/20</u>							

Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102 Office (847) 458-8877 FAX (847) 458-8811					AIR OUTLET TEST REPORT		
PROJECT: Prospect Heights School District			SYSTEM: HP-108				
LOCATION: Class Room 108			TEST APPARATUS: Air Flow Hood				
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-108							
Total Supply	1	Sidewall	-	1150	1175	1175	102%
Return	1	Sidewall	30"x14"	-735	-900	-725	99%
Outside	1	Duct	-	415	175	450	108%
Notes: 25% Min Position for OA Damper							
READINGS BY: Jon Books				TEST DATE: 8/5/20 to 8/7/20			

Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102						<h2 style="margin: 0;">AIR OUTLET TEST REPORT</h2>		
PROJECT: <u>Prospect Heights School District</u>				SYSTEM: <u>HP-109</u>				
LOCATION: <u>Class Room 109</u>			TEST APPARATUS: <u>Air Flow Hood</u>					
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN	
	NO.	TYPE	SIZE					
HP-109								
Total Supply	1	Sidewall	-	1150	1225	1225	107%	
Return	1	Sidewall	30"x14"	-735	-1000	-800	109%	
Outside	1	Duct	-	415	225	425	102%	
Notes: 20% Min Position for OA Damper								
READINGS BY: <u>Jon Books</u> TEST DATE: <u>8/5/20 to 8/7/20</u>								


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102			TESTING/BALANCING Certified AND ADJUSTING		AIR OUTLET TEST REPORT		
PROJECT: <u>Prospect Heights School District</u>			SYSTEM: <u>HP-110</u>				
LOCATION: <u>Class Room 110</u>			TEST APPARATUS: <u>Air Flow Hood</u>				
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-110							
Total Supply	1	Sidewall	-	1150	1260	1260	110%
Return	1	Sidewall	30"x14"	-735	-1010	-805	110%
Outside	1	Duct	-	415	250	455	110%
Notes: 25% Min Position for OA Damper							
READINGS BY: <u>Jon Books</u> TEST DATE: <u>8/5/20 to 8/7/20</u>							


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102 Office (847) 458-8877 FAX (847) 458-8811						AIR OUTLET TEST REPORT	
PROJECT: Prospect Heights School District				SYSTEM: HP-111			
LOCATION: Class Room 111			TEST APPARATUS: Air Flow Hood				
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-111							
Total Supply	1	Sidewall	-	1150	1240	1240	108%
Return	1	Sidewall	30"x14"	-735	-1000	-785	107%
Outside	1	Duct	-	415	240	455	110%
Notes: 25% Min Position for OA Damper							
READINGS BY: Jon Books				TEST DATE: 8/5/20 to 8/7/20			

Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL 60102				 Certified TESTING/BALANCING AND ADJUSTING	AIR OUTLET TEST REPORT			
PROJECT: Prospect Heights School District			SYSTEM: HP-112					
LOCATION: Class Room 108			TEST APPARATUS: Air Flow Hood					
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN	
	NO.	TYPE	SIZE					
HP-112								
Total Supply	1	Sidewall	-	1150	1260	1260	110%	
Return	1	Sidewall	30"x14"	-735	-1100	-805	110%	
Outside	1	Duct	-	415	-100	455	110%	
Notes: 25% Min Position for OA Damper								
READINGS BY: Jon Books				TEST DATE: 8/5/20 to 8/7/20				


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102				TESTING/BALANCING AND ADJUSTING		<h2 style="margin: 0;">AIR OUTLET TEST REPORT</h2>			
PROJECT: Prospect Heights School District			SYSTEM: HP-113						
LOCATION: Class Room 113			TEST APPARATUS: Air Flow Hood						
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN		
	NO.	TYPE	SIZE						
HP-113									
Total Supply	1	Sidewall	-	1150	1225	1225	107%		
Return	1	Sidewall	30"x14"	-735	-1000	-775	105%		
Outside	1	Duct	-	415	225	-450	-108%		
Notes: 25% Min Position for OA Damper									
READINGS BY: <u>Jon Books</u> TEST DATE: <u>8/5/20 to 8/7/20</u>									


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102 Office (847) 458-8877 FAX (847) 458-8811						AIR OUTLET TEST REPORT	
PROJECT: <u>Prospect Heights School District</u>				SYSTEM: <u>HP-114</u>			
LOCATION: <u>Class Room 114</u>			TEST APPARATUS: <u>Air Flow Hood</u>				
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-114							
Total Supply	1	Sidewall	-	1150	1255	1255	109%
Return	1	Sidewall	30"x14"	-735	-1165	-810	110%
Outside	1	Duct	-	415	90	445	107%
Notes: 25% Min Position for OA Damper							
READINGS BY: <u>Jay Morrical</u>				TEST DATE: <u>8/5/20 to 8/7/20</u>			


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL 60102				Office (847) 458-8877 FAX (847) 458-8811				<h2 style="margin: 0;">AIR OUTLET TEST REPORT</h2>	
PROJECT: Prospect Heights School District				SYSTEM: HP-115					
LOCATION: Class Room 115				TEST APPARATUS: Air Flow Hood					
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN		
	NO.	TYPE	SIZE						
HP-115									
Total Supply	1	Sidewall	-	1150	1260	1260	110%		
Return	1	Sidewall	30"x14"	-735	-1000	-805	110%		
Outside	1	Duct	-	415	270	455	110%		
Notes: 25% Min Position for OA Damper									
READINGS BY: Jon Books TEST DATE: 8/5/20 to 8/7/20									


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102 Office (847) 458-8877 FAX (847) 458-8811				 TESTING/BALANCING Certified AND ADJUSTING		AIR OUTLET TEST REPORT			
PROJECT: <u>Prospect Heights School District</u>				SYSTEM: <u>HP-116</u>					
LOCATION: <u>Class Room 116</u>			TEST APPARATUS: <u>Air Flow Hood</u>						
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN		
	NO.	TYPE	SIZE						
HP-116									
Total Supply	1	Sidewall	-	1150	1235	1235	107%		
Return	1	Sidewall	30"x14"	-735	-1005	-795	108%		
Outside	1	Duct	-	415	240	440	106%		
Notes: 25% Min Position for OA Damper									
READINGS BY: <u>Jon Books</u>				TEST DATE: <u>8/5/20 to 8/7/20</u>					





Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102						AIR OUTLET TEST REPORT	
PROJECT: Prospect Heights School District				SYSTEM: HP-136			
LOCATION: Class Room 136				TEST APPARATUS: Air Flow Hood			
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-136							
Total Supply	1	Sidewall	-	1150	1230	1230	107%
Return	1	Sidewall	30"x14"	-725	-980	-795	110%
Outside Air	1	Duct	-	425	250	435	102%
Notes: 30% Min Position for OA Damper							
READINGS BY: Jon Books				TEST DATE: 8/5/20 to 8/7/20			


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102						<h2 style="margin: 0;">AIR OUTLET TEST REPORT</h2>		
PROJECT: <u>Prospect Heights School District</u>			SYSTEM: <u>HP-119</u>					
LOCATION: <u>Class Room 119</u>			TEST APPARATUS: <u>Air Flow Hood</u>					
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN	
	NO.	TYPE	SIZE					
HP-119								
Total Supply	1	Sidewall	-	1150	1230	1230	107%	
Return	1	Sidewall	30"x14"	-725	-980	-795	110%	
Outside Air	1	Duct	-	425	250	435	102%	
Notes: 30% Min Position for OA Damper Economizer Actuator not responding to commands. Manually set min position								
READINGS BY: <u>Jon Books</u>				TEST DATE: <u>8/5/20 to 8/7/20</u>				


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102				Office (847) 458-8877 FAX (847) 458-8811		 TESTING/BALANCING AND ADJUSTING		AIR OUTLET TEST REPORT			
PROJECT: Prospect Heights School District				SYSTEM: HP-121							
LOCATION: Class Room 136				TEST APPARATUS: Air Flow Hood							
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN				
	NO.	TYPE	SIZE								
HP-121											
Total Supply	1	Sidewall	-	1150	1265	1265	110%				
Return	1	Sidewall	30"x14"	-725	-980	-800	110%				
Outside Air	1	Duct	-	425	285	465	109%				
Notes: 30% Min Position for OA Damper											
READINGS BY: Jon Books				TEST DATE: 8/5/20 to 8/7/20							

Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102						AIR OUTLET TEST REPORT	
PROJECT: <u>Prospect Heights School District</u>				SYSTEM: <u>HP-130</u>			
LOCATION: <u>Class Room 130</u>			TEST APPARATUS: <u>Air Flow Hood</u>				
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-130							
Total Supply	1	Sidewall	-	1150	1265	1260	110%
Return	1	Sidewall	30"x14"	-725	-980	-795	110%
Outside Air	1	Duct	-	425	285	465	109%
Notes: 30% Min Position for OA Damper							
READINGS BY: <u>Jon Books</u>				TEST DATE: <u>8/5/20 to 8/7/20</u>			

Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102 Office (847) 458-8877 FAX (847) 458-8811						<h2 style="text-align: center;">AIR OUTLET TEST REPORT</h2>	
PROJECT: <u>Prospect Heights School District</u>				SYSTEM: <u>HP-132</u>			
LOCATION: <u>Class Room 132</u>			TEST APPARATUS: <u>Air Flow Hood</u>				
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-132							
Total Supply	1	Sidewall	-	1150	1210	1210	105%
Return	1	Sidewall	30"x14"	-725	-975	-775	107%
Outside Air	1	Duct	-	425	235	435	102%
Notes: 30% Min Position for OA Damper							
READINGS BY: <u>Jon Books</u>				TEST DATE: <u>8/5/20 to 8/7/20</u>			

Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102				 Office (847) 458-8877 FAX (847) 458-8811		AIR OUTLET TEST REPORT			
PROJECT: Prospect Heights School District				SYSTEM: HP-134					
LOCATION: Class Room 134			TEST APPARATUS: Air Flow Hood						
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN		
	NO.	TYPE	SIZE						
HP-134									
Total Supply	1	Sidewall	-	1150	1230	1230	107%		
Return	1	Sidewall	30"x14"	-725	-980	-795	110%		
Outside Air	1	Duct	-	425	250	435	102%		
Notes: 30% Min Position for OA Damper									
READINGS BY: Jon Books TEST DATE: 8/5/20 to 8/7/20									

Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102		TESTING/BALANCING  AND ADJUSTING		<h2 style="margin: 0;">AIR OUTLET TEST REPORT</h2>							
PROJECT: <u>Prospect Heights School District</u>		SYSTEM: <u>HP-136</u>		LOCATION: <u>Class Room 136</u>				TEST APPARATUS: <u>Air Flow Hood</u>			
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN				
	NO.	TYPE	SIZE								
HP-136											
Total Supply	1	Sidewall	-	1150	1270	1270	110%				
Return	1	Sidewall	30"x14"	-725	-1050	-795	110%				
Outside Air	1	Duct	-	425	230	465	109%				
Notes: 30% Min Position for OA Damper											
READINGS BY: <u>Jon Books</u> TEST DATE: <u>8/5/20 to 8/7/20</u>											


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102				AIR OUTLET TEST REPORT			
PROJECT: <u>Prospect Heights School District</u>			SYSTEM: <u>HP-138</u>				
LOCATION: <u>Class Room 147</u>			TEST APPARATUS: <u>Air Flow Hood</u>				

AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-138							
Total Supply	1	Sidewall	-	1150	1270	1265	110%
Return	1	Sidewall	30"x14"	-725	-980	-800	110%
Outside Air	1	Duct	-	425	290	465	109%


Notes: 30% Min Position for OA Damper

READINGS BY: <u>Jon Books</u>	TEST DATE: <u>8/5/20 to 8/7/20</u>
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Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102					AIR OUTLET TEST REPORT		
PROJECT: <u>Prospect Heights School District</u>			SYSTEM: <u>HP-145</u>				
LOCATION: <u>Class Room 147</u>			TEST APPARATUS: <u>Air Flow Hood</u>				
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-145							
Total Supply	1	Sidewall	-	1150	1175	1175	102%
Return	1	Sidewall	30"x14"	-725	-1000	-790	109%
Outside Air	1	Duct	-	425	175	385	91%
Notes: 20% Min Position for OA Damper							
READINGS BY: <u>Jon Books</u>				TEST DATE: <u>8/5/20 to 8/7/20</u>			

Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102				<small>TESTING/BALANCING</small> Certified <small>AND ADJUSTING</small>	<h2 style="margin: 0;">AIR OUTLET TEST REPORT</h2>			
PROJECT: <u>Prospect Heights School District</u>				SYSTEM: <u>HP-147</u>				
LOCATION: <u>Class Room 147</u>			TEST APPARATUS: <u>Air Flow Hood</u>					
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN	
	NO.	TYPE	SIZE					
HP-147								
Total Supply	1	Sidewall	-	1150	1205	1205	105%	
Return	1	Sidewall	30"x14"	-725	-1080	-795	110%	
Outside Air	1	Duct	-	425	125	435	102%	
Notes: 30% Min Position for OA Damper								
READINGS BY: <u>Jon Books</u> TEST DATE: <u>8/5/20 to 8/7/20</u>								


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102						AIR OUTLET TEST REPORT	
PROJECT: <u>Prospect Heights School District</u>				SYSTEM: <u>HP-148</u>			
LOCATION: <u>Class Room 149</u>			TEST APPARATUS: <u>Air Flow Hood</u>				
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-148							
Total Supply	1	Sidewall	-	1150	1260	1260	110%
Return	1	Sidewall	30"x14"	-725	-1050	-795	110%
Outside Air	1	Duct	-	425	210	465	109%
Notes: 30% Min Position for OA Damper							
READINGS BY: <u>Jon Books</u> TEST DATE: <u>8/5/20 to 8/7/20</u>							

Superior Test & Balance, Inc. <small>1320 Chase St. Ste 5 Algonquin, IL. 60102</small>		<small>TESTING/BALANCING</small> <small>AND ADJUSTING</small>	AIR OUTLET TEST REPORT				
PROJECT: <u>Prospect Heights School District</u>			SYSTEM: <u>HP-149</u>				
LOCATION: <u>Class Room 149</u>		TEST APPARATUS: <u>Air Flow Hood</u>					
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-149							
Total Supply	1	Sidewall	-	1150	1220	1220	106%
Return	1	Sidewall	30"x14"	-725	-980	-795	110%
Outside Air	1	Duct	-	425	250	425	100%


Notes: 25% Min Position for OA Damper


READINGS BY: Jon Books TEST DATE: 8/5/20 to 8/7/20


Superior Test & Balance, Inc.				<small>TESTING/BALANCING</small> <small>AND ADJUSTING</small>		AIR OUTLET TEST REPORT	
1320 Chase St. Ste 5 Algonquin, IL. 60102		Office (847) 458-8877 FAX (847) 458-8811					
PROJECT: Prospect Heights School District				SYSTEM: HP-150			
LOCATION: Class Room 152			TEST APPARATUS: Air Flow Hood				
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-150							
Total Supply	1	Sidewall	-	1150	1250	1250	109%
Return	1	Sidewall	30"x14"	-725	-1130	-795	110%
Outside Air	1	Duct	-	425	120	455	107%
Notes: 30% Min Position for OA Damper							
READINGS BY: Jon Books		TEST DATE: 8/5/20 to 8/7/20					


Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102	TESTING/BALANCING  AND ADJUSTING	<h2 style="margin: 0;">AIR OUTLET TEST REPORT</h2>					
PROJECT: <u>Prospect Heights School District</u> SYSTEM: <u>HP-151</u>							
LOCATION: <u>Class Room 152</u> TEST APPARATUS: <u>Air Flow Hood</u>							
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-151							
Total Supply	1	Sidewall	-	1150	1230	1230	107%
Return	1	Sidewall	30"x14"	-725	-980	-795	110%
Outside	1	Duct	-	425	250	435	102%
Notes: 30% Min Position for OA Damper							
READINGS BY: <u>Jon Books</u> TEST DATE: <u>8/5/20 to 8/7/20</u>							





Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL 60102			TESTING/BALANCING  AND ADJUSTING		AIR OUTLET TEST REPORT		
PROJECT: <u>Prospect Heights School District</u>			SYSTEM: <u>HP-152</u>				
LOCATION: <u>Class Room 152</u>		TEST APPARATUS: <u>Air Flow Hood</u>					
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-152							
Total Supply	1	Sidewall		1150	1230	1230	107%
Return	1	Sidewall	30"x14"	-725	-980	-795	110%
Outside	1	Duct		425	250	435	102%
Notes: 30% Min Position for OA Damper							
READINGS BY: <u>Jon Books</u> TEST DATE: <u>8/5/20 to 8/7/20</u>							

Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102				 TESTING/BALANCING Certified AND ADJUSTING		AIR OUTLET TEST REPORT	
PROJECT: Prospect Heights School District				SYSTEM: HP-153			
LOCATION: Class Room 153			TEST APPARATUS: Air Flow Hood				
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-153							
Total Supply	1	Sidewall		1150	1225	1225	107%
Return	1	Sidewall	30"x14"	-725	-975	-795	110%
Outside	1	Duct		425	250	430	101%
Notes: 25% Min Position for OA Damper							
READINGS BY: Jon Books TEST DATE: 8/5/20 to 8/7/20							

Superior Test & Balance, Inc. 1320 Chase St. Ste 5 Algonquin, IL. 60102 Office (847) 458-8877 FAX (847) 458-8811						<h3 style="margin: 0;">AIR OUTLET TEST REPORT</h3>	
PROJECT: <u>Prospect Heights School District</u> SYSTEM: <u>HP-154</u>							
LOCATION: <u>Class Room 154</u> TEST APPARATUS: <u>Air Flow Hood</u>							
AREA SERVED	OUTLET			DESIGN AIRFLOW CFM	INITIAL AIRFLOW CFM	FINAL AIRFLOW CFM	PERCENT OF DESIGN
	NO.	TYPE	SIZE				
HP-154							
Total Supply	1	Sidewall	-	1150	1250	1250	109%
Return	1	Sidewall	30"x14"	-725	-1000	-800	110%
Outside Air	1	Duct	-	425	250	450	106%
Notes: 25% Min Position for OA Damper							
READINGS BY: <u>Jon Books</u> TEST DATE: <u>8/5/20 to 8/7/20</u>							

Superior Test & Balance, Inc. 1320 Chase St. Ste 1 Algonquin, IL. 60102					BALANCE VALVE TEST REPORT		
PROJECT: Prospect Heights School District				SYSTEM: GEO			
LOCATION: Classrooms							
SERVICE OR DESIGNATION	SIZE	MANUFACTURER & MODEL	ACTUAL VALVE SETPOINT (DEGREE)	ACTUAL VALVE P.D.	DESIGN GPM	ACTUAL GPM	% OF DESIGN
HP-100	1.00"	*	80%	7.2'	8.00	8.00	100%
HP-300	1.25"	B&G	0	0.5'	8.00	5.80	73%
HP-101	1.25"	*	80%	11.8'	9.00	9.00	100%
HP-102	1.25"	B&G	0	1.1'	8.00	8.60	108%
HP-103	1.00"	*	100%	7.2'	8.00	8.00	100%
HP-104	1.25"	B&G	20	3.7'	8.00	8.70	109%
HP-105	1.00"	*	100%	9.6	8.00	8.30	104%
HP-106	1.00"	*	100%	7.2'	8.00	8.00	100%
HP-107	1.25"	B&G	38	17.7'	8.00	8.60	108%
HP-108	1.25"	B&G	32	10.0'	8.00	8.60	108%
HP-109	1.25"	B&G	20	8.5'	8.00	8.70	109%
HP-110	1.25"	B&G	20	3.5'	8.00	8.50	106%
HP-111	1.00"	*	100%	8.3'	8.00	8.00	100%
HP-112	1.00"	*	100%	9.0'	8.00	8.30	104%
HP-113	1.00"	*	100%	8.3'	8.00	8.00	100%
Notes: * No access to circuit setter. Used Condenser Coil Bundle Pressure Drop for GPM Readings HP_300 is low on GPM. The unit is at the end of a long run. Refrigerant Operations Check out OK							
READINGS BY _____ Jon Books				TEST DATE _____ 8/5/2020 to 8/7/2020			

Superior Test & Balance, Inc. 1320 Chase St. Ste 1 Algonquin, IL. 60102					BALANCE VALVE TEST REPORT		
PROJECT: Prospect Heights School District				SYSTEM: GEO			
LOCATION: Class Rooms							
SERVICE OR DESIGNATION	SIZE	MANUFACTURER & MODEL	ACTUAL VALVE SETPOINT (DEGREE)	ACTUAL VALVE P.D.	DESIGN GPM	ACTUAL GPM	% OF DESIGN
HP-114	1.00"	*	100%	9.2'	8.00	8.40	105%
HP-115	1.00"	*	100%	8.3'	8.00	8.30	104%
HP-116	1.00"	*	100%	8.2'	8.00	8.20	103%
HP-119	1.00"	*	100%	10.0'	8.00	8.60	108%
HP-121	1.00"	*	100%	9.0'	8.00	8.30	104%
HP-130	1.00"	*	100%	8.3'	8.00	8.00	100%
HP-132	1.00"	*	100%	10.4'	8.00	8.70	109%
HP-134	1.00"	*	100%	8.3'	8.00	8.00	100%
HP-136	1.00"	*	100%	10.0'	8.00	8.50	106%
HP-1368	1.00"	*	100%	8.3'	8.00	8.00	100%
HP-145	1.00"	*	100%	9.9'	8.00	8.50	106%
HP-147	1.00"	*	100%	10.0'	8.00	8.60	108%
HP-148	1.00"	*	100%	10.0'	8.00	8.60	108%
HP-149	1.00"	*	100%	10.4'	8.00	8.70	109%
Notes: * No access to circuit setter. Used Condenser Coil Bundle Pressure Drop for GPM Readings							
READINGS BY _____ Jon Books				TEST DATE _____ 8/5/2020 to 8/7/2020			

Superior Test & Balance, Inc. 1320 Chase St. Ste 1 Office (847) 458-8877 Algonquin, IL. 60102					BALANCE VALVE TEST REPORT		
PROJECT: Prospect Heights School District			SYSTEM: GEO				
LOCATION: Class Rooms							
SERVICE OR DESIGNATION	SIZE	MANUFACTURER & MODEL	ACTUAL VALVE SETPOINT (DEGREE)	ACTUAL VALVE P.D.	DESIGN GPM	ACTUAL GPM	% OF DESIGN
HP-150	1.00"	*	100%	10.0'	8.00	8.50	106%
HP-151	1.00"	*	100%	9.7'	8.00	8.40	105%
HP-152	1.00"	*	100%	9.8	8.00	8.30	104%
HP-153	1.00"	*	100%	10.0'	8.00	8.50	106%
HP-154	1.00"	*	100%	10.2'	8.00	8.60	108%
Notes: * No access to circuit setter. Used Condenser Coil Bundle Pressure Drop for GPM Readings							
READINGS BY _____ Jon Books _____			TEST DATE _____ 8/5/2020 to 8/7/2020 _____				

BAS Trend Reports

Date	Time	ROS_HP108_OccSnr.PresentValue	ROS_HP108_RmTemp.PresentValue	ROS_HP108_RmHum.PresentValue	ROS_HP108_RmHumSp_Sh.PresentValue	ROS_HP108_EffClgSp.PresentValue	ROS_HP108_EffHtgSp.PresentValue	ROS_HP108_DaTemp.PresentValue	ROS_HP108_FanSts.PresentValue	ROS_HP108_CompStg1En.PresentValue	ROS_HP108_CompStg2En.PresentValue	ROS_HP108_DehumEn.PresentValue	ROS_HP108_HotGasRHTemp.PresentValue
9/3/2020	8:24:00 AM	1	71.21	59.81	60	75.62	71.62	61.73	1	0	0	0.33	80.14
9/3/2020	8:18:00 AM	1	71.38	59.79	60	75.62	71.62	62.59	1	0	0	0.33	80.88
9/3/2020	8:12:00 AM	1	72.22	59.52	60	75.62	71.62	62.76	1	0	0	0.17	79.69
9/3/2020	8:06:00 AM	1	72.22	59.59	60	75.62	71.62	63.12	1	0	0	0.17	78.36
9/3/2020	8:00:00 AM	1	72.22	59.58	60	75.62	71.62	63.99	1	0	0	0.17	79.14
9/3/2020	7:54:00 AM	1	72.22	59.46	60	75.62	71.62	66.05	1	0	0	0.33	76.89
9/3/2020	7:48:00 AM	0.33	72.22	59.71	60	75.62	71.62	71.11	0.33	0	0	0	67.05
9/3/2020	7:42:00 AM	0	72.22	59.79	60	75.62	71.62	71.11	0	0	0	0	67.03
9/3/2020	7:36:00 AM	0	72.22	59.85	60	75.62	71.62	71.11	0	0	0	0	67
9/3/2020	7:30:00 AM	0	72.22	59.93	60	75.62	71.62	71.11	0	0	0	0	67.03
9/3/2020	7:24:00 AM	0	72.22	60	60	75.62	71.62	70.04	0	0	0	0	67
9/3/2020	7:18:00 AM	0	72.22	60.09	60	75.62	71.62	70.04	0	0	0	0	67
9/3/2020	7:12:00 AM	0	72.22	60.3	60	75.62	71.62	70.04	0	0	0	0	67.04
9/3/2020	7:06:00 AM	0	72.22	60.38	60	75.62	71.62	70.04	0	0	0	0	67.11
9/3/2020	7:00:00 AM	0	72.22	60.27	60	75.62	71.62	70.04	0.5	0	0	0	67.19
9/3/2020	6:54:00 AM	0	72.22	59.73	60	75.62	71.62	70.04	1	0	0	0	67.2
9/3/2020	6:48:00 AM	0	72.22	59.83	60	75.62	71.62	70.04	1	0	0	0	67.09
9/3/2020	6:42:00 AM	0.83	72.22	59.39	60	75.62	71.62	70.04	1	0	0	0	66.96
9/3/2020	6:36:00 AM	1	72.22	59.4	60	75.62	71.62	70.4	1	0	0	0	66.75
9/3/2020	6:30:00 AM	0.33	72.22	59.09	60	75.62	71.62	71.98	0.33	0	0	0	66.6
9/3/2020	6:24:00 AM	0	72.22	59.04	60	75.62	71.62	72.16	0	0	0	0	66.64
9/3/2020	6:18:00 AM	0	72.53	59.03	60	75.62	71.62	72.23	0	0	0	0	66.65
9/3/2020	6:12:00 AM	0	72.53	59.03	60	75.62	71.62	72.23	0	0	0	0	66.69
9/3/2020	6:06:00 AM	0	72.53	59.02	60	75.62	71.62	72.23	0	0	0	0	66.7
9/3/2020	6:00:00 AM	0	72.53	58.98	60	75.62	71.62	72.23	0	0	0	0	66.7
9/3/2020	5:54:00 AM	0	72.53	58.98	60	75.62	71.62	72.23	0	0	0	0	66.73
9/3/2020	5:48:00 AM	0	72.53	58.98	60	75.62	71.62	72.23	0	0	0	0	66.75
9/3/2020	5:42:00 AM	0	72.53	58.99	60	75.62	71.62	72.23	0	0	0	0	66.79
9/3/2020	5:36:00 AM	0	72.53	58.97	60	75.62	71.62	72.23	0	0	0	0	66.8
9/3/2020	5:30:00 AM	0	72.53	58.97	60	75.62	71.62	72.23	0	0	0	0	66.83
9/3/2020	5:24:00 AM	0	72.53	58.98	60	75.62	71.62	72.23	0	0	0	0	66.87

9/3/2020	5:18:00 AM	0	72.53	58.98	60	75.62	71.62	72.23	0	0	0	0	66.87
9/3/2020	5:12:00 AM	0	72.53	58.97	60	75.62	71.62	72.23	0	0	0	0	66.89
9/3/2020	5:06:00 AM	0	72.53	58.96	60	75.62	71.62	72.23	0	0	0	0	66.92
9/3/2020	5:00:00 AM	0	72.53	58.96	60	75.62	71.62	72.23	0	0	0	0	66.96
9/3/2020	4:54:00 AM	0	72.53	58.94	60	75.62	71.62	72.23	0	0	0	0	66.97
9/3/2020	4:48:00 AM	0	72.53	58.9	60	75.62	71.62	72.23	0	0	0	0	66.99
9/3/2020	4:42:00 AM	0	72.53	58.93	60	75.62	71.62	72.23	0	0	0	0	66.97
9/3/2020	4:36:00 AM	0	72.53	58.95	60	75.62	71.62	72.23	0	0	0	0	66.96
9/3/2020	4:30:00 AM	0	72.53	58.94	60	75.62	71.62	72.23	0	0	0	0	67
9/3/2020	4:24:00 AM	0	72.53	58.93	60	75.62	71.62	72.23	0	0	0	0	66.96
9/3/2020	4:18:00 AM	0	72.53	58.97	60	75.62	71.62	72.23	0	0	0	0	66.97
9/3/2020	4:12:00 AM	0	72.53	59.01	60	75.62	71.62	72.23	0	0	0	0	66.97
9/3/2020	4:06:00 AM	0	72.53	59.02	60	75.62	71.62	72.23	0	0	0	0	66.96
9/3/2020	4:00:00 AM	0	72.53	58.99	60	75.62	71.62	72.23	0	0	0	0	67
9/3/2020	3:54:00 AM	0	72.53	59.04	60	75.62	71.62	72.23	0	0	0	0	66.97
9/3/2020	3:48:00 AM	0	72.53	59.06	60	75.62	71.62	72.23	0	0	0	0	66.99
9/3/2020	3:42:00 AM	0	72.53	59.05	60	75.62	71.62	72.23	0	0	0	0	67.01
9/3/2020	3:36:00 AM	0	72.53	59.02	60	75.62	71.62	72.23	0	0	0	0	67.03
9/3/2020	3:30:00 AM	0	72.53	58.98	60	75.62	71.62	72.23	0	0	0	0	67.01
9/3/2020	3:24:00 AM	0	72.53	58.98	60	75.62	71.62	72.23	0	0	0	0	67.05
9/3/2020	3:18:00 AM	0	72.53	58.99	60	75.62	71.62	72.23	0	0	0	0	67.15
9/3/2020	3:12:00 AM	0	72.53	58.99	60	75.62	71.62	72.23	0	0	0	0	67.12
9/3/2020	3:06:00 AM	0	72.53	58.96	60	75.62	71.62	72.23	0	0	0	0	67.15
9/3/2020	3:00:00 AM	0	72.53	58.96	60	75.62	71.62	72.23	0	0	0	0	67.19
9/3/2020	2:54:00 AM	0	72.53	58.93	60	75.62	71.62	72.23	0	0	0	0	67.24
9/3/2020	2:48:00 AM	0	72.53	58.91	60	75.62	71.62	72.23	0	0	0	0	67.24
9/3/2020	2:42:00 AM	0	72.53	58.87	60	75.62	71.62	72.23	0	0	0	0	67.25
9/3/2020	2:36:00 AM	0	72.53	58.84	60	75.62	71.62	72.23	0	0	0	0	67.35
9/3/2020	2:30:00 AM	0	72.53	58.8	60	75.62	71.62	72.23	0	0	0	0	67.37
9/3/2020	2:24:00 AM	0	72.53	58.78	60	75.62	71.62	72.23	0	0	0	0	67.39
9/3/2020	2:18:00 AM	0	72.53	58.78	60	75.62	71.62	72.23	0	0	0	0	67.45
9/3/2020	2:12:00 AM	0	72.53	58.75	60	75.62	71.62	72.23	0	0	0	0	67.54
9/3/2020	2:06:00 AM	0	72.53	58.72	60	75.62	71.62	72.23	0	0	0	0	67.59
9/3/2020	2:00:00 AM	0	72.53	58.7	60	75.62	71.62	72.23	0	0	0	0	67.59
9/3/2020	1:54:00 AM	0	72.53	58.72	60	75.62	71.62	72.23	0	0	0	0	67.67
9/3/2020	1:48:00 AM	0	72.53	58.75	60	75.62	71.62	72.23	0	0	0	0	67.65
9/3/2020	1:42:00 AM	0	72.53	58.75	60	75.62	71.62	72.23	0	0	0	0	67.67
9/3/2020	1:36:00 AM	0	72.53	58.76	60	75.62	71.62	72.23	0	0	0	0	67.7
9/3/2020	1:30:00 AM	0	72.53	58.78	60	75.62	71.62	72.23	0	0	0	0	67.72
9/3/2020	1:24:00 AM	0	72.53	58.81	60	75.62	71.62	72.23	0	0	0	0	67.7
9/3/2020	1:18:00 AM	0	72.53	58.86	60	75.62	71.62	72.23	0	0	0	0	67.7
9/3/2020	1:12:00 AM	0	72.53	58.94	60	75.62	71.62	72.23	0	0	0	0	67.62
9/3/2020	1:06:00 AM	0	72.53	59.01	60	75.62	71.62	72.23	0	0	0	0	67.61
9/3/2020	1:00:00 AM	0	72.53	59.04	60	75.62	71.62	72.23	0	0	0	0	67.57
9/3/2020	12:54:00 AM	0	72.53	59.02	60	75.62	71.62	72.23	0	0	0	0	67.58
9/3/2020	12:48:00 AM	0	72.53	59.06	60	75.62	71.62	72.23	0	0	0	0	67.58
9/3/2020	12:42:00 AM	0	72.53	59.04	60	75.62	71.62	72.23	0	0	0	0	67.57

9/3/2020 12:36:00 AM	0	72.53	59.07	60	75.62	71.62	72.23	0	0	0	0	67.58
9/3/2020 12:30:00 AM	0	72.53	59.13	60	75.62	71.62	72.23	0	0	0	0	67.63
9/3/2020 12:24:00 AM	0	72.53	59.14	60	75.62	71.62	72.23	0	0	0	0	67.66
9/3/2020 12:18:00 AM	0	72.53	59.08	60	75.62	71.62	72.23	0	0	0	0	67.71
9/3/2020 12:12:00 AM	0	72.53	59.12	60	75.62	71.62	72.23	0	0	0	0	67.72
9/3/2020 12:06:00 AM	0	72.53	59.11	60	75.62	71.62	72.23	0	0	0	0	67.78
9/3/2020 12:00:00 AM	0	72.53	59.1	60	75.62	71.62	72.23	0	0	0	0	67.75
9/2/2020 11:54:00 PM	0	72.53	59	60	75.62	71.62	72.23	0	0	0	0	67.74
9/2/2020 11:48:00 PM	0	72.53	59.1	60	75.62	71.62	72.23	0	0	0	0	67.75
9/2/2020 11:42:00 PM	0	72.53	59.08	60	75.62	71.62	72.23	0	0	0	0	67.79
9/2/2020 11:36:00 PM	0	72.53	59.09	60	75.62	71.62	72.23	0	0	0	0	67.78
9/2/2020 11:30:00 PM	0	72.53	59.08	60	75.62	71.62	72.23	0	0	0	0	67.79
9/2/2020 11:24:00 PM	0	72.53	59.08	60	75.62	71.62	72.23	0	0	0	0	67.81
9/2/2020 11:18:00 PM	0	72.53	59.09	60	75.62	71.62	72.23	0	0	0	0	67.81
9/2/2020 11:12:00 PM	0	72.53	59.11	60	75.62	71.62	72.23	0	0	0	0	67.84
9/2/2020 11:06:00 PM	0	72.53	59.11	60	75.62	71.62	72.23	0	0	0	0	67.79
9/2/2020 11:00:00 PM	0	72.53	59.1	60	75.62	71.62	71.71	0	0	0	0	67.84
9/2/2020 10:54:00 PM	0	72.53	59.07	60	75.62	71.62	71.18	0	0	0	0	67.89
9/2/2020 10:48:00 PM	0	72.53	59.05	60	75.62	71.62	71.18	0	0	0	0	67.94
9/2/2020 10:42:00 PM	0	72.53	59	60	75.62	71.62	71.18	0	0	0	0	68.01
9/2/2020 10:36:00 PM	0	72.53	58.87	60	75.62	71.62	71.18	0	0	0	0	67.96
9/2/2020 10:30:00 PM	0	72.53	58.86	60	75.62	71.62	71.18	0	0	0	0	67.92
9/2/2020 10:24:00 PM	0	72.53	58.85	60	75.62	71.62	71.18	0	0	0	0	67.88
9/2/2020 10:18:00 PM	0	72.53	58.85	60	75.62	71.62	71.18	0	0	0	0	67.93
9/2/2020 10:12:00 PM	0	72.53	58.85	60	75.62	71.62	71.18	0	0	0	0	67.98
9/2/2020 10:06:00 PM	0	72.53	58.89	60	75.62	71.62	71.18	0	0	0	0	67.99
9/2/2020 10:00:00 PM	0	72.53	58.9	60	75.62	71.62	71.18	0	0	0	0	68.07
9/2/2020 9:54:00 PM	0	72.53	58.82	60	75.62	71.62	71.18	0	0	0	0	68.13
9/2/2020 9:48:00 PM	0	72.53	58.81	60	75.62	71.62	71.18	0	0	0	0	68.16
9/2/2020 9:42:00 PM	0	72.53	58.86	60	75.62	71.62	71.18	0	0	0	0	68.09
9/2/2020 9:36:00 PM	0	72.53	58.93	60	75.62	71.62	71.18	0	0	0	0	67.93
9/2/2020 9:30:00 PM	0	72.53	58.94	60	75.62	71.62	71.18	0	0	0	0	67.84
9/2/2020 9:24:00 PM	0	72.53	58.94	60	75.62	71.62	71.18	0	0	0	0	67.87
9/2/2020 9:18:00 PM	0	72.53	58.93	60	75.62	71.62	71.18	0	0	0	0	67.84
9/2/2020 9:12:00 PM	0	71.8	58.93	60	75.62	71.62	70.2	0	0	0	0	67.87
9/2/2020 9:06:00 PM	0	71.8	58.94	60	75.62	71.62	70.2	0	0	0	0	67.89
9/2/2020 9:00:00 PM	0	71.8	58.93	60	75.62	71.62	70.2	0	0	0	0	67.96
9/2/2020 8:54:00 PM	0	71.8	58.92	60	75.62	71.62	70.2	0	0	0	0	67.99
9/2/2020 8:48:00 PM	0	71.8	58.85	60	75.62	71.62	70.2	0	0	0	0	67.9
9/2/2020 8:42:00 PM	0	71.8	58.81	60	75.62	71.62	70.2	0	0	0	0	67.83
9/2/2020 8:36:00 PM	0	71.8	58.79	60	75.62	71.62	70.02	0	0	0	0	67.83
9/2/2020 8:30:00 PM	0	71.8	58.75	60	75.62	71.62	69.12	0	0	0	0	67.81
9/2/2020 8:24:00 PM	0	71.8	58.71	60	75.62	71.62	69.12	0	0	0	0	67.76
9/2/2020 8:18:00 PM	0	71.8	58.69	60	75.62	71.62	69.12	0	0	0	0	67.8
9/2/2020 8:12:00 PM	0	71.8	58.7	60	75.62	71.62	69.12	0	0	0	0	67.87
9/2/2020 8:06:00 PM	0	71.8	58.71	60	75.62	71.62	68.27	0	0	0	0	67.98
9/2/2020 8:00:00 PM	0	71.8	58.71	60	75.62	71.62	68.1	0	0	0	0	68.17

9/2/2020	7:54:00 PM	0	71.8	58.75	60	75.62	71.62	67.93	0	0	0	0	68.47
9/2/2020	7:48:00 PM	0	71.8	58.82	60	75.62	71.62	67.08	0	0	0	0	68.97
9/2/2020	7:42:00 PM	0	71.8	59.01	60	75.62	71.62	66.55	0	0	0	0	69.79
9/2/2020	7:36:00 PM	0	71.8	59.2	60	75.62	71.62	65.67	0	0	0	0	71.13
9/2/2020	7:30:00 PM	0	71.8	59.19	60	75.62	71.62	64.62	0	0	0	0	73.48
9/2/2020	7:24:00 PM	0	71.8	58.8	60	75.62	71.62	63.11	0	0	0	0	77.95
9/2/2020	7:18:00 PM	0	71.8	59.84	60	75.62	71.62	63.11	0.83	0	0	0.17	81.22
9/2/2020	7:12:00 PM	0	71.8	59.71	60	75.62	71.62	64.99	1	0	0	0.33	80.75
9/2/2020	7:06:00 PM	0.33	71.8	60.36	60	75.62	71.62	71.58	1	0.5	0	0.5	81.47
9/2/2020	7:00:00 PM	1	71.8	59.79	60	75.62	71.62	63.19	1	0	0	0.17	81.12
9/2/2020	6:54:00 PM	1	71.8	60.04	60	75.62	71.62	66.49	1	0	0	0.33	81.97
9/2/2020	6:48:00 PM	1	71.8	60.02	60	75.62	71.62	71.05	1	0.67	0	0.33	79.27
9/2/2020	6:42:00 PM	1	71.8	59.83	60	75.62	71.62	64.08	1	0	0	0.5	82.39
9/2/2020	6:36:00 PM	1	71.8	59.91	60	75.62	71.62	66.73	1	0	0	0.33	80.29
9/2/2020	6:30:00 PM	1	71.8	60.16	60	75.62	71.62	69.36	1	0.67	0	0.33	81.79
9/2/2020	6:24:00 PM	1	71.8	59.92	60	75.62	71.62	63.02	1	0	0	0.33	81.55
9/2/2020	6:18:00 PM	1	71.8	59.71	60	75.62	71.62	64.25	1	0	0	0.33	80.55
9/2/2020	6:12:00 PM	1	71.8	61.07	60	75.62	71.62	70.56	1	0.67	0	0.5	83.03
9/2/2020	6:06:00 PM	1	71.8	59.96	60	75.62	71.62	62.42	1	0	0	0.33	85.58
9/2/2020	6:00:00 PM	1	71.8	59.84	60	75.62	71.62	63.28	1	0	0	0.33	86.03
9/2/2020	5:54:00 PM	1	71.8	60.23	60	75.62	71.62	64.17	1	0	0	0.33	83.48
9/2/2020	5:48:00 PM	1	71.8	61.83	60	75.62	71.62	71.45	1	0.5	0	0.67	82.25
9/2/2020	5:42:00 PM	1	71.8	59.94	60	75.62	71.62	63.02	1	0	0	0.5	85.5
9/2/2020	5:36:00 PM	1	71.8	59.9	60	75.62	71.62	63.02	1	0	0	0.33	84.49
9/2/2020	5:30:00 PM	1	71.8	60.02	60	75.62	71.62	63.36	1	0	0	0.33	84.28
9/2/2020	5:24:00 PM	1	71.8	61.72	60	75.62	71.62	71.06	1	0.33	0	0.83	83.74
9/2/2020	5:18:00 PM	1	71.8	60.19	60	75.62	71.62	62.94	1	0.33	0	0.33	84.65
9/2/2020	5:12:00 PM	1	71.8	59.97	60	75.62	71.62	62.94	1	0	0	0.33	86.33
9/2/2020	5:06:00 PM	1	71.8	59.9	60	75.62	71.62	62.94	1	0	0	0.33	85.13
9/2/2020	5:00:00 PM	1	71.8	59.98	60	75.62	71.62	62.94	1	0	0	0.33	85.38
9/2/2020	4:54:00 PM	1	71.8	59.71	60	75.62	71.62	62.94	1	0	0	0.33	86.03
9/2/2020	4:48:00 PM	1	72.64	59.73	60	75.62	71.62	62.94	1	0	0	0.33	85.25
9/2/2020	4:42:00 PM	1	72.81	60.18	60	75.62	71.62	63.11	1	0	0	0.33	87.86
9/2/2020	4:36:00 PM	1	72.81	60.11	60	75.62	71.62	63.96	1	0	0	0.5	86.9
9/2/2020	4:30:00 PM	1	72.81	60.4	60	75.62	71.62	63.96	1	0	0	0.33	86.49
9/2/2020	4:24:00 PM	1	72.81	60.45	60	75.62	71.62	64.81	1	0	0	0.33	84.65
9/2/2020	4:18:00 PM	1	71.8	62.52	60	75.62	71.62	70.14	1	0.5	0	0.67	83.88
9/2/2020	4:12:00 PM	1	71.8	62.71	60	75.62	71.62	69.69	1	0.17	0	0.83	87.66
9/2/2020	4:06:00 PM	1	71.8	61.18	60	75.62	71.62	66.56	1	0.33	0	0.5	87.47
9/2/2020	4:00:00 PM	1	71.8	61.31	60	75.62	71.62	68.53	1	0.67	0	0.33	83.02
9/2/2020	3:54:00 PM	1	71.8	63.04	60	75.62	71.62	69.41	1	0.33	0	0.83	86.18
9/2/2020	3:48:00 PM	1	71.8	62.28	60	75.62	71.62	68.2	1	0.17	0	0.67	88.05
9/2/2020	3:42:00 PM	1	71.8	60.69	60	75.62	71.62	65.96	1	0.67	0	0.33	85.54
9/2/2020	3:36:00 PM	1	71.8	63.26	60	75.62	71.62	68.38	1	0.5	0	0.67	86.3
9/2/2020	3:30:00 PM	1	71.8	63.08	60	75.62	71.62	68.03	1	0	0	0.83	88.25
9/2/2020	3:24:00 PM	1	71.8	60.6	60	75.62	71.62	65.24	1	0.5	0	0.5	87.37
9/2/2020	3:18:00 PM	1	71.8	63.07	60	75.62	71.62	67.37	1	0.5	0	0.5	85.32

9/2/2020	3:12:00 PM	1	71.8	64.04	60	75.62	71.62	68.04	1	0.17	0	0.83	87.79
9/2/2020	3:06:00 PM	1	71.8	61.35	60	75.62	71.62	65.05	1	0.33	0	0.5	87.19
9/2/2020	3:00:00 PM	1	71.8	62.32	60	75.62	71.62	67.07	1	0.5	0	0.5	85.44
9/2/2020	2:54:00 PM	1	71.8	64.08	60	75.62	71.62	67.5	1	0.17	0	1	86.4
9/2/2020	2:48:00 PM	1	71.8	60.76	60	75.62	71.62	65.32	1	0.33	0	0.5	86.03
9/2/2020	2:42:00 PM	1	71.8	65.14	60	75.62	71.62	73.96	1	0.67	0.33	0.67	83.38
9/2/2020	2:36:00 PM	1	71.8	62.57	60	75.62	71.62	65.69	1	0.17	0	0.67	89.68
9/2/2020	2:30:00 PM	1	71.8	61.21	60	75.62	71.62	65.14	1	0.5	0	0.5	82.87
9/2/2020	2:24:00 PM	1	71.8	64.56	60	75.62	71.62	67.59	1	0.5	0	0.83	84.34
9/2/2020	2:18:00 PM	1	71.8	61.79	60	75.62	71.62	67.15	1	0.17	0	0.67	88.61
9/2/2020	2:12:00 PM	1	71.8	63.82	60	75.62	71.62	71.79	1	0.83	0.5	0.5	83.89
9/2/2020	2:06:00 PM	1	71.8	64.6	60	75.62	71.62	67.15	1	0	0	0.83	88.76
9/2/2020	2:00:00 PM	1	71.8	60.31	60	75.62	71.62	65.29	1	0.5	0	0.5	85.37
9/2/2020	1:54:00 PM	1	71.8	66.36	60	75.62	71.62	73.74	1	0.5	0.33	0.83	84.47
9/2/2020	1:48:00 PM	1	71.8	61.49	60	75.62	71.62	64.87	1	0.17	0	0.5	90.21
9/2/2020	1:42:00 PM	1	71.8	62.5	60	75.62	71.62	66.42	1	0.5	0	0.5	83.66
9/2/2020	1:36:00 PM	1	71.8	65.52	60	75.62	71.62	67.56	1	0.17	0	1	86.31
9/2/2020	1:30:00 PM	1	71.8	60.3	60	75.62	71.62	65.07	1	0.33	0	0.5	87.25
9/2/2020	1:24:00 PM	1	71.8	66.38	60	75.62	71.62	74.18	1	0.5	0.33	0.83	83
9/2/2020	1:18:00 PM	1	71.8	61.57	60	75.62	71.62	65.49	1	0.17	0	0.67	89.86
9/2/2020	1:12:00 PM	1	71.8	62.26	60	75.62	71.62	65.82	1	0.5	0	0.5	85.38
9/2/2020	1:06:00 PM	1	71.8	65.52	60	75.62	71.62	73.29	1	0.17	0	1	85
9/2/2020	1:00:00 PM	1	71.8	61.36	60	75.62	71.62	64.74	1	0.5	0.33	0.5	86.94
9/2/2020	12:54:00 PM	1	71.8	64.57	60	75.62	71.62	66.59	1	0.5	0	0.67	85.28
9/2/2020	12:48:00 PM	1	71.8	62.3	60	75.62	71.62	65.71	1	0	0	0.83	88.26
9/2/2020	12:42:00 PM	1	71.8	61.54	60	75.62	71.62	65.92	1	0.5	0	0.33	82.84
9/2/2020	12:36:00 PM	1	71.8	66.91	60	75.62	71.62	74.57	1	0.33	0.17	1	83.14
9/2/2020	12:30:00 PM	1	71.8	60.1	60	75.62	71.62	64.08	1	0.33	0.17	0.5	85.92
9/2/2020	12:24:00 PM	1	71.8	66.63	60	75.62	71.62	73.68	1	0.5	0.33	0.83	84.39
9/2/2020	12:18:00 PM	1	71.8	60.84	60	75.62	71.62	63.96	1	0.17	0	0.67	88.91
9/2/2020	12:12:00 PM	1	71.8	63.55	60	75.62	71.62	65.96	1	0.67	0	0.33	81.71
9/2/2020	12:06:00 PM	1	71.99	65.37	60	75.62	71.62	73.18	1	0.17	0	1	82.85
9/2/2020	12:00:00 PM	1	71.99	61.06	60	75.62	71.62	65.32	1	0.5	0.33	0.5	83.21
9/2/2020	11:54:00 AM	1	71.99	66.65	60	75.62	71.62	73.51	1	0.33	0.17	1	84.07
9/2/2020	11:48:00 AM	1	71.99	61.3	60	75.62	71.62	63.95	1	0.33	0.17	0.5	88.4
9/2/2020	11:42:00 AM	1	71.99	62.83	60	75.62	71.62	66.13	1	0.67	0	0.33	84.27
9/2/2020	11:36:00 AM	1	71.47	65.08	60	75.62	71.62	72.72	1	0.17	0	1	86.83
9/2/2020	11:30:00 AM	1	70.95	61.77	60	75.62	71.62	65.31	1	0.67	0.33	0.33	83.12
9/2/2020	11:24:00 AM	1	70.95	66.64	60	75.62	71.62	72.27	1	0.33	0.17	1	83.37
9/2/2020	11:18:00 AM	1	70.95	60.43	60	75.62	71.62	64.21	1	0.33	0.17	0.5	87.22
9/2/2020	11:12:00 AM	0.17	70.95	66.69	60	75.62	71.62	72.73	1	0.5	0.17	0.83	80.39
9/2/2020	11:06:00 AM	1	70.95	61.84	60	75.62	71.62	66.54	1	0.17	0	0.67	86.03
9/2/2020	11:00:00 AM	1	70.95	64.79	60	75.62	71.62	70.55	1	0.67	0.33	0.5	79.12
9/2/2020	10:54:00 AM	1	70.95	63.31	60	75.62	71.62	68.49	1	0	0	0.83	86.92
9/2/2020	10:48:00 AM	1	70.95	62.99	60	75.62	71.62	67.62	1	0.83	0.33	0.33	80.2
9/2/2020	10:42:00 AM	1	70.95	66.25	60	75.62	71.62	72.5	1	0.17	0	1	83.64
9/2/2020	10:36:00 AM	1	70.95	61.34	60	75.62	71.62	64.71	1	0.5	0.33	0.5	83.55

9/2/2020	10:30:00 AM	1	70.95	66.9	60	75.62	71.62	72.94	1	0.33	0.17	1	82.79
9/2/2020	10:24:00 AM	1	70.95	60.74	60	75.62	71.62	64.57	1	0.33	0.17	0.5	86.88
9/2/2020	10:18:00 AM	1	70.95	67.21	60	75.62	71.62	73.27	1	0.5	0.33	0.83	80.72
9/2/2020	10:12:00 AM	1	70.95	61.92	60	75.62	71.62	66.3	1	0.17	0	0.67	86.18
9/2/2020	10:06:00 AM	1	70.95	64.88	60	75.62	71.62	70.46	1	0.67	0.33	0.5	80.06
9/2/2020	10:00:00 AM	1	70.95	63.92	60	75.62	71.62	69.76	1	0	0	0.83	84.65
9/2/2020	9:54:00 AM	1	70.95	62.85	60	75.62	71.62	67.23	1	0.67	0.33	0.5	80.38
9/2/2020	9:48:00 AM	1	70.95	66.38	60	75.62	71.62	72.09	1	0.17	0	1	83.64
9/2/2020	9:42:00 AM	1	70.95	61.06	60	75.62	71.62	64.28	1	0.5	0.33	0.5	83.74
9/2/2020	9:36:00 AM	1	70.95	67.21	60	75.62	71.62	72.7	1	0.33	0.17	1	81.59
9/2/2020	9:30:00 AM	1	70.95	60.13	60	75.62	71.62	63.93	1	0.33	0.17	0.33	84.32
9/2/2020	9:24:00 AM	1	70.95	67.37	60	75.62	71.62	72.12	1	0.5	0.33	0.83	80.58
9/2/2020	9:18:00 AM	1	70.95	61.52	60	75.62	71.62	65.25	1	0.17	0	0.67	85.7
9/2/2020	9:12:00 AM	1	70.95	65.64	60	75.62	71.62	70.36	1	0.83	0.5	0.67	78.97
9/2/2020	9:06:00 AM	1	70.95	63.27	60	75.62	71.62	67.82	1	0	0	0.83	85.82
9/2/2020	9:00:00 AM	1	70.95	63.49	60	75.62	71.62	68.42	1	0.83	0.5	0.5	79.67
9/2/2020	8:54:00 AM	1	70.95	65.29	60	75.62	71.62	71.24	1	0.17	0	1	85.13
9/2/2020	8:48:00 AM	1	70.95	62.04	60	75.62	71.62	64.08	1	0.67	0.5	0.33	82.63
9/2/2020	8:42:00 AM	1	70.95	66.46	60	75.62	71.62	72.29	1	0.17	0	1	82.82
9/2/2020	8:36:00 AM	1	70.95	60.8	60	75.62	71.62	63.69	1	0.5	0.33	0.5	84.01
9/2/2020	8:30:00 AM	1	70.95	67.46	60	75.62	71.62	71.28	1	0.33	0.17	1	82.86
9/2/2020	8:24:00 AM	1	70.95	60.59	60	75.62	71.62	61.81	1	0.33	0	0.5	88.5
9/2/2020	8:18:00 AM	1	70.95	63.96	60	75.62	71.62	64.83	1	0.5	0	0.5	84.19
9/2/2020	8:12:00 AM	1	70.95	64.29	60	75.62	71.62	63.98	1	0	0	0.83	85.97
9/2/2020	8:06:00 AM	1	70.95	60.77	60	75.62	71.62	62.19	1	0.5	0	0.5	86.9
9/2/2020	8:00:00 AM	1	70.95	64.65	60	75.62	71.62	64.12	1	0.33	0	0.67	82.41
9/2/2020	7:54:00 AM	1	70.95	60.25	60	75.62	71.62	60.93	1	0	0	0.5	82.98
9/2/2020	7:48:00 AM	1	70.95	60.65	60	75.62	71.62	62.67	0.83	0	0	0.33	76.35
9/2/2020	7:42:00 AM	0	70.95	60.58	60	75.62	71.62	63.02	0	0	0	0	73.15
9/2/2020	7:36:00 AM	0	70.95	60.13	60	75.62	71.62	61.99	0	0	0	0	79.72
9/2/2020	7:30:00 AM	0	70.95	67.58	60	75.62	71.62	70.47	1	0.33	0.17	1	82.58
9/2/2020	7:24:00 AM	0	70.95	60.84	60	75.62	71.62	62.29	1	0.5	0.33	0.33	87.13
9/2/2020	7:18:00 AM	0.17	70.95	64.61	60	75.62	71.62	64.11	1	0.5	0	0.67	79.28
9/2/2020	7:12:00 AM	1	70.95	63.59	60	75.62	71.62	63.29	1	0	0	0.83	86.58
9/2/2020	7:06:00 AM	1	70.95	60.95	60	75.62	71.62	63.01	1	0.5	0	0.5	86.29
9/2/2020	7:00:00 AM	1	70.95	65.01	60	75.62	71.62	65.14	1	0.5	0	0.67	80.41
9/2/2020	6:54:00 AM	1	70.95	60.08	60	75.62	71.62	61.11	1	0.17	0	0.33	85.55
9/2/2020	6:48:00 AM	1	70.95	60.39	60	75.62	71.62	61.11	1	0	0	0.5	84.32
9/2/2020	6:42:00 AM	1	71.47	59.73	60	75.62	71.62	61.11	1	0	0	0.33	80.76
9/2/2020	6:36:00 AM	1	71.99	60.14	60	75.62	71.62	62.34	1	0	0	0.17	79.06
9/2/2020	6:30:00 AM	0.67	71.99	60.43	60	75.62	71.62	68.91	0.67	0	0	0.33	69.31
9/2/2020	6:24:00 AM	0	71.99	59.73	60	75.62	71.62	71.55	0	0	0	0	66.84
9/2/2020	6:18:00 AM	0	71.99	59.68	60	75.62	71.62	71.55	0	0	0	0	66.87
9/2/2020	6:12:00 AM	0	71.99	59.73	60	75.62	71.62	71.55	0	0	0	0	66.85
9/2/2020	6:06:00 AM	0	71.99	59.73	60	75.62	71.62	71.55	0	0	0	0	66.87
9/2/2020	6:00:00 AM	0	71.99	59.65	60	75.62	71.62	71.55	0	0	0	0	66.84
9/2/2020	5:54:00 AM	0	71.99	59.81	60	75.62	71.62	71.55	0	0	0	0	66.85

9/2/2020	5:48:00 AM	0	71.99	59.75	60	75.62	71.62	71.55	0	0	0	0	66.91
9/2/2020	5:42:00 AM	0	71.99	59.84	60	75.62	71.62	71.55	0	0	0	0	66.95
9/2/2020	5:36:00 AM	0	71.99	59.69	60	75.62	71.62	71.55	0	0	0	0	66.95
9/2/2020	5:30:00 AM	0	71.99	59.71	60	75.62	71.62	71.55	0	0	0	0	66.99
9/2/2020	5:24:00 AM	0	71.99	59.82	60	75.62	71.62	71.55	0	0	0	0	67
9/2/2020	5:18:00 AM	0	71.99	59.78	60	75.62	71.62	71.55	0	0	0	0	67.01
9/2/2020	5:12:00 AM	0	71.99	59.84	60	75.62	71.62	71.55	0	0	0	0	67.07
9/2/2020	5:06:00 AM	0	71.99	59.81	60	75.62	71.62	71.55	0	0	0	0	67.07
9/2/2020	5:00:00 AM	0	71.99	59.78	60	75.62	71.62	71.55	0	0	0	0	67.05
9/2/2020	4:54:00 AM	0	71.99	59.85	60	75.62	71.62	71.55	0	0	0	0	67.09
9/2/2020	4:48:00 AM	0	71.99	59.81	60	75.62	71.62	71.55	0	0	0	0	67.07
9/2/2020	4:42:00 AM	0	71.99	59.88	60	75.62	71.62	71.55	0	0	0	0	67.11
9/2/2020	4:36:00 AM	0	71.99	59.95	60	75.62	71.62	71.55	0	0	0	0	67.15
9/2/2020	4:30:00 AM	0	71.99	59.87	60	75.62	71.62	71.55	0	0	0	0	67.12
9/2/2020	4:24:00 AM	0	71.99	59.85	60	75.62	71.62	71.55	0	0	0	0	67
9/2/2020	4:18:00 AM	0	71.99	59.83	60	75.62	71.62	71.55	0	0	0	0	66.97
9/2/2020	4:12:00 AM	0	71.99	59.91	60	75.62	71.62	71.55	0	0	0	0	66.97
9/2/2020	4:06:00 AM	0	71.99	59.86	60	75.62	71.62	71.55	0	0	0	0	66.97
9/2/2020	4:00:00 AM	0	71.99	59.98	60	75.62	71.62	71.55	0	0	0	0	66.97
9/2/2020	3:54:00 AM	0	71.99	59.82	60	75.62	71.62	71.55	0	0	0	0	67
9/2/2020	3:48:00 AM	0	71.99	59.91	60	75.62	71.62	71.55	0	0	0	0	67
9/2/2020	3:42:00 AM	0	71.99	59.93	60	75.62	71.62	71.55	0	0	0	0	67.03
9/2/2020	3:36:00 AM	0	71.99	59.83	60	75.62	71.62	71.55	0	0	0	0	67.08
9/2/2020	3:30:00 AM	0	71.99	59.96	60	75.62	71.62	71.55	0	0	0	0	67.09
9/2/2020	3:24:00 AM	0	71.99	59.79	60	75.62	71.62	71.55	0	0	0	0	67.13
9/2/2020	3:18:00 AM	0	71.99	59.96	60	75.62	71.62	71.55	0	0	0	0	67.16
9/2/2020	3:12:00 AM	0	71.99	59.89	60	75.62	71.62	71.55	0	0	0	0	67.19
9/2/2020	3:06:00 AM	0	71.99	59.9	60	75.62	71.62	71.55	0	0	0	0	67.21
9/2/2020	3:00:00 AM	0	71.8	59.94	60	75.62	71.62	71.55	0	0	0	0	67.25
9/2/2020	2:54:00 AM	0	71.8	59.9	60	75.62	71.62	71.55	0	0	0	0	67.29
9/2/2020	2:48:00 AM	0	71.8	59.95	60	75.62	71.62	71.55	0	0	0	0	67.36
9/2/2020	2:42:00 AM	0	71.8	60.07	60	75.62	71.62	71.55	0	0	0	0	67.33
9/2/2020	2:36:00 AM	0	71.8	60.02	60	75.62	71.62	71.55	0	0	0	0	67.32
9/2/2020	2:30:00 AM	0	71.8	60.01	60	75.62	71.62	71.55	0	0	0	0	67.32
9/2/2020	2:24:00 AM	0	71.8	60.01	60	75.62	71.62	71.55	0	0	0	0	67.29
9/2/2020	2:18:00 AM	0	71.8	60.05	60	75.62	71.62	71.55	0	0	0	0	67.29
9/2/2020	2:12:00 AM	0	71.8	60.05	60	75.62	71.62	71.55	0	0	0	0	67.28
9/2/2020	2:06:00 AM	0	71.8	60.07	60	75.62	71.62	71.55	0	0	0	0	67.21
9/2/2020	2:00:00 AM	0	71.8	60.13	60	75.62	71.62	71.55	0	0	0	0	67.27
9/2/2020	1:54:00 AM	0	71.8	60.11	60	75.62	71.62	71.55	0	0	0	0	67.24
9/2/2020	1:48:00 AM	0	71.8	60.08	60	75.62	71.62	71.55	0	0	0	0	67.24
9/2/2020	1:42:00 AM	0	71.8	60.07	60	75.62	71.62	71.55	0	0	0	0	67.27
9/2/2020	1:36:00 AM	0	71.8	60.19	60	75.62	71.62	71.55	0	0	0	0	67.27
9/2/2020	1:30:00 AM	0	71.8	60.21	60	75.62	71.62	71.55	0	0	0	0	67.28
9/2/2020	1:24:00 AM	0	71.8	60.21	60	75.62	71.62	71.55	0	0	0	0	67.33
9/2/2020	1:18:00 AM	0	71.8	60.28	60	75.62	71.62	71.55	0	0	0	0	67.32
9/2/2020	1:12:00 AM	0	71.8	60.23	60	75.62	71.62	71.55	0	0	0	0	67.36

9/2/2020	1:06:00 AM	0	71.8	60.2	60	75.62	71.62	71.55	0	0	0	0	67.37
9/2/2020	1:00:00 AM	0	71.8	60.27	60	75.62	71.62	71.55	0	0	0	0	67.4
9/2/2020	12:54:00 AM	0	71.8	60.3	60	75.62	71.62	71.55	0	0	0	0	67.39
9/2/2020	12:48:00 AM	0	71.8	60.37	60	75.62	71.62	71.55	0	0	0	0	67.37
9/2/2020	12:42:00 AM	0	71.8	60.37	60	75.62	71.62	71.55	0	0	0	0	67.36
9/2/2020	12:36:00 AM	0	71.8	60.35	60	75.62	71.62	71.55	0	0	0	0	67.35
9/2/2020	12:30:00 AM	0	71.8	60.25	60	75.62	71.62	71.55	0	0	0	0	67.4
9/2/2020	12:24:00 AM	0	71.8	60.37	60	75.62	71.62	71.55	0	0	0	0	67.36
9/2/2020	12:18:00 AM	0	71.8	60.31	60	75.62	71.62	71.38	0	0	0	0	67.35
9/2/2020	12:12:00 AM	0	71.8	60.45	60	75.62	71.62	70.51	0	0	0	0	67.36
9/2/2020	12:06:00 AM	0	71.8	60.42	60	75.62	71.62	70.51	0	0	0	0	67.36
9/2/2020	12:00:00 AM	0	71.8	60.41	60	75.62	71.62	70.51	0	0	0	0	67.39
9/1/2020	11:54:00 PM	0	71.8	60.53	60	75.62	71.62	70.51	0	0	0	0	67.39
9/1/2020	11:48:00 PM	0	71.8	60.4	60	75.62	71.62	70.51	0	0	0	0	67.41
9/1/2020	11:42:00 PM	0	71.8	60.56	60	75.62	71.62	70.51	0	0	0	0	67.4
9/1/2020	11:36:00 PM	0	71.8	60.49	60	75.62	71.62	70.51	0	0	0	0	67.41
9/1/2020	11:30:00 PM	0	71.8	60.52	60	75.62	71.62	70.51	0	0	0	0	67.44
9/1/2020	11:24:00 PM	0	71.8	60.61	60	75.62	71.62	70.51	0	0	0	0	67.45
9/1/2020	11:18:00 PM	0	71.8	60.53	60	75.62	71.62	70.51	0	0	0	0	67.49
9/1/2020	11:12:00 PM	0	71.8	60.65	60	75.62	71.62	70.51	0	0	0	0	67.46
9/1/2020	11:06:00 PM	0	71.8	60.56	60	75.62	71.62	70.51	0	0	0	0	67.56
9/1/2020	11:00:00 PM	0	71.8	60.68	60	75.62	71.62	70.51	0	0	0	0	67.56
9/1/2020	10:54:00 PM	0	71.8	60.68	60	75.62	71.62	70.51	0	0	0	0	67.65
9/1/2020	10:48:00 PM	0	71.8	60.71	60	75.62	71.62	70.51	0	0	0	0	67.66
9/1/2020	10:42:00 PM	0	71.8	60.9	60	75.62	71.62	70.51	0	0	0	0	67.81
9/1/2020	10:36:00 PM	0	71.8	60.84	60	75.62	71.62	70.51	0	0	0	0	67.87
9/1/2020	10:30:00 PM	0	71.8	60.68	60	75.62	71.62	70.51	0	0	0	0	67.79
9/1/2020	10:24:00 PM	0	71.8	60.66	60	75.62	71.62	70.51	0	0	0	0	67.66
9/1/2020	10:18:00 PM	0	71.8	60.65	60	75.62	71.62	70.51	0	0	0	0	67.5
9/1/2020	10:12:00 PM	0	71.8	60.64	60	75.62	71.62	70.51	0	0	0	0	67.41
9/1/2020	10:06:00 PM	0	71.8	60.61	60	75.62	71.62	70.51	0	0	0	0	67.37
9/1/2020	10:00:00 PM	0	71.8	60.74	60	75.62	71.62	70.51	0	0	0	0	67.37
9/1/2020	9:54:00 PM	0	71.8	60.63	60	75.62	71.62	70.51	0	0	0	0	67.32
9/1/2020	9:48:00 PM	0	71.8	60.72	60	75.62	71.62	70.51	0	0	0	0	67.35
9/1/2020	9:42:00 PM	0	71.8	60.67	60	75.62	71.62	70.51	0	0	0	0	67.29
9/1/2020	9:36:00 PM	0	71.8	60.73	60	75.62	71.62	70.51	0	0	0	0	67.29
9/1/2020	9:30:00 PM	0	71.8	60.76	60	75.62	71.62	70.51	0	0	0	0	67.31
9/1/2020	9:24:00 PM	0	71.8	60.68	60	75.62	71.62	70.51	0	0	0	0	67.29
9/1/2020	9:18:00 PM	0	71.8	60.83	60	75.62	71.62	70.51	0	0	0	0	67.29
9/1/2020	9:12:00 PM	0	71.8	60.82	60	75.62	71.62	70.51	0	0	0	0	67.28
9/1/2020	9:06:00 PM	0	71.8	60.86	60	75.62	71.62	70.51	0	0	0	0	67.31
9/1/2020	9:00:00 PM	0	71.8	60.86	60	75.62	71.62	70.51	0	0	0	0	67.32
9/1/2020	8:54:00 PM	0	71.8	60.87	60	75.62	71.62	70.51	0	0	0	0	67.35
9/1/2020	8:48:00 PM	0	71.8	60.94	60	75.62	71.62	70.51	0	0	0	0	67.35
9/1/2020	8:42:00 PM	0	71.8	60.9	60	75.62	71.62	70.51	0	0	0	0	67.32
9/1/2020	8:36:00 PM	0	71.8	61.01	60	75.62	71.62	70.51	0	0	0	0	67.29
9/1/2020	8:30:00 PM	0	71.8	60.96	60	75.62	71.62	70.51	0	0	0	0	67.29

9/1/2020	8:24:00 PM	0	71.8	61.12	60	75.62	71.62	69.43	0	0	0	0	67.29
9/1/2020	8:18:00 PM	0	71.8	61.07	60	75.62	71.62	69.43	0	0	0	0	67.31
9/1/2020	8:12:00 PM	0	71.8	60.93	60	75.62	71.62	69.43	0	0	0	0	67.27
9/1/2020	8:06:00 PM	0	71.8	60.8	60	75.62	71.62	69.43	0	0	0	0	67.24
9/1/2020	8:00:00 PM	0	71.8	60.81	60	75.62	71.62	69.43	0	0	0	0	67.19
9/1/2020	7:54:00 PM	0	71.8	60.89	60	75.62	71.62	69.43	0	0	0	0	67.17
9/1/2020	7:48:00 PM	0	71.8	60.94	60	75.62	71.62	69.43	0	0	0	0	67.24
9/1/2020	7:42:00 PM	0	71.8	61	60	75.62	71.62	68.76	0	0	0	0	67.35
9/1/2020	7:36:00 PM	0	71.8	61.06	60	75.62	71.62	68.42	0	0	0	0	67.48
9/1/2020	7:30:00 PM	0	71.8	61.15	60	75.62	71.62	68.42	0	0	0	0	67.63
9/1/2020	7:24:00 PM	0	71.8	61.19	60	75.62	71.62	68.42	0	0	0	0	67.91
9/1/2020	7:18:00 PM	0	71.8	61.15	60	75.62	71.62	67.39	0	0	0	0	68.33
9/1/2020	7:12:00 PM	0	71.8	61.12	60	75.62	71.62	67.39	0	0	0	0	68.98
9/1/2020	7:06:00 PM	0	71.8	61.19	60	75.62	71.62	66.52	0	0	0	0	69.99
9/1/2020	7:00:00 PM	0	71.8	61.25	60	75.62	71.62	65.82	0	0	0	0	71.66
9/1/2020	6:54:00 PM	0	71.8	61.24	60	75.62	71.62	64.79	0	0	0	0	74.69
9/1/2020	6:48:00 PM	0	71.8	60.58	60	75.62	71.62	63.45	0	0	0	0	81.07
9/1/2020	6:42:00 PM	0	71.8	67.24	60	75.62	71.62	70.26	1	0.17	0	1	83.68
9/1/2020	6:36:00 PM	0	71.8	61.36	60	75.62	71.62	64.65	1	0.5	0.33	0.5	83.49
9/1/2020	6:30:00 PM	0	71.8	68.16	60	75.62	71.62	71.01	1	0.33	0.17	1	83.68
9/1/2020	6:24:00 PM	0.67	71.8	60.53	60	75.62	71.62	63.95	1	0.5	0.33	0.33	85.06
9/1/2020	6:18:00 PM	1	71.8	67.72	60	75.62	71.62	71.56	1	0.33	0.17	1	81.62
9/1/2020	6:12:00 PM	1	71.8	60.69	60	75.62	71.62	63.65	1	0.33	0.17	0.5	86.95
9/1/2020	6:06:00 PM	1	71.8	67.41	60	75.62	71.62	71.01	1	0.5	0.17	0.83	81.56
9/1/2020	6:00:00 PM	1	71.8	61.41	60	75.62	71.62	64.39	1	0.17	0	0.67	88.09
9/1/2020	5:54:00 PM	1	71.65	66.15	60	75.62	71.62	69.85	1	0.67	0.33	0.67	83.58
9/1/2020	5:48:00 PM	1	71.62	62.28	60	75.62	71.62	65.54	1	0	0	0.83	88.62
9/1/2020	5:42:00 PM	0.83	71.62	65.87	60	75.62	71.62	71.67	1	0.67	0.33	0.67	81
9/1/2020	5:36:00 PM	0	71.62	62.53	60	75.62	71.62	65.52	1	0	0	0.83	88.19
9/1/2020	5:30:00 PM	0.17	71.62	65.22	60	75.62	71.62	70.1	1	0.67	0.33	0.67	83.66
9/1/2020	5:24:00 PM	1	71.62	64.21	60	75.62	71.62	64.67	1	0	0	0.83	86.31
9/1/2020	5:18:00 PM	1	71.62	60.61	60	75.62	71.62	64.94	1	0.67	0	0.33	83.66
9/1/2020	5:12:00 PM	1	71.62	67.55	60	75.62	71.62	71.18	1	0.17	0	1	83.34
9/1/2020	5:06:00 PM	1	71.62	60.44	60	75.62	71.62	64.33	1	0.5	0.17	0.5	85.8
9/1/2020	5:00:00 PM	1	71.62	64.74	60	75.62	71.62	66.41	1	0.5	0	0.67	84.54
9/1/2020	4:54:00 PM	1	71.62	63.09	60	75.62	71.62	66.58	1	0	0	0.83	88.69
9/1/2020	4:48:00 PM	1	71.62	64.09	60	75.62	71.62	69.99	1	0.67	0.33	0.5	78.73
9/1/2020	4:42:00 PM	1	71.62	64.75	60	75.62	71.62	65.62	1	0	0	0.83	86.72
9/1/2020	4:36:00 PM	1	71.62	60.47	60	75.62	71.62	64.23	1	0.5	0	0.5	85.92
9/1/2020	4:30:00 PM	1	71.62	67.12	60	75.62	71.62	71.73	1	0.33	0.17	1	81.39
9/1/2020	4:24:00 PM	1	71.62	61	60	75.62	71.62	63.1	1	0.33	0.17	0.5	87.73
9/1/2020	4:18:00 PM	1	71.62	63.72	60	75.62	71.62	65.55	1	0.5	0	0.5	84.24
9/1/2020	4:12:00 PM	1	71.62	65.19	60	75.62	71.62	65.86	1	0.17	0	1	84.66
9/1/2020	4:06:00 PM	1	71.62	60.04	60	75.62	71.62	64.47	1	0.5	0	0.33	86.07
9/1/2020	4:00:00 PM	1	71.62	67.36	60	75.62	71.62	72.2	1	0.33	0.17	1	82.87
9/1/2020	3:54:00 PM	1	71.62	60.44	60	75.62	71.62	63.41	1	0.33	0	0.5	88.61
9/1/2020	3:48:00 PM	1	71.62	63.91	60	75.62	71.62	66.07	1	0.67	0	0.5	81.2

9/1/2020	3:42:00 PM	1	71.62	63.92	60	75.62	71.62	68.39	1	0	0	0.83	86.84
9/1/2020	3:36:00 PM	1	71.62	62.95	60	75.62	71.62	68.06	1	0.83	0.5	0.33	84.65
9/1/2020	3:30:00 PM	1	71.62	65.16	60	75.62	71.62	66.24	1	0.17	0	1	84.11
9/1/2020	3:24:00 PM	1	71.62	60.53	60	75.62	71.62	63.27	1	0.33	0	0.5	86.43
9/1/2020	3:18:00 PM	1	71.62	64.12	60	75.62	71.62	66.47	1	0.67	0	0.5	81.77
9/1/2020	3:12:00 PM	1	71.62	63.44	60	75.62	71.62	67.61	1	0	0	0.83	88.13
9/1/2020	3:06:00 PM	1	71.62	63.54	60	75.62	71.62	69.05	1	0.67	0.33	0.5	83.63
9/1/2020	3:00:00 PM	1	71.62	64.94	60	75.62	71.62	65.76	1	0.17	0	1	84.37
9/1/2020	2:54:00 PM	1	71.62	60.31	60	75.62	71.62	64.3	1	0.5	0	0.33	85.31
9/1/2020	2:48:00 PM	1	71.62	66.99	60	75.62	71.62	71.71	1	0.5	0.17	1	81.43
9/1/2020	2:42:00 PM	1	71.62	60.68	60	75.62	71.62	63.18	1	0.33	0	0.5	86.68
9/1/2020	2:36:00 PM	1	71.62	63.83	60	75.62	71.62	66.19	1	0.5	0	0.5	82.6
9/1/2020	2:30:00 PM	1	71.62	64.36	60	75.62	71.62	68.69	1	0	0	0.83	85.92
9/1/2020	2:24:00 PM	1	71.62	62.19	60	75.62	71.62	66.87	1	0.67	0.33	0.5	84.53
9/1/2020	2:18:00 PM	1	71.62	65.31	60	75.62	71.62	67.25	1	0.17	0	1	85.1
9/1/2020	2:12:00 PM	1	71.62	60.79	60	75.62	71.62	63.38	1	0.33	0	0.5	87.44
9/1/2020	2:06:00 PM	1	71.62	63.85	60	75.62	71.62	67.06	1	0.67	0	0.5	84.51
9/1/2020	2:00:00 PM	1	71.62	64.02	60	75.62	71.62	68.63	1	0	0	0.83	86.49
9/1/2020	1:54:00 PM	1	71.62	62.38	60	75.62	71.62	67.13	1	0.83	0.33	0.33	83.02
9/1/2020	1:48:00 PM	1	71.62	65.06	60	75.62	71.62	66.99	1	0.33	0	0.83	85.41
9/1/2020	1:42:00 PM	1	71.62	60.71	60	75.62	71.62	63.81	1	0.33	0	0.5	89.53
9/1/2020	1:36:00 PM	1	71.62	63.42	60	75.62	71.62	67.05	1	0.5	0	0.5	81.52
9/1/2020	1:30:00 PM	1	71.62	64.75	60	75.62	71.62	71.22	1	0	0	0.83	86.04
9/1/2020	1:24:00 PM	1	71.62	61.62	60	75.62	71.62	65.66	1	0.67	0.33	0.5	85.81
9/1/2020	1:18:00 PM	1	71.62	64.71	60	75.62	71.62	66.5	1	0.33	0	0.83	83.92
9/1/2020	1:12:00 PM	1	71.62	61.91	60	75.62	71.62	64.77	1	0.17	0	0.67	89.05
9/1/2020	1:06:00 PM	1	71.62	62.08	60	75.62	71.62	65.48	1	0.5	0	0.5	84.36
9/1/2020	1:00:00 PM	1	71.62	64.48	60	75.62	71.62	67.1	1	0.33	0	0.83	82.02
9/1/2020	12:54:00 PM	1	71.62	61.8	60	75.62	71.62	65.95	1	0.17	0	0.67	86.34
9/1/2020	12:48:00 PM	1	71.62	63.89	60	75.62	71.62	70.57	1	0.83	0.33	0.5	83.14
9/1/2020	12:42:00 PM	1	71.62	64.39	60	75.62	71.62	66.41	1	0.17	0	0.83	85.01
9/1/2020	12:36:00 PM	1	71.62	60.83	60	75.62	71.62	63.98	1	0.33	0	0.5	86.45
9/1/2020	12:30:00 PM	1	71.62	62.75	60	75.62	71.62	66.23	1	0.5	0	0.5	83.46
9/1/2020	12:24:00 PM	1	71.62	64.27	60	75.62	71.62	67.33	1	0.17	0	1	83.41
9/1/2020	12:18:00 PM	1	71.62	60.78	60	75.62	71.62	64.7	1	0.33	0	0.5	84.79
9/1/2020	12:12:00 PM	1	71.62	65.02	60	75.62	71.62	72.69	1	0.67	0.33	0.67	82.11
9/1/2020	12:06:00 PM	1	71.62	63.29	60	75.62	71.62	65.17	1	0	0	0.83	86.41
9/1/2020	12:00:00 PM	1	71.62	60.58	60	75.62	71.62	64.33	1	0.5	0	0.5	87.04
9/1/2020	11:54:00 AM	1	71.62	63.71	60	75.62	71.62	66.6	1	0.5	0	0.67	82.32
9/1/2020	11:48:00 AM	1	71.62	63.67	60	75.62	71.62	67.23	1	0.17	0	0.83	84.47
9/1/2020	11:42:00 AM	1	71.62	60.45	60	75.62	71.62	64.68	1	0.5	0	0.33	85.1
9/1/2020	11:36:00 AM	1	71.62	63.6	60	75.62	71.62	67.07	1	0.67	0	0.5	79.42
9/1/2020	11:30:00 AM	1	71.62	63.59	60	75.62	71.62	72.21	1	0.17	0	0.83	85.51
9/1/2020	11:24:00 AM	1	71.62	61.32	60	75.62	71.62	66.03	1	0.67	0.33	0.5	84.28
9/1/2020	11:18:00 AM	1	71.62	64.21	60	75.62	71.62	67.09	1	0.5	0	0.83	81.32
9/1/2020	11:12:00 AM	1	71.62	62.75	60	75.62	71.62	70.44	1	0.17	0	0.67	83.96
9/1/2020	11:06:00 AM	1	71.62	62.27	60	75.62	71.62	67.99	1	0.83	0.33	0.33	80.37

9/1/2020	11:00:00 AM	1	71.62	65.5	60	75.62	71.62	73.66	1	0.17	0	1	83.9
9/1/2020	10:54:00 AM	1	71.62	60.68	60	75.62	71.62	64.27	1	0.5	0.33	0.5	85.95
9/1/2020	10:48:00 AM	1	71.62	63.86	60	75.62	71.62	66.34	1	0.5	0	0.67	82.44
9/1/2020	10:42:00 AM	1	71.62	64.04	60	75.62	71.62	70.63	1	0	0	0.83	85.2
9/1/2020	10:36:00 AM	1	71.62	61.71	60	75.62	71.62	65.91	1	0.67	0.33	0.5	84.95
9/1/2020	10:30:00 AM	1	71.62	64.32	60	75.62	71.62	65.91	1	0.33	0	0.83	83.35
9/1/2020	10:24:00 AM	1	71.62	62.67	60	75.62	71.62	64.22	1	0.17	0	0.67	86.21
9/1/2020	10:18:00 AM	1	71.62	61.03	60	75.62	71.62	64.28	1	0.5	0	0.33	86.48
9/1/2020	10:12:00 AM	1	71.62	63.95	60	75.62	71.62	66.07	1	0.5	0	0.67	83.92
9/1/2020	10:06:00 AM	1	71.62	63.59	60	75.62	71.62	66.03	1	0.17	0	0.83	84.34
9/1/2020	10:00:00 AM	1	71.62	60.63	60	75.62	71.62	63.89	1	0.5	0	0.33	84
9/1/2020	9:54:00 AM	1	71.62	63.28	60	75.62	71.62	67.28	1	0.67	0	0.5	79.73
9/1/2020	9:48:00 AM	1	71.62	63.79	60	75.62	71.62	67.83	1	0.17	0	0.83	83.79
9/1/2020	9:42:00 AM	1	71.62	61	60	75.62	71.62	64.68	1	0.33	0	0.5	84.72
9/1/2020	9:36:00 AM	1	71.62	62.07	60	75.62	71.62	66.5	1	0.67	0	0.33	81.91
9/1/2020	9:30:00 AM	1	71.62	63.71	60	75.62	71.62	68.38	1	0.33	0	0.83	81.93
9/1/2020	9:24:00 AM	1	71.62	62.28	60	75.62	71.62	66.24	1	0.17	0	0.67	84.3
9/1/2020	9:18:00 AM	1	71.62	60.87	60	75.62	71.62	65.2	1	0.5	0	0.5	83.37
9/1/2020	9:12:00 AM	1	71.62	62.35	60	75.62	71.62	67.82	1	0.67	0	0.5	79.23
9/1/2020	9:06:00 AM	1	71.62	63.16	60	75.62	71.62	68.93	1	0.17	0	0.83	82.3
9/1/2020	9:00:00 AM	1	71.62	60.71	60	75.62	71.62	65.22	1	0.33	0	0.5	83.97
9/1/2020	8:54:00 AM	1	71.62	61.41	60	75.62	71.62	66.7	1	0.5	0	0.33	80.65
9/1/2020	8:48:00 AM	1	71.17	60.14	60	75.62	71.62	63.25	1	0	0	0.5	81.32
9/1/2020	8:42:00 AM	1	71.08	62.11	60	75.62	71.62	69.67	1	0.33	0	0.67	79.56
9/1/2020	8:36:00 AM	1	71.08	61.94	60	75.62	71.62	66.84	1	0.33	0	0.67	81.09
9/1/2020	8:30:00 AM	1	71.08	61.36	60	75.62	71.62	68.76	1	0	0	0.5	81.77
9/1/2020	8:24:00 AM	1	71.08	60.39	60	75.62	71.62	65.93	1	0.5	0	0.33	82.41
9/1/2020	8:18:00 AM	1	71.08	62.21	60	75.62	71.62	69.61	1	0.67	0	0.5	78.96
9/1/2020	8:12:00 AM	1	71.08	62.88	60	75.62	71.62	69.16	1	0.33	0	0.67	80.51
9/1/2020	8:06:00 AM	1	71.08	60.98	60	75.62	71.62	65.61	1	0.33	0	0.5	81.64
9/1/2020	8:00:00 AM	1	71.08	60.96	60	75.62	71.62	66.14	1	0.67	0	0.5	79.7
9/1/2020	7:54:00 AM	1	71.08	63.27	60	75.62	71.62	68.4	1	0.5	0	0.67	79.94
9/1/2020	7:48:00 AM	1	71.08	62.31	60	75.62	71.62	66.65	1	0.33	0	0.67	80.88
9/1/2020	7:42:00 AM	1	71.08	60.35	60	75.62	71.62	63.92	1	0.5	0	0.33	82
9/1/2020	7:36:00 AM	1	71.08	62.02	60	75.62	71.62	66.56	1	0.5	0	0.5	79.12
9/1/2020	7:30:00 AM	1	71.08	63.14	60	75.62	71.62	67.84	1	0.33	0	0.83	80.71
9/1/2020	7:24:00 AM	1	71.08	61.61	60	75.62	71.62	64.58	1	0.17	0	0.67	81.96
9/1/2020	7:18:00 AM	1	71.08	60.18	60	75.62	71.62	61.36	1	0.17	0	0.33	81.8
9/1/2020	7:12:00 AM	1	71.08	60.15	60	75.62	71.62	60.84	1	0	0	0.33	82.37
9/1/2020	7:06:00 AM	1	71.08	60.27	60	75.62	71.62	60.84	1	0	0	0.17	80.47
9/1/2020	7:00:00 AM	1	71.43	60.17	60	75.62	71.62	61.55	1	0	0	0.33	83.45
9/1/2020	6:54:00 AM	1	72.12	60.12	60	75.62	71.62	61.91	1	0	0	0.33	81.38
9/1/2020	6:48:00 AM	1	72.12	59.93	60	75.62	71.62	61.91	1	0	0	0.33	81.03
9/1/2020	6:42:00 AM	1	72.12	59.74	60	75.62	71.62	62.59	1	0	0	0.33	81.02
9/1/2020	6:36:00 AM	1	72.99	59.98	60	75.62	71.62	63.95	1	0	0	0.17	79.66
9/1/2020	6:30:00 AM	0.67	73.16	60	60	75.62	71.62	71.38	0.5	0	0	0.17	68.49
9/1/2020	6:24:00 AM	0	73.16	59.6	60	75.62	71.62	73.04	0	0	0	0	68.47

9/1/2020	6:18:00 AM	0	73.16	59.52	60	75.62	71.62	73.04	0	0	0	0	68.64
9/1/2020	6:12:00 AM	0	73.16	59.57	60	75.62	71.62	73.04	0	0	0	0	68.72
9/1/2020	6:06:00 AM	0	73.16	59.43	60	75.62	71.62	73.04	0	0	0	0	68.78
9/1/2020	6:00:00 AM	0	73.16	59.56	60	75.62	71.62	73.04	0	0	0	0	68.84
9/1/2020	5:54:00 AM	0	73.16	59.5	60	75.62	71.62	73.04	0	0	0	0	68.74
9/1/2020	5:48:00 AM	0	73.16	59.56	60	75.62	71.62	73.04	0	0	0	0	68.84
9/1/2020	5:42:00 AM	0	73.16	59.58	60	75.62	71.62	73.04	0	0	0	0	68.84
9/1/2020	5:36:00 AM	0	73.16	59.58	60	75.62	71.62	73.04	0	0	0	0	68.84
9/1/2020	5:30:00 AM	0	73.16	59.69	60	75.62	71.62	73.04	0	0	0	0	68.85
9/1/2020	5:24:00 AM	0	73.16	59.7	60	75.62	71.62	73.04	0	0	0	0	68.87
9/1/2020	5:18:00 AM	0	73.16	59.65	60	75.62	71.62	73.04	0	0	0	0	68.88
9/1/2020	5:12:00 AM	0	73.16	59.73	60	75.62	71.62	73.04	0	0	0	0	68.93
9/1/2020	5:06:00 AM	0	73.16	59.8	60	75.62	71.62	73.04	0	0	0	0	68.89
9/1/2020	5:00:00 AM	0	73.16	59.69	60	75.62	71.62	73.04	0	0	0	0	68.84
9/1/2020	4:54:00 AM	0	73.16	59.84	60	75.62	71.62	73.04	0	0	0	0	68.85
9/1/2020	4:48:00 AM	0	73.16	59.83	60	75.62	71.62	73.04	0	0	0	0	68.79
9/1/2020	4:42:00 AM	0	73.16	59.87	60	75.62	71.62	73.04	0	0	0	0	68.8
9/1/2020	4:36:00 AM	0	73.16	59.92	60	75.62	71.62	73.04	0	0	0	0	68.85
9/1/2020	4:30:00 AM	0	73.16	59.8	60	75.62	71.62	73.04	0	0	0	0	68.88
9/1/2020	4:24:00 AM	0	73.16	60.06	60	75.62	71.62	73.04	0	0	0	0	68.84
9/1/2020	4:18:00 AM	0	73.16	59.81	60	75.62	71.62	73.04	0	0	0	0	68.89
9/1/2020	4:12:00 AM	0	73.16	59.99	60	75.62	71.62	73.04	0	0	0	0	68.89
9/1/2020	4:06:00 AM	0	73.16	59.81	60	75.62	71.62	73.04	0	0	0	0	68.92
9/1/2020	4:00:00 AM	0	73.16	59.88	60	75.62	71.62	73.04	0	0	0	0	68.93
9/1/2020	3:54:00 AM	0	73.16	59.95	60	75.62	71.62	73.04	0	0	0	0	68.94
9/1/2020	3:48:00 AM	0	73.16	59.86	60	75.62	71.62	73.04	0	0	0	0	68.88
9/1/2020	3:42:00 AM	0	73.16	60	60	75.62	71.62	73.04	0	0	0	0	68.97
9/1/2020	3:36:00 AM	0	73.16	59.74	60	75.62	71.62	73.04	0	0	0	0	68.92
9/1/2020	3:30:00 AM	0	73.16	60.03	60	75.62	71.62	73.04	0	0	0	0	68.93
9/1/2020	3:24:00 AM	0	73.16	59.8	60	75.62	71.62	73.04	0	0	0	0	68.92
9/1/2020	3:18:00 AM	0	73.16	59.95	60	75.62	71.62	73.04	0	0	0	0	68.94
9/1/2020	3:12:00 AM	0	73.16	59.88	60	75.62	71.62	73.04	0	0	0	0	68.96
9/1/2020	3:06:00 AM	0	73.16	59.91	60	75.62	71.62	73.04	0	0	0	0	69
9/1/2020	3:00:00 AM	0	73.16	59.99	60	75.62	71.62	73.04	0	0	0	0	69.01
9/1/2020	2:54:00 AM	0	73.16	59.88	60	75.62	71.62	73.04	0	0	0	0	69
9/1/2020	2:48:00 AM	0	73.16	59.9	60	75.62	71.62	73.04	0	0	0	0	69.09
9/1/2020	2:42:00 AM	0	73.16	59.8	60	75.62	71.62	73.04	0	0	0	0	69.03
9/1/2020	2:36:00 AM	0	73.16	59.92	60	75.62	71.62	73.04	0	0	0	0	69.1
9/1/2020	2:30:00 AM	0	73.16	59.86	60	75.62	71.62	73.04	0	0	0	0	69.01
9/1/2020	2:24:00 AM	0	73.16	59.81	60	75.62	71.62	73.04	0	0	0	0	69.05
9/1/2020	2:18:00 AM	0	73.16	59.91	60	75.62	71.62	73.04	0	0	0	0	69.07
9/1/2020	2:12:00 AM	0	73.16	59.78	60	75.62	71.62	73.04	0	0	0	0	69.02
9/1/2020	2:06:00 AM	0	73.16	59.83	60	75.62	71.62	73.04	0	0	0	0	69.07
9/1/2020	2:00:00 AM	0	73.16	59.62	60	75.62	71.62	73.04	0	0	0	0	69.03
9/1/2020	1:54:00 AM	0	73.16	59.79	60	75.62	71.62	73.04	0	0	0	0	69.01
9/1/2020	1:48:00 AM	0	73.16	59.69	60	75.62	71.62	73.04	0	0	0	0	69.1
9/1/2020	1:42:00 AM	0	73.16	59.67	60	75.62	71.62	73.04	0	0	0	0	69.12

9/1/2020	1:36:00 AM	0	73.16	59.73	60	75.62	71.62	73.04	0	0	0	0	69.18
9/1/2020	1:30:00 AM	0	73.16	59.43	60	75.62	71.62	73.04	0	0	0	0	69.24
9/1/2020	1:24:00 AM	0	73.16	59.62	60	75.62	71.62	73.04	0	0	0	0	69.32
9/1/2020	1:18:00 AM	0	73.16	59.42	60	75.62	71.62	73.04	0	0	0	0	69.32
9/1/2020	1:12:00 AM	0	73.16	59.61	60	75.62	71.62	73.04	0	0	0	0	69.37
9/1/2020	1:06:00 AM	0	73.16	59.54	60	75.62	71.62	73.04	0	0	0	0	69.43
9/1/2020	1:00:00 AM	0	73.16	59.49	60	75.62	71.62	73.04	0	0	0	0	69.43
9/1/2020	12:54:00 AM	0	73.16	59.56	60	75.62	71.62	73.04	0	0	0	0	69.4
9/1/2020	12:48:00 AM	0	73.16	59.49	60	75.62	71.62	73.04	0	0	0	0	69.45
9/1/2020	12:42:00 AM	0	73.16	59.63	60	75.62	71.62	73.04	0	0	0	0	69.38
9/1/2020	12:36:00 AM	0	73.16	59.51	60	75.62	71.62	73.04	0	0	0	0	69.49
9/1/2020	12:30:00 AM	0	73.16	59.77	60	75.62	71.62	73.04	0	0	0	0	69.37
9/1/2020	12:24:00 AM	0	73.16	59.64	60	75.62	71.62	73.04	0	0	0	0	69.37
9/1/2020	12:18:00 AM	0	73.16	59.69	60	75.62	71.62	73.04	0	0	0	0	69.32
9/1/2020	12:12:00 AM	0	73.16	59.63	60	75.62	71.62	73.04	0	0	0	0	69.33
9/1/2020	12:06:00 AM	0	73.16	59.54	60	75.62	71.62	73.04	0	0	0	0	69.32
9/1/2020	12:00:00 AM	0	73.16	59.73	60	75.62	71.62	73.04	0	0	0	0	69.32
8/31/2020	11:54:00 PM	0	73.16	59.47	60	75.62	71.62	73.04	0	0	0	0	69.32
8/31/2020	11:48:00 PM	0	73.16	59.71	60	75.62	71.62	73.04	0	0	0	0	69.33
8/31/2020	11:42:00 PM	0	72.75	59.47	60	75.62	71.62	72.49	0	0	0	0	69.35
8/31/2020	11:36:00 PM	0	72.67	59.52	60	75.62	71.62	72.38	0	0	0	0	69.33
8/31/2020	11:30:00 PM	0	72.67	59.56	60	75.62	71.62	72.38	0	0	0	0	69.25
8/31/2020	11:24:00 PM	0	72.67	59.44	60	75.62	71.62	72.38	0	0	0	0	69.32
8/31/2020	11:18:00 PM	0	72.67	59.56	60	75.62	71.62	72.38	0	0	0	0	69.29
8/31/2020	11:12:00 PM	0	72.67	59.42	60	75.62	71.62	72.38	0	0	0	0	69.37
8/31/2020	11:06:00 PM	0	72.67	59.52	60	75.62	71.62	72.38	0	0	0	0	69.52
8/31/2020	11:00:00 PM	0	72.67	59.5	60	75.62	71.62	72.38	0	0	0	0	69.53
8/31/2020	10:54:00 PM	0	72.67	59.5	60	75.62	71.62	72.38	0	0	0	0	69.4
8/31/2020	10:48:00 PM	0	72.67	59.43	60	75.62	71.62	72.38	0	0	0	0	69.39
8/31/2020	10:42:00 PM	0	72.67	59.29	60	75.62	71.62	72.38	0	0	0	0	69.37
8/31/2020	10:36:00 PM	0	72.67	59.38	60	75.62	71.62	72.38	0	0	0	0	69.38
8/31/2020	10:30:00 PM	0	72.67	59.25	60	75.62	71.62	72.38	0	0	0	0	69.4
8/31/2020	10:24:00 PM	0	72.67	59.34	60	75.62	71.62	72.38	0	0	0	0	69.34
8/31/2020	10:18:00 PM	0	72.67	59.31	60	75.62	71.62	72.38	0	0	0	0	69.38
8/31/2020	10:12:00 PM	0	72.67	59.29	60	75.62	71.62	72.38	0	0	0	0	69.37
8/31/2020	10:06:00 PM	0	72.67	59.26	60	75.62	71.62	72.38	0	0	0	0	69.32
8/31/2020	10:00:00 PM	0	72.67	59.16	60	75.62	71.62	72.38	0	0	0	0	69.26
8/31/2020	9:54:00 PM	0	72.67	59.23	60	75.62	71.62	72.38	0	0	0	0	69.24
8/31/2020	9:48:00 PM	0	72.67	59.11	60	75.62	71.62	72.38	0	0	0	0	69.21
8/31/2020	9:42:00 PM	0	72.67	59.13	60	75.62	71.62	71.51	0	0	0	0	69.14
8/31/2020	9:36:00 PM	0	72.67	59.11	60	75.62	71.62	71.33	0	0	0	0	69.1
8/31/2020	9:30:00 PM	0	72.67	59.02	60	75.62	71.62	71.33	0	0	0	0	69.09
8/31/2020	9:24:00 PM	0	72.67	59.11	60	75.62	71.62	71.33	0	0	0	0	69.07
8/31/2020	9:18:00 PM	0	72.67	59.04	60	75.62	71.62	71.33	0	0	0	0	68.98
8/31/2020	9:12:00 PM	0	72.67	59.06	60	75.62	71.62	71.33	0	0	0	0	68.96
8/31/2020	9:06:00 PM	0	72.67	58.91	60	75.62	71.62	71.33	0	0	0	0	68.96
8/31/2020	9:00:00 PM	0	72.67	58.89	60	75.62	71.62	71.33	0	0	0	0	68.94

8/31/2020	8:54:00 PM	0	72.67	58.94	60	75.62	71.62	70.28	0	0	0	0	68.91
8/31/2020	8:48:00 PM	0	72.67	58.88	60	75.62	71.62	70.28	0	0	0	0	68.88
8/31/2020	8:42:00 PM	0	72.67	58.96	60	75.62	71.62	70.28	0	0	0	0	68.92
8/31/2020	8:36:00 PM	0	72.67	58.96	60	75.62	71.62	70.28	0	0	0	0	68.91
8/31/2020	8:30:00 PM	0	72.67	58.92	60	75.62	71.62	70.28	0	0	0	0	68.89
8/31/2020	8:24:00 PM	0	72.67	58.85	60	75.62	71.62	70.1	0	0	0	0	68.89
8/31/2020	8:18:00 PM	0	72.67	58.8	60	75.62	71.62	69.2	0	0	0	0	68.88
8/31/2020	8:12:00 PM	0	72.67	58.61	60	75.62	71.62	69.2	0	0	0	0	68.87
8/31/2020	8:06:00 PM	0	72.67	58.61	60	75.62	71.62	69.2	0	0	0	0	68.93
8/31/2020	8:00:00 PM	0	72.67	58.31	60	75.62	71.62	68.69	0	0	0	0	69.09
8/31/2020	7:54:00 PM	0	72.67	58.23	60	75.62	71.62	68.18	0	0	0	0	69.32
8/31/2020	7:48:00 PM	0	72.67	58.27	60	75.62	71.62	68.18	0	0	0	0	69.73
8/31/2020	7:42:00 PM	0	72.67	58.35	60	75.62	71.62	67.16	0	0	0	0	70.26
8/31/2020	7:36:00 PM	0	71.83	58.4	60	75.62	71.62	66.8	0	0	0	0	70.88
8/31/2020	7:30:00 PM	0	71.66	58.54	60	75.62	71.62	66.1	0	0	0	0	71.97
8/31/2020	7:24:00 PM	0	71.66	58.6	60	75.62	71.62	65.22	0	0	0	0	73.81
8/31/2020	7:18:00 PM	0	71.66	58.67	60	75.62	71.62	63.7	0	0	0	0	76.97
8/31/2020	7:12:00 PM	0	71.66	58.57	60	75.62	71.62	62.16	0	0	0	0	83.14
8/31/2020	7:06:00 PM	0	72.33	60	60	75.62	71.62	61.99	0.83	0	0	0.33	82.46
8/31/2020	7:00:00 PM	0	72.67	59.96	60	75.62	71.62	61.99	1	0	0	0.17	82.35
8/31/2020	6:54:00 PM	0.33	72.67	60.15	60	75.62	71.62	62.34	1	0	0	0.33	83.75
8/31/2020	6:48:00 PM	1	72.67	60.02	60	75.62	71.62	63.02	1	0	0	0.5	82.2
8/31/2020	6:42:00 PM	1	73.02	60.22	60	75.62	71.62	63.19	1	0	0	0.33	84.05
8/31/2020	6:36:00 PM	1	73.71	60	60	75.62	71.62	64.55	1	0	0	0.33	81.96
8/31/2020	6:30:00 PM	1	73.71	59.55	60	75.62	71.62	65.41	1	0	0	0.33	81.38
8/31/2020	6:24:00 PM	1	73.71	59.56	60	75.62	71.62	68.63	1	0	0	0.17	80.47
8/31/2020	6:18:00 PM	1	73.71	59.49	60	75.62	71.62	72.6	1	0	0	0	71.12
8/31/2020	6:12:00 PM	1	73.71	59.36	60	75.62	71.62	72.6	1	0	0	0	71.08
8/31/2020	6:06:00 PM	0	73.71	59.37	60	75.62	71.62	72.6	0	0	0	0	71.11
8/31/2020	6:00:00 PM	0	73.71	58.86	60	75.62	71.62	72.6	0.83	0	0	0	71.14
8/31/2020	5:54:00 PM	0	73.71	58.98	60	75.62	71.62	72.6	1	0	0	0	71.17
8/31/2020	5:48:00 PM	0.33	73.71	58.88	60	75.62	71.62	72.6	1	0	0	0	71.19
8/31/2020	5:42:00 PM	1	73.71	58.8	60	75.62	71.62	72.6	1	0	0	0	71.19
8/31/2020	5:36:00 PM	1	73.71	58.93	60	75.62	71.62	72.6	1	0	0	0	71.22
8/31/2020	5:30:00 PM	1	73.71	58.65	60	75.62	71.62	72.6	1	0	0	0	71.22
8/31/2020	5:24:00 PM	1	73.71	58.8	60	75.62	71.62	72.6	1	0	0	0	71.18
8/31/2020	5:18:00 PM	1	73.71	58.6	60	75.62	71.62	72.6	1	0	0	0	71.16
8/31/2020	5:12:00 PM	1	73.71	58.71	60	75.62	71.62	72.6	1	0	0	0	71.08
8/31/2020	5:06:00 PM	1	73.71	58.67	60	75.62	71.62	72.6	1	0	0	0	71.06
8/31/2020	5:00:00 PM	1	73.71	58.6	60	75.62	71.62	72.6	1	0	0	0	71.01
8/31/2020	4:54:00 PM	1	73.71	58.75	60	75.62	71.62	72.6	1	0	0	0	70.93
8/31/2020	4:48:00 PM	1	73.71	58.45	60	75.62	71.62	72.6	1	0	0	0	70.89
8/31/2020	4:42:00 PM	1	73.71	58.64	60	75.62	71.62	72.6	1	0	0	0	70.81
8/31/2020	4:36:00 PM	1	73.71	58.5	60	75.62	71.62	72.6	1	0	0	0	70.69
8/31/2020	4:30:00 PM	1	73.71	58.66	60	75.62	71.62	72.6	1	0	0	0	70.62
8/31/2020	4:24:00 PM	1	73.71	58.63	60	75.62	71.62	72.6	1	0	0	0	70.47
8/31/2020	4:18:00 PM	1	73.71	58.68	60	75.62	71.62	72.6	1	0	0	0	70.4

8/31/2020	4:12:00 PM	1	73.71	58.77	60	75.62	71.62	72.6	1	0	0	0	70.38
8/31/2020	4:06:00 PM	1	73.71	58.66	60	75.62	71.62	72.6	1	0	0	0	70.23
8/31/2020	4:00:00 PM	1	73.71	58.97	60	75.62	71.62	72.6	1	0	0	0	70.22
8/31/2020	3:54:00 PM	0.5	73.71	59.16	60	75.62	71.62	72.6	0.33	0	0	0	70.23
8/31/2020	3:48:00 PM	0	73.71	59.26	60	75.62	71.62	72.6	0	0	0	0	70.22
8/31/2020	3:42:00 PM	0	73.71	59.33	60	75.62	71.62	72.6	0	0	0	0	70.26
8/31/2020	3:36:00 PM	0	73.71	59.42	60	75.62	71.62	72.6	0	0	0	0	70.25
8/31/2020	3:30:00 PM	0	73.71	59.45	60	75.62	71.62	72.6	0.33	0	0	0	70.27
8/31/2020	3:24:00 PM	0	73.71	59.11	60	75.62	71.62	72.6	1	0	0	0	70.3
8/31/2020	3:18:00 PM	0	73.71	59.32	60	75.62	71.62	72.6	1	0	0	0	70.31
8/31/2020	3:12:00 PM	0.83	73.71	59.15	60	75.62	71.62	72.6	1	0	0	0	70.32
8/31/2020	3:06:00 PM	1	73.71	59.21	60	75.62	71.62	72.6	1	0	0	0	70.3
8/31/2020	3:00:00 PM	1	73.71	59.21	60	75.62	71.62	72.6	1	0	0	0	70.3
8/31/2020	2:54:00 PM	1	73.71	58.94	60	75.62	71.62	72.6	1	0	0	0	70.21
8/31/2020	2:48:00 PM	1	73.71	59.12	60	75.62	71.62	72.6	1	0	0	0	70.18
8/31/2020	2:42:00 PM	1	73.71	58.91	60	75.62	71.62	72.6	1	0	0	0	70.14
8/31/2020	2:36:00 PM	1	73.29	59.12	60	75.62	71.62	72.42	1	0	0	0	70.11
8/31/2020	2:30:00 PM	1	73.21	58.97	60	75.62	71.62	72.38	1	0	0	0	70.04
8/31/2020	2:24:00 PM	1	73.21	59.19	60	75.62	71.62	72.38	1	0	0	0	70.05
8/31/2020	2:18:00 PM	1	73.21	59.1	60	75.62	71.62	72.38	1	0	0	0	69.99
8/31/2020	2:12:00 PM	1	73.21	59.16	60	75.62	71.62	72.38	1	0	0	0	69.96
8/31/2020	2:06:00 PM	1	73.21	59.13	60	75.62	71.62	72.38	1	0	0	0	69.95
8/31/2020	2:00:00 PM	1	73.21	59.08	60	75.62	71.62	72.38	1	0	0	0	69.95
8/31/2020	1:54:00 PM	1	73.21	59.24	60	75.62	71.62	72.38	1	0	0	0	69.95
8/31/2020	1:48:00 PM	1	73.21	59.11	60	75.62	71.62	72.38	1	0	0	0	69.91
8/31/2020	1:42:00 PM	1	73.21	59.4	60	75.62	71.62	71.51	1	0	0	0	69.87
8/31/2020	1:36:00 PM	1	73.21	59.2	60	75.62	71.62	71.33	1	0	0	0	69.83
8/31/2020	1:30:00 PM	1	73.21	59.46	60	75.62	71.62	71.33	1	0	0	0	69.71
8/31/2020	1:24:00 PM	1	73.21	59.25	60	75.62	71.62	71.33	1	0	0	0	69.64
8/31/2020	1:18:00 PM	1	73.21	59.48	60	75.62	71.62	71.33	1	0	0	0	69.59
8/31/2020	1:12:00 PM	1	73.21	59.26	60	75.62	71.62	71.33	1	0	0	0	69.52
8/31/2020	1:06:00 PM	1	73.21	59.4	60	75.62	71.62	71.33	1	0	0	0	69.49
8/31/2020	1:00:00 PM	1	73.21	59.27	60	75.62	71.62	71.33	1	0	0	0	69.43
8/31/2020	12:54:00 PM	1	72.17	59.43	60	75.62	71.62	71.33	1	0	0	0	69.35
8/31/2020	12:48:00 PM	1	72.17	59.34	60	75.62	71.62	71.33	1	0	0	0	69.29
8/31/2020	12:42:00 PM	1	72.17	59.43	60	75.62	71.62	71.33	1	0	0	0	69.24
8/31/2020	12:36:00 PM	1	72.17	59.41	60	75.62	71.62	71.33	1	0	0	0	69.2
8/31/2020	12:30:00 PM	1	72.17	59.37	60	75.62	71.62	71.33	1	0	0	0	69.12
8/31/2020	12:24:00 PM	1	72.17	59.42	60	75.62	71.62	71.33	1	0	0	0	69.1
8/31/2020	12:18:00 PM	1	72.17	59.36	60	75.62	71.62	71.33	1	0	0	0	69.07
8/31/2020	12:12:00 PM	1	72.17	59.47	60	75.62	71.62	71.33	1	0	0	0	68.98
8/31/2020	12:06:00 PM	1	72.17	59.16	60	75.62	71.62	71.33	1	0	0	0	68.94
8/31/2020	12:00:00 PM	1	72.17	59.39	60	75.62	71.62	71.33	1	0	0	0	68.88
8/31/2020	11:54:00 AM	1	72.17	59.19	60	75.62	71.62	71.33	1	0	0	0	68.81
8/31/2020	11:48:00 AM	1	72.17	59.39	60	75.62	71.62	71.33	1	0	0	0	68.79
8/31/2020	11:42:00 AM	1	72.17	59.11	60	75.62	71.62	71.33	1	0	0	0	68.74
8/31/2020	11:36:00 AM	1	72.17	59.32	60	75.62	71.62	71.33	1	0	0	0	68.72

8/31/2020	11:30:00 AM	0.17	72.17	59.05	60	75.62	71.62	71.33	0.17	0	0	0	68.7
8/31/2020	11:24:00 AM	0	72.17	59.12	60	75.62	71.62	70.8	0	0	0	0	68.66
8/31/2020	11:18:00 AM	0	72.17	58.86	60	75.62	71.62	70.28	0	0	0	0	68.68
8/31/2020	11:12:00 AM	0	72.17	59.05	60	75.62	71.62	70.28	1	0	0	0	68.7
8/31/2020	11:06:00 AM	0	72.17	59.04	60	75.62	71.62	70.28	1	0	0	0	68.67
8/31/2020	11:00:00 AM	0.5	72.17	58.94	60	75.62	71.62	70.28	1	0	0	0	68.63
8/31/2020	10:54:00 AM	1	72.17	59.02	60	75.62	71.62	70.28	1	0	0	0	68.61
8/31/2020	10:48:00 AM	1	72.17	59.04	60	75.62	71.62	70.28	1	0	0	0	68.61
8/31/2020	10:42:00 AM	1	72.17	59.11	60	75.62	71.62	70.28	1	0	0	0	68.55
8/31/2020	10:36:00 AM	1	72.17	59.16	60	75.62	71.62	70.28	1	0	0	0	68.54
8/31/2020	10:30:00 AM	1	72.17	59.14	60	75.62	71.62	70.28	1	0	0	0	68.47
8/31/2020	10:24:00 AM	1	72.17	59.19	60	75.62	71.62	70.28	1	0	0	0	68.5
8/31/2020	10:18:00 AM	1	72.17	59.17	60	75.62	71.62	70.28	1	0	0	0	68.43
8/31/2020	10:12:00 AM	1	72.17	59.21	60	75.62	71.62	70.28	1	0	0	0	68.39
8/31/2020	10:06:00 AM	1	72.17	59.11	60	75.62	71.62	70.28	1	0	0	0	68.37
8/31/2020	10:00:00 AM	1	72.17	59.2	60	75.62	71.62	70.28	1	0	0	0	68.32
8/31/2020	9:54:00 AM	1	72.17	59.12	60	75.62	71.62	70.28	1	0	0	0	68.26
8/31/2020	9:48:00 AM	1	72.17	59.24	60	75.62	71.62	70.28	1	0	0	0	68.21
8/31/2020	9:42:00 AM	1	72.17	59.16	60	75.62	71.62	70.28	1	0	0	0	68.16
8/31/2020	9:36:00 AM	1	72.17	59.25	60	75.62	71.62	70.28	1	0	0	0	68.09
8/31/2020	9:30:00 AM	1	72.17	59.21	60	75.62	71.62	70.28	1	0	0	0	68.02
8/31/2020	9:24:00 AM	1	72.17	59.29	60	75.62	71.62	70.28	1	0	0	0	67.99
8/31/2020	9:18:00 AM	1	72.17	59.2	60	75.62	71.62	70.28	1	0	0	0	67.96
8/31/2020	9:12:00 AM	1	72.17	59.22	60	75.62	71.62	70.28	1	0	0	0	67.92
8/31/2020	9:06:00 AM	1	72.17	59.18	60	75.62	71.62	70.28	1	0	0	0	67.9
8/31/2020	9:00:00 AM	1	72.17	59.09	60	75.62	71.62	70.28	1	0	0	0	67.83
8/31/2020	8:54:00 AM	1	72.17	59.19	60	75.62	71.62	70.28	1	0	0	0	67.78
8/31/2020	8:48:00 AM	1	72.17	59.04	60	75.62	71.62	70.28	1	0	0	0	67.75
8/31/2020	8:42:00 AM	1	72.17	59.19	60	75.62	71.62	70.28	1	0	0	0	67.67
8/31/2020	8:36:00 AM	1	72.17	59.04	60	75.62	71.62	70.28	1	0	0	0	67.62
8/31/2020	8:30:00 AM	1	72.17	59.2	60	75.62	71.62	70.28	1	0	0	0	67.58
8/31/2020	8:24:00 AM	1	72.17	59.22	60	75.62	71.62	70.28	1	0	0	0	67.52
8/31/2020	8:18:00 AM	1	72.17	59.33	60	75.62	71.62	70.28	1	0	0	0	67.48
8/31/2020	8:12:00 AM	1	72.17	59.24	60	75.62	71.62	70.28	1	0	0	0	67.41
8/31/2020	8:06:00 AM	1	72.17	59.26	60	75.62	71.62	70.28	1	0	0	0	67.37
8/31/2020	8:00:00 AM	1	72.17	59.38	60	75.62	71.62	70.28	1	0	0	0	67.35
8/31/2020	7:54:00 AM	1	72.17	59.35	60	75.62	71.62	70.28	1	0	0	0	67.31
8/31/2020	7:48:00 AM	1	72.17	59.35	60	75.62	71.62	70.8	1	0	0	0	67.23
8/31/2020	7:42:00 AM	0	72.17	59.33	60	75.62	71.62	71.33	0	0	0	0	67.11
8/31/2020	7:36:00 AM	0	72.17	59.42	60	75.62	71.62	71.33	0	0	0	0	67.08
8/31/2020	7:30:00 AM	0	72.17	59.52	60	75.62	71.62	70.28	0	0	0	0	66.99
8/31/2020	7:24:00 AM	0	72.17	59.57	60	75.62	71.62	70.28	0	0	0	0	66.95
8/31/2020	7:18:00 AM	0	72.17	59.6	60	75.62	71.62	70.28	0	0	0	0	66.93
8/31/2020	7:12:00 AM	0	72.17	59.68	60	75.62	71.62	70.28	0	0	0	0	66.96
8/31/2020	7:06:00 AM	0	72.17	59.65	60	75.62	71.62	70.28	0	0	0	0	66.97
8/31/2020	7:00:00 AM	0	72.17	59.62	60	75.62	71.62	70.28	0	0	0	0	67
8/31/2020	6:54:00 AM	0	72.17	59.79	60	75.62	71.62	70.28	0.33	0	0	0	67.09

8/31/2020	6:48:00 AM	0	72.17	59.82	60	75.62	71.62	70.28	1	0	0	0	67.13
8/31/2020	6:42:00 AM	0	72.17	59.84	60	75.62	71.62	70.28	1	0	0	0	67.12
8/31/2020	6:36:00 AM	0.83	72.17	59.69	60	75.62	71.62	70.28	1	0	0	0	67.01
8/31/2020	6:30:00 AM	1	72.17	59.62	60	75.62	71.62	70.28	1	0	0	0	66.93
8/31/2020	6:24:00 AM	0.5	72.17	59.17	60	75.62	71.62	71.86	0.5	0	0	0	66.8
8/31/2020	6:18:00 AM	0	72.17	59.18	60	75.62	71.62	72.38	0	0	0	0	66.79
8/31/2020	6:12:00 AM	0	72.17	59.19	60	75.62	71.62	72.38	0	0	0	0	66.84
8/31/2020	6:06:00 AM	0	72.17	59.21	60	75.62	71.62	72.38	0	0	0	0	66.87
8/31/2020	6:00:00 AM	0	72.17	59.2	60	75.62	71.62	72.38	0	0	0	0	66.87
8/31/2020	5:54:00 AM	0	72.17	59.21	60	75.62	71.62	72.38	0	0	0	0	66.93
8/31/2020	5:48:00 AM	0	72.17	59.27	60	75.62	71.62	72.38	0	0	0	0	66.95
8/31/2020	5:42:00 AM	0	72.17	59.23	60	75.62	71.62	72.38	0	0	0	0	66.85
8/31/2020	5:36:00 AM	0	72.17	59.18	60	75.62	71.62	72.38	0	0	0	0	66.93
8/31/2020	5:30:00 AM	0	72.85	59.2	60	75.62	71.62	72.38	0	0	0	0	66.87
8/31/2020	5:24:00 AM	0	72.98	59.26	60	75.62	71.62	72.38	0	0	0	0	66.95
8/31/2020	5:18:00 AM	0	72.98	59.26	60	75.62	71.62	72.38	0	0	0	0	66.99
8/31/2020	5:12:00 AM	0	72.98	59.25	60	75.62	71.62	72.38	0	0	0	0	66.97
8/31/2020	5:06:00 AM	0	72.98	59.25	60	75.62	71.62	72.38	0	0	0	0	67.04
8/31/2020	5:00:00 AM	0	72.98	59.28	60	75.62	71.62	72.38	0	0	0	0	67.03
8/31/2020	4:54:00 AM	0	72.98	59.26	60	75.62	71.62	72.38	0	0	0	0	67.03
8/31/2020	4:48:00 AM	0	72.98	59.37	60	75.62	71.62	72.38	0	0	0	0	67.08
8/31/2020	4:42:00 AM	0	72.98	59.36	60	75.62	71.62	72.38	0	0	0	0	67.11
8/31/2020	4:36:00 AM	0	72.98	59.42	60	75.62	71.62	72.38	0	0	0	0	67.08
8/31/2020	4:30:00 AM	0	72.98	59.47	60	75.62	71.62	72.38	0	0	0	0	67.09
8/31/2020	4:24:00 AM	0	72.98	59.54	60	75.62	71.62	72.38	0	0	0	0	67.12
8/31/2020	4:18:00 AM	0	72.98	59.48	60	75.62	71.62	72.38	0	0	0	0	67.11
8/31/2020	4:12:00 AM	0	72.98	59.45	60	75.62	71.62	72.38	0	0	0	0	67.09
8/31/2020	4:06:00 AM	0	72.98	59.47	60	75.62	71.62	72.38	0	0	0	0	67.17
8/31/2020	4:00:00 AM	0	72.98	59.52	60	75.62	71.62	73.23	0	0	0	0	67.19
8/31/2020	3:54:00 AM	0	72.98	59.47	60	75.62	71.62	73.4	0	0	0	0	67.23
8/31/2020	3:48:00 AM	0	72.98	59.47	60	75.62	71.62	73.4	0	0	0	0	67.29
8/31/2020	3:42:00 AM	0	72.98	59.4	60	75.62	71.62	73.4	0	0	0	0	67.29
8/31/2020	3:36:00 AM	0	72.98	59.44	60	75.62	71.62	73.4	0	0	0	0	67.33
8/31/2020	3:30:00 AM	0	72.98	59.4	60	75.62	71.62	73.4	0	0	0	0	67.36
8/31/2020	3:24:00 AM	0	72.98	59.43	60	75.62	71.62	73.4	0	0	0	0	67.4
8/31/2020	3:18:00 AM	0	72.98	59.32	60	75.62	71.62	73.4	0	0	0	0	67.46
8/31/2020	3:12:00 AM	0	72.98	59.31	60	75.62	71.62	73.4	0	0	0	0	67.48
8/31/2020	3:06:00 AM	0	72.98	59.26	60	75.62	71.62	73.4	0	0	0	0	67.54
8/31/2020	3:00:00 AM	0	72.98	59.34	60	75.62	71.62	73.4	0	0	0	0	67.59
8/31/2020	2:54:00 AM	0	72.98	59.45	60	75.62	71.62	73.4	0	0	0	0	67.54
8/31/2020	2:48:00 AM	0	72.98	59.53	60	75.62	71.62	73.4	0	0	0	0	67.44
8/31/2020	2:42:00 AM	0	72.98	59.48	60	75.62	71.62	73.4	0	0	0	0	67.46
8/31/2020	2:36:00 AM	0	72.98	59.46	60	75.62	71.62	73.4	0	0	0	0	67.5
8/31/2020	2:30:00 AM	0	72.98	59.43	60	75.62	71.62	73.4	0	0	0	0	67.54
8/31/2020	2:24:00 AM	0	72.98	59.41	60	75.62	71.62	73.4	0	0	0	0	67.58
8/31/2020	2:18:00 AM	0	72.98	59.35	60	75.62	71.62	73.4	0	0	0	0	67.63
8/31/2020	2:12:00 AM	0	72.98	59.42	60	75.62	71.62	73.4	0	0	0	0	67.59

8/31/2020	2:06:00 AM	0	72.98	59.43	60	75.62	71.62	73.4	0	0	0	0	67.58
8/31/2020	2:00:00 AM	0	72.98	59.43	60	75.62	71.62	73.4	0	0	0	0	67.59
8/31/2020	1:54:00 AM	0	72.98	59.44	60	75.62	71.62	73.4	0	0	0	0	67.56
8/31/2020	1:48:00 AM	0	72.98	59.54	60	75.62	71.62	73.4	0	0	0	0	67.57
8/31/2020	1:42:00 AM	0	72.98	59.52	60	75.62	71.62	73.4	0	0	0	0	67.56
8/31/2020	1:36:00 AM	0	72.98	59.44	60	75.62	71.62	73.4	0	0	0	0	67.61
8/31/2020	1:30:00 AM	0	72.98	59.43	60	75.62	71.62	73.4	0	0	0	0	67.7
8/31/2020	1:24:00 AM	0	72.98	59.48	60	75.62	71.62	73.4	0	0	0	0	67.72
8/31/2020	1:18:00 AM	0	72.98	59.35	60	75.62	71.62	73.4	0	0	0	0	67.81
8/31/2020	1:12:00 AM	0	72.98	59.33	60	75.62	71.62	73.4	0	0	0	0	67.87
8/31/2020	1:06:00 AM	0	72.98	59.24	60	75.62	71.62	73.4	0	0	0	0	67.87
8/31/2020	1:00:00 AM	0	72.98	59.22	60	75.62	71.62	73.4	0	0	0	0	67.93
8/31/2020	12:54:00 AM	0	72.98	59.31	60	75.62	71.62	73.4	0	0	0	0	67.97
8/31/2020	12:48:00 AM	0	72.98	59.29	60	75.62	71.62	73.4	0	0	0	0	67.97
8/31/2020	12:42:00 AM	0	72.98	59.31	60	75.62	71.62	73.4	0	0	0	0	67.98
8/31/2020	12:36:00 AM	0	72.98	59.21	60	75.62	71.62	73.4	0	0	0	0	68.05
8/31/2020	12:30:00 AM	0	72.98	59.23	60	75.62	71.62	73.4	0	0	0	0	68.01
8/31/2020	12:24:00 AM	0	72.98	59.1	60	75.62	71.62	73.4	0	0	0	0	68.05
8/31/2020	12:18:00 AM	0	72.98	59.11	60	75.62	71.62	73.4	0	0	0	0	68.05
8/31/2020	12:12:00 AM	0	72.98	59.14	60	75.62	71.62	73.4	0	0	0	0	68.06
8/31/2020	12:06:00 AM	0	72.98	59.15	60	75.62	71.62	73.4	0	0	0	0	68.1
8/31/2020	12:00:00 AM	0	72.98	59.09	60	75.62	71.62	73.4	0	0	0	0	68.17
8/30/2020	11:54:00 PM	0	72.98	59.09	60	75.62	71.62	73.4	0	0	0	0	68.16
8/30/2020	11:48:00 PM	0	72.98	58.91	60	75.62	71.62	73.4	0	0	0	0	68.16
8/30/2020	11:42:00 PM	0	72.98	59.05	60	75.62	71.62	73.4	0	0	0	0	68.16
8/30/2020	11:36:00 PM	0	72.98	58.96	60	75.62	71.62	73.4	0	0	0	0	68.14
8/30/2020	11:30:00 PM	0	72.98	58.98	60	75.62	71.62	73.4	0	0	0	0	68.21
8/30/2020	11:24:00 PM	0	72.98	58.89	60	75.62	71.62	73.4	0	0	0	0	68.22
8/30/2020	11:18:00 PM	0	72.98	58.88	60	75.62	71.62	73.4	0	0	0	0	68.28
8/30/2020	11:12:00 PM	0	72.98	58.91	60	75.62	71.62	73.4	0	0	0	0	68.3
8/30/2020	11:06:00 PM	0	72.98	58.91	60	75.62	71.62	73.4	0	0	0	0	68.37
8/30/2020	11:00:00 PM	0	72.98	58.87	60	75.62	71.62	73.4	0	0	0	0	68.45
8/30/2020	10:54:00 PM	0	72.98	58.68	60	75.62	71.62	73.4	0	0	0	0	68.46
8/30/2020	10:48:00 PM	0	72.98	58.66	60	75.62	71.62	73.4	0	0	0	0	68.54
8/30/2020	10:42:00 PM	0	72.98	58.62	60	75.62	71.62	73.4	0	0	0	0	68.59
8/30/2020	10:36:00 PM	0	72.98	58.64	60	75.62	71.62	73.4	0	0	0	0	68.62
8/30/2020	10:30:00 PM	0	72.98	58.59	60	75.62	71.62	73.4	0	0	0	0	68.67
8/30/2020	10:24:00 PM	0	72.98	58.59	60	75.62	71.62	73.4	0	0	0	0	68.67
8/30/2020	10:18:00 PM	0	72.98	58.63	60	75.62	71.62	73.4	0	0	0	0	68.74
8/30/2020	10:12:00 PM	0	72.98	58.59	60	75.62	71.62	73.4	0	0	0	0	68.75
8/30/2020	10:06:00 PM	0	72.98	58.62	60	75.62	71.62	73.4	0	0	0	0	68.79
8/30/2020	10:00:00 PM	0	72.98	58.59	60	75.62	71.62	73.4	0	0	0	0	68.71
8/30/2020	9:54:00 PM	0	72.98	58.62	60	75.62	71.62	73.4	0	0	0	0	68.71
8/30/2020	9:48:00 PM	0	72.98	58.62	60	75.62	71.62	73.4	0	0	0	0	68.75
8/30/2020	9:42:00 PM	0	72.98	58.59	60	75.62	71.62	73.4	0	0	0	0	68.76
8/30/2020	9:36:00 PM	0	72.98	58.63	60	75.62	71.62	73.4	0	0	0	0	68.7
8/30/2020	9:30:00 PM	0	72.98	58.64	60	75.62	71.62	73.4	0	0	0	0	68.7

8/30/2020	9:24:00 PM	0	72.98	58.62	60	75.62	71.62	73.4	0	0	0	0	68.63
8/30/2020	9:18:00 PM	0	72.98	58.57	60	75.62	71.62	73.4	0	0	0	0	68.68
8/30/2020	9:12:00 PM	0	72.98	58.57	60	75.62	71.62	73.4	0	0	0	0	68.67
8/30/2020	9:06:00 PM	0	72.98	58.54	60	75.62	71.62	73.4	0	0	0	0	68.63
8/30/2020	9:00:00 PM	0	72.98	58.5	60	75.62	71.62	73.4	0	0	0	0	68.63
8/30/2020	8:54:00 PM	0	72.98	58.61	60	75.62	71.62	73.4	0	0	0	0	68.58
8/30/2020	8:48:00 PM	0	72.98	58.62	60	75.62	71.62	73.4	0	0	0	0	68.62
8/30/2020	8:42:00 PM	0	72.98	58.61	60	75.62	71.62	73.4	0	0	0	0	68.61
8/30/2020	8:36:00 PM	0	72.98	58.51	60	75.62	71.62	73.4	0	0	0	0	68.64
8/30/2020	8:30:00 PM	0	72.98	58.51	60	75.62	71.62	73.4	0	0	0	0	68.63
8/30/2020	8:24:00 PM	0	73.24	58.5	60	75.62	71.62	73.83	0	0	0	0	68.64
8/30/2020	8:18:00 PM	0	73.3	58.49	60	75.62	71.62	73.92	0	0	0	0	68.61
8/30/2020	8:12:00 PM	0	73.3	58.44	60	75.62	71.62	73.92	0	0	0	0	68.66
8/30/2020	8:06:00 PM	0	73.3	58.44	60	75.62	71.62	73.92	0	0	0	0	68.64
8/30/2020	8:00:00 PM	0	73.3	58.38	60	75.62	71.62	73.92	0	0	0	0	68.74
8/30/2020	7:54:00 PM	0	73.3	58.36	60	75.62	71.62	73.92	0	0	0	0	68.78
8/30/2020	7:48:00 PM	0	73.3	58.28	60	75.62	71.62	73.92	0	0	0	0	68.75
8/30/2020	7:42:00 PM	0	73.3	58.26	60	75.62	71.62	73.92	0	0	0	0	68.78
8/30/2020	7:36:00 PM	0	73.3	58.24	60	75.62	71.62	73.92	0	0	0	0	68.78
8/30/2020	7:30:00 PM	0	73.3	58.18	60	75.62	71.62	73.92	0	0	0	0	68.76
8/30/2020	7:24:00 PM	0	73.3	58.17	60	75.62	71.62	73.92	0	0	0	0	68.83
8/30/2020	7:18:00 PM	0	73.3	58.05	60	75.62	71.62	73.92	0	0	0	0	68.81
8/30/2020	7:12:00 PM	0	73.3	57.95	60	75.62	71.62	73.92	0	0	0	0	68.92
8/30/2020	7:06:00 PM	0	73.3	58.04	60	75.62	71.62	73.92	0	0	0	0	68.96
8/30/2020	7:00:00 PM	0	73.3	58.07	60	75.62	71.62	73.92	0	0	0	0	69.05
8/30/2020	6:54:00 PM	0	73.3	58.07	60	75.63	71.63	73.92	0	0	0	0	69.03
8/30/2020	6:48:00 PM	0	73.3	58.04	60	75.62	71.62	73.92	0	0	0	0	68.94
8/30/2020	6:42:00 PM	0	73.3	58.15	60	75.62	71.62	73.92	0	0	0	0	68.91
8/30/2020	6:36:00 PM	0	73.3	58.19	60	75.62	71.62	73.92	0	0	0	0	68.88
8/30/2020	6:30:00 PM	0	73.3	58.15	60	75.62	71.62	73.92	0	0	0	0	68.84
8/30/2020	6:24:00 PM	0	73.3	57.92	60	75.62	71.62	73.92	0	0	0	0	68.92
8/30/2020	6:18:00 PM	0	73.3	57.89	60	75.62	71.62	73.92	0	0	0	0	68.89
8/30/2020	6:12:00 PM	0	73.3	57.77	60	75.62	71.62	73.92	0	0	0	0	68.93
8/30/2020	6:06:00 PM	0	73.3	57.63	60	75.62	71.62	73.92	0	0	0	0	68.98
8/30/2020	6:00:00 PM	0	73.3	57.59	60	75.62	71.62	73.92	0	0	0	0	68.92
8/30/2020	5:54:00 PM	0	73.3	57.52	60	75.63	71.63	73.92	0	0	0	0	68.84
8/30/2020	5:48:00 PM	0	73.3	57.41	60	75.62	71.62	73.92	0	0	0	0	68.81
8/30/2020	5:42:00 PM	0	73.3	57.45	60	75.62	71.62	73.92	0	0	0	0	68.78
8/30/2020	5:36:00 PM	0	73.3	57.38	60	75.62	71.62	73.92	0	0	0	0	68.81
8/30/2020	5:30:00 PM	0	73.3	57.27	60	75.62	71.62	73.92	0	0	0	0	68.84
8/30/2020	5:24:00 PM	0	73.3	57.2	60	75.62	71.62	73.92	0	0	0	0	68.88
8/30/2020	5:18:00 PM	0	73.3	57.06	60	75.62	71.62	73.92	0	0	0	0	68.84
8/30/2020	5:12:00 PM	0	73.3	56.97	60	75.62	71.62	73.92	0	0	0	0	68.76
8/30/2020	5:06:00 PM	0	73.3	56.87	60	75.62	71.62	73.92	0	0	0	0	68.83
8/30/2020	5:00:00 PM	0	73.3	56.76	60	75.62	71.62	73.92	0	0	0	0	68.75
8/30/2020	4:54:00 PM	0	73.3	56.72	60	75.63	71.63	73.92	0	0	0	0	68.71
8/30/2020	4:48:00 PM	0	73.3	56.68	60	75.62	71.62	73.92	0	0	0	0	68.66

8/30/2020	4:42:00 PM	0	73.3	56.69	60	75.62	71.62	73.92	0	0	0	0	68.57
8/30/2020	4:36:00 PM	0	73.3	56.68	60	75.62	71.62	73.24	0	0	0	0	68.47
8/30/2020	4:30:00 PM	0	73.3	56.73	60	75.62	71.62	72.9	0	0	0	0	68.43
8/30/2020	4:24:00 PM	0	73.3	56.81	60	75.62	71.62	72.9	0	0	0	0	68.37
8/30/2020	4:18:00 PM	0	73.3	56.83	60	75.62	71.62	72.9	0	0	0	0	68.29
8/30/2020	4:12:00 PM	0	73.3	56.85	60	75.62	71.62	72.9	0	0	0	0	68.24
8/30/2020	4:06:00 PM	0	73.3	56.88	60	75.62	71.62	72.9	0	0	0	0	68.24
8/30/2020	4:00:00 PM	0	72.43	56.94	60	75.62	71.62	72.9	0	0	0	0	68.22
8/30/2020	3:54:00 PM	0	72.26	56.97	60	75.62	71.62	72.9	0	0	0	0	68.14
8/30/2020	3:48:00 PM	0	72.26	57	60	75.62	71.62	72.9	0	0	0	0	68.07
8/30/2020	3:42:00 PM	0	72.26	57	60	75.62	71.62	72.9	0	0	0	0	68.09
8/30/2020	3:36:00 PM	0	72.26	57.02	60	75.62	71.62	72.9	0	0	0	0	68.05
8/30/2020	3:30:00 PM	0	72.26	57.09	60	75.62	71.62	72.9	0	0	0	0	67.97
8/30/2020	3:24:00 PM	0	72.26	57.03	60	75.62	71.62	71.86	0	0	0	0	67.89
8/30/2020	3:18:00 PM	0	72.26	57.07	60	75.62	71.62	71.86	0	0	0	0	67.89
8/30/2020	3:12:00 PM	0	72.26	57	60	75.62	71.62	71.86	0	0	0	0	67.84
8/30/2020	3:06:00 PM	0	72.26	56.95	60	75.62	71.62	71.86	0	0	0	0	67.84
8/30/2020	3:00:00 PM	0	72.26	56.96	60	75.62	71.62	71.86	0	0	0	0	67.85
8/30/2020	2:54:00 PM	0	72.26	57	60	75.62	71.62	71.86	0	0	0	0	67.85
8/30/2020	2:48:00 PM	0	72.26	57.01	60	75.62	71.62	71.86	0	0	0	0	67.78
8/30/2020	2:42:00 PM	0	72.26	56.99	60	75.62	71.62	71.86	0	0	0	0	67.75
8/30/2020	2:36:00 PM	0	72.26	56.97	60	75.62	71.62	71.86	0	0	0	0	67.7
8/30/2020	2:30:00 PM	0	72.26	56.95	60	75.62	71.62	71.86	0	0	0	0	67.63
8/30/2020	2:24:00 PM	0	72.26	56.93	60	75.62	71.62	71.86	0	0	0	0	67.62
8/30/2020	2:18:00 PM	0	72.26	56.91	60	75.62	71.62	71.86	0	0	0	0	67.67
8/30/2020	2:12:00 PM	0	72.26	56.9	60	75.62	71.62	71.86	0	0	0	0	67.67
8/30/2020	2:06:00 PM	0	72.26	56.91	60	75.62	71.62	71.86	0	0	0	0	67.72
8/30/2020	2:00:00 PM	0	72.26	56.88	60	75.62	71.62	71.86	0	0	0	0	67.7
8/30/2020	1:54:00 PM	0	72.26	56.85	60	75.62	71.62	71.86	0	0	0	0	67.67
8/30/2020	1:48:00 PM	0	72.26	56.83	60	75.62	71.62	71.86	0	0	0	0	67.59
8/30/2020	1:42:00 PM	0	72.26	56.8	60	75.62	71.62	71.86	0	0	0	0	67.57
8/30/2020	1:36:00 PM	0	72.26	56.8	60	75.62	71.62	71.86	0	0	0	0	67.56
8/30/2020	1:30:00 PM	0	72.26	56.77	60	75.62	71.62	71.86	0	0	0	0	67.49
8/30/2020	1:24:00 PM	0	72.26	56.76	60	75.62	71.62	71.86	0	0	0	0	67.52
8/30/2020	1:18:00 PM	0	72.26	56.76	60	75.62	71.62	71.86	0	0	0	0	67.53
8/30/2020	1:12:00 PM	0	72.26	56.76	60	75.62	71.62	71.86	0	0	0	0	67.49
8/30/2020	1:06:00 PM	0	72.26	56.74	60	75.62	71.62	71.86	0	0	0	0	67.49
8/30/2020	1:00:00 PM	0	72.26	56.72	60	75.62	71.62	71.86	0	0	0	0	67.48
8/30/2020	12:54:00 PM	0	72.26	56.69	60	75.62	71.62	71.86	0	0	0	0	67.44
8/30/2020	12:48:00 PM	0	72.26	56.69	60	75.62	71.62	71.86	0	0	0	0	67.44
8/30/2020	12:42:00 PM	0	72.26	56.69	60	75.62	71.62	71.86	0	0	0	0	67.41
8/30/2020	12:36:00 PM	0	72.26	56.69	60	75.62	71.62	71.86	0	0	0	0	67.41
8/30/2020	12:30:00 PM	0	72.26	56.7	60	75.62	71.62	71.86	0	0	0	0	67.4
8/30/2020	12:24:00 PM	0	72.26	56.7	60	75.62	71.62	71.86	0	0	0	0	67.44
8/30/2020	12:18:00 PM	0	72.26	56.71	60	75.62	71.62	71.86	0	0	0	0	67.41
8/30/2020	12:12:00 PM	0	72.26	56.69	60	75.62	71.62	71.86	0	0	0	0	67.4
8/30/2020	12:06:00 PM	0	72.26	56.72	60	75.62	71.62	71.86	0	0	0	0	67.4

8/30/2020	12:00:00 PM	0	72.26	56.71	60	75.62	71.62	71.86	0	0	0	0	67.35
8/30/2020	11:54:00 AM	0	72.26	56.74	60	75.62	71.62	71.86	0	0	0	0	67.32
8/30/2020	11:48:00 AM	0	72.26	56.73	60	75.62	71.62	71.86	0	0	0	0	67.35
8/30/2020	11:42:00 AM	0	72.26	56.72	60	75.62	71.62	71.86	0	0	0	0	67.33
8/30/2020	11:36:00 AM	0	72.26	56.77	60	75.62	71.62	71.86	0	0	0	0	67.32
8/30/2020	11:30:00 AM	0	72.26	56.87	60	75.62	71.62	71.86	0	0	0	0	67.33
8/30/2020	11:24:00 AM	0	72.26	56.87	60	75.62	71.62	71.86	0	0	0	0	67.31
8/30/2020	11:18:00 AM	0	72.65	56.8	60	75.62	71.62	71.7	0	0	0	0	67.21
8/30/2020	11:12:00 AM	0	72.85	56.85	60	75.62	71.62	71.63	0	0	0	0	67.28
8/30/2020	11:06:00 AM	0	72.85	56.84	60	75.62	71.62	71.63	0	0	0	0	67.25
8/30/2020	11:00:00 AM	0	72.85	56.85	60	75.62	71.62	71.63	0	0	0	0	67.24
8/30/2020	10:54:00 AM	0	72.85	56.85	60	75.62	71.62	71.63	0	0	0	0	67.2
8/30/2020	10:48:00 AM	0	72.85	56.89	60	75.62	71.62	71.63	0	0	0	0	67.25
8/30/2020	10:42:00 AM	0	72.85	56.9	60	75.62	71.62	71.63	0	0	0	0	67.27
8/30/2020	10:36:00 AM	0	72.85	56.89	60	75.62	71.62	71.63	0	0	0	0	67.23
8/30/2020	10:30:00 AM	0	72.85	56.91	60	75.62	71.62	71.63	0	0	0	0	67.28
8/30/2020	10:24:00 AM	0	72.85	56.92	60	75.62	71.62	71.63	0	0	0	0	67.27
8/30/2020	10:18:00 AM	0	72.85	57.02	60	75.62	71.62	71.63	0	0	0	0	67.24
8/30/2020	10:12:00 AM	0	72.85	57.09	60	75.62	71.62	71.63	0	0	0	0	67.21
8/30/2020	10:06:00 AM	0	72.85	57.08	60	75.62	71.62	71.63	0	0	0	0	67.15
8/30/2020	10:00:00 AM	0	72.85	57.1	60	75.62	71.62	71.63	0	0	0	0	67.15
8/30/2020	9:54:00 AM	0	72.85	57.13	60	75.62	71.62	71.63	0	0	0	0	67.12
8/30/2020	9:48:00 AM	0	72.85	57.14	60	75.62	71.62	71.63	0	0	0	0	67.07
8/30/2020	9:42:00 AM	0	72.85	57.18	60	75.62	71.62	71.63	0	0	0	0	67.12
8/30/2020	9:36:00 AM	0	72.85	57.22	60	75.62	71.62	71.63	0	0	0	0	67.07
8/30/2020	9:30:00 AM	0	72.85	57.24	60	75.62	71.62	71.63	0	0	0	0	67.11
8/30/2020	9:24:00 AM	0	72.85	57.25	60	75.62	71.62	71.63	0	0	0	0	67.09
8/30/2020	9:18:00 AM	0	72.85	57.25	60	75.62	71.62	71.63	0	0	0	0	67.07
8/30/2020	9:12:00 AM	0	72.85	57.28	60	75.62	71.62	71.63	0	0	0	0	67.03
8/30/2020	9:06:00 AM	0	72.85	57.31	60	75.62	71.62	71.63	0	0	0	0	67.03
8/30/2020	9:00:00 AM	0	72.85	57.33	60	75.62	71.62	71.63	0	0	0	0	67.05
8/30/2020	8:54:00 AM	0	72.85	57.32	60	75.62	71.62	71.63	0	0	0	0	67.11
8/30/2020	8:48:00 AM	0	72.85	57.32	60	75.62	71.62	71.63	0	0	0	0	67.07
8/30/2020	8:42:00 AM	0	72.85	57.31	60	75.62	71.62	71.63	0	0	0	0	67.11
8/30/2020	8:36:00 AM	0	72.85	57.27	60	75.62	71.62	71.63	0	0	0	0	67.13
8/30/2020	8:30:00 AM	0	72.85	57.26	60	75.62	71.62	71.63	0	0	0	0	67.19
8/30/2020	8:24:00 AM	0	72.85	57.29	60	75.62	71.62	71.63	0	0	0	0	67.2
8/30/2020	8:18:00 AM	0	72.85	57.38	60	75.62	71.62	71.63	0	0	0	0	67.19
8/30/2020	8:12:00 AM	0	72.85	57.45	60	75.62	71.62	71.63	0	0	0	0	67.17
8/30/2020	8:06:00 AM	0	72.85	57.48	60	75.62	71.62	71.63	0	0	0	0	67.21
8/30/2020	8:00:00 AM	0	72.85	57.48	60	75.62	71.62	71.63	0	0	0	0	67.21
8/30/2020	7:54:00 AM	0	72.85	57.55	60	75.62	71.62	71.63	0	0	0	0	67.19
8/30/2020	7:48:00 AM	0	72.85	57.57	60	75.62	71.62	71.63	0	0	0	0	67.19
8/30/2020	7:42:00 AM	0	72.85	57.6	60	75.62	71.62	72.33	0	0	0	0	67.2
8/30/2020	7:36:00 AM	0	72.85	57.62	60	75.62	71.62	72.68	0	0	0	0	67.19
8/30/2020	7:30:00 AM	0	72.85	57.6	60	75.62	71.62	72.68	0	0	0	0	67.23
8/30/2020	7:24:00 AM	0	72.85	57.67	60	75.62	71.62	72.68	0	0	0	0	67.23

8/30/2020	7:18:00 AM	0	72.85	57.66	60	75.62	71.62	72.68	0	0	0	0	67.23
8/30/2020	7:12:00 AM	0	72.85	57.64	60	75.62	71.62	72.68	0	0	0	0	67.24
8/30/2020	7:06:00 AM	0	72.85	57.73	60	75.62	71.62	72.68	0	0	0	0	67.28
8/30/2020	7:00:00 AM	0	72.85	57.74	60	75.62	71.62	72.68	0	0	0	0	67.24
8/30/2020	6:54:00 AM	0	72.85	57.67	60	75.62	71.62	72.68	0	0	0	0	67.29
8/30/2020	6:48:00 AM	0	72.85	57.7	60	75.62	71.62	72.68	0	0	0	0	67.33
8/30/2020	6:42:00 AM	0	72.85	57.81	60	75.62	71.62	72.68	0	0	0	0	67.39
8/30/2020	6:36:00 AM	0	72.85	58	60	75.62	71.62	72.68	0	0	0	0	67.4
8/30/2020	6:30:00 AM	0	72.85	58.03	60	75.62	71.62	72.68	0	0	0	0	67.39
8/30/2020	6:24:00 AM	0	72.85	58.05	60	75.62	71.62	72.68	0	0	0	0	67.37
8/30/2020	6:18:00 AM	0	72.85	58.18	60	75.62	71.62	72.68	0	0	0	0	67.35
8/30/2020	6:12:00 AM	0	72.85	58.15	60	75.62	71.62	72.68	0	0	0	0	67.39
8/30/2020	6:06:00 AM	0	72.85	58.2	60	75.62	71.62	72.68	0	0	0	0	67.45
8/30/2020	6:00:00 AM	0	72.85	58.21	60	75.62	71.62	72.68	0	0	0	0	67.44
8/30/2020	5:54:00 AM	0	72.85	58.23	60	75.62	71.62	72.68	0	0	0	0	67.45
8/30/2020	5:48:00 AM	0	72.85	58.22	60	75.62	71.62	72.68	0	0	0	0	67.49
8/30/2020	5:42:00 AM	0	72.85	58.23	60	75.62	71.62	72.68	0	0	0	0	67.5
8/30/2020	5:36:00 AM	0	72.85	58.23	60	75.62	71.62	72.68	0	0	0	0	67.58
8/30/2020	5:30:00 AM	0	72.85	58.18	60	75.62	71.62	72.68	0	0	0	0	67.61
8/30/2020	5:24:00 AM	0	72.85	58.27	60	75.62	71.62	72.68	0	0	0	0	67.67
8/30/2020	5:18:00 AM	0	72.85	58.24	60	75.62	71.62	72.68	0	0	0	0	67.69
8/30/2020	5:12:00 AM	0	72.85	58.44	60	75.62	71.62	72.68	0	0	0	0	67.74
8/30/2020	5:06:00 AM	0	72.85	58.46	60	75.62	71.62	72.68	0	0	0	0	67.71
8/30/2020	5:00:00 AM	0	72.85	58.54	60	75.62	71.62	72.68	0	0	0	0	67.75
8/30/2020	4:54:00 AM	0	72.85	58.55	60	75.62	71.62	72.68	0	0	0	0	67.75
8/30/2020	4:48:00 AM	0	72.85	58.58	60	75.62	71.62	72.68	0	0	0	0	67.8
8/30/2020	4:42:00 AM	0	72.85	58.58	60	75.62	71.62	72.68	0	0	0	0	67.83
8/30/2020	4:36:00 AM	0	72.85	58.56	60	75.62	71.62	72.68	0	0	0	0	67.8
8/30/2020	4:30:00 AM	0	72.85	58.49	60	75.62	71.62	72.68	0	0	0	0	67.84
8/30/2020	4:24:00 AM	0	72.85	58.4	60	75.62	71.62	72.68	0	0	0	0	67.92
8/30/2020	4:18:00 AM	0	72.85	58.46	60	75.62	71.62	72.68	0	0	0	0	67.92
8/30/2020	4:12:00 AM	0	72.85	58.45	60	75.62	71.62	72.68	0	0	0	0	67.96
8/30/2020	4:06:00 AM	0	72.85	58.49	60	75.62	71.62	72.68	0	0	0	0	67.93
8/30/2020	4:00:00 AM	0	72.85	58.57	60	75.62	71.62	72.68	0	0	0	0	67.97
8/30/2020	3:54:00 AM	0	72.85	58.67	60	75.62	71.62	72.68	0	0	0	0	67.97
8/30/2020	3:48:00 AM	0	72.85	58.65	60	75.62	71.62	72.68	0	0	0	0	67.98
8/30/2020	3:42:00 AM	0	72.85	58.72	60	75.62	71.62	72.68	0	0	0	0	68.03
8/30/2020	3:36:00 AM	0	72.85	58.77	60	75.62	71.62	72.68	0	0	0	0	68.07
8/30/2020	3:30:00 AM	0	72.85	58.75	60	75.62	71.62	72.68	0	0	0	0	68.1
8/30/2020	3:24:00 AM	0	72.85	58.74	60	75.62	71.62	72.68	0	0	0	0	68.14
8/30/2020	3:18:00 AM	0	72.85	58.68	60	75.62	71.62	72.68	0	0	0	0	68.18
8/30/2020	3:12:00 AM	0	72.85	58.61	60	75.62	71.62	72.68	0	0	0	0	68.2
8/30/2020	3:06:00 AM	0	72.85	58.79	60	75.62	71.62	72.68	0	0	0	0	68.26
8/30/2020	3:00:00 AM	0	72.85	58.96	60	75.62	71.62	72.68	0	0	0	0	68.22
8/30/2020	2:54:00 AM	0	72.85	59.01	60	75.62	71.62	72.68	0	0	0	0	68.2
8/30/2020	2:48:00 AM	0	72.85	59.03	60	75.62	71.62	72.68	0	0	0	0	68.21
8/30/2020	2:42:00 AM	0	72.85	59.02	60	75.62	71.62	72.68	0	0	0	0	68.24

8/30/2020	2:36:00 AM	0	72.85	59	60	75.62	71.62	72.68	0	0	0	0	68.22
8/30/2020	2:30:00 AM	0	72.85	58.93	60	75.62	71.62	72.68	0	0	0	0	68.28
8/30/2020	2:24:00 AM	0	72.85	58.97	60	75.62	71.62	72.68	0	0	0	0	68.32
8/30/2020	2:18:00 AM	0	72.85	59	60	75.62	71.62	72.68	0	0	0	0	68.28
8/30/2020	2:12:00 AM	0	73.09	59.12	60	75.62	71.62	73.11	0	0	0	0	68.3
8/30/2020	2:06:00 AM	0	73.21	59.1	60	75.62	71.62	73.33	0	0	0	0	68.33
8/30/2020	2:00:00 AM	0	73.21	59.09	60	75.62	71.62	73.33	0	0	0	0	68.34
8/30/2020	1:54:00 AM	0	73.21	59	60	75.62	71.62	73.33	0	0	0	0	68.41
8/30/2020	1:48:00 AM	0	73.21	59.07	60	75.62	71.62	73.33	0	0	0	0	68.43
8/30/2020	1:42:00 AM	0	73.21	59.02	60	75.62	71.62	73.33	0	0	0	0	68.41
8/30/2020	1:36:00 AM	0	73.21	58.98	60	75.62	71.62	73.33	0	0	0	0	68.47
8/30/2020	1:30:00 AM	0	73.21	58.95	60	75.62	71.62	73.33	0	0	0	0	68.49
8/30/2020	1:24:00 AM	0	73.21	58.91	60	75.62	71.62	73.33	0	0	0	0	68.43
8/30/2020	1:18:00 AM	0	73.21	58.94	60	75.62	71.62	73.33	0	0	0	0	68.5
8/30/2020	1:12:00 AM	0	73.21	58.98	60	75.62	71.62	73.33	0	0	0	0	68.54
8/30/2020	1:06:00 AM	0	73.21	58.95	60	75.62	71.62	73.33	0	0	0	0	68.51
8/30/2020	1:00:00 AM	0	73.21	59.01	60	75.62	71.62	73.33	0	0	0	0	68.53
8/30/2020	12:54:00 AM	0	73.21	59	60	75.62	71.62	73.33	0	0	0	0	68.58
8/30/2020	12:48:00 AM	0	73.21	59.11	60	75.62	71.62	73.33	0	0	0	0	68.57
8/30/2020	12:42:00 AM	0	73.21	59.06	60	75.62	71.62	73.33	0	0	0	0	68.61
8/30/2020	12:36:00 AM	0	73.21	59.12	60	75.62	71.62	73.33	0	0	0	0	68.62
8/30/2020	12:30:00 AM	0	73.21	59.1	60	75.62	71.62	73.33	0	0	0	0	68.7
8/30/2020	12:24:00 AM	0	73.21	59.07	60	75.62	71.62	73.33	0	0	0	0	68.71
8/30/2020	12:18:00 AM	0	73.21	59.08	60	75.62	71.62	73.33	0	0	0	0	68.74
8/30/2020	12:12:00 AM	0	73.21	58.96	60	75.62	71.62	73.33	0	0	0	0	68.81
8/30/2020	12:06:00 AM	0	73.21	58.92	60	75.62	71.62	73.33	0	0	0	0	68.91
8/30/2020	12:00:00 AM	0	73.21	59.11	60	75.62	71.62	73.33	0	0	0	0	68.94
8/29/2020	11:54:00 PM	0	73.21	59.16	60	75.62	71.62	73.33	0	0	0	0	68.93
8/29/2020	11:48:00 PM	0	73.21	59.26	60	75.62	71.62	73.33	0	0	0	0	68.91
8/29/2020	11:42:00 PM	0	73.21	59.25	60	75.62	71.62	73.33	0	0	0	0	68.87
8/29/2020	11:36:00 PM	0	73.21	59.26	60	75.62	71.62	73.33	0	0	0	0	68.81
8/29/2020	11:30:00 PM	0	73.21	59.33	60	75.62	71.62	73.33	0	0	0	0	68.85
8/29/2020	11:24:00 PM	0	73.21	59.34	60	75.62	71.62	73.33	0	0	0	0	68.88
8/29/2020	11:18:00 PM	0	73.21	59.35	60	75.62	71.62	73.33	0	0	0	0	68.93
8/29/2020	11:12:00 PM	0	73.21	59.36	60	75.62	71.62	73.33	0	0	0	0	68.98
8/29/2020	11:06:00 PM	0	73.21	59.33	60	75.62	71.62	73.33	0	0	0	0	69.01
8/29/2020	11:00:00 PM	0	73.21	59.35	60	75.62	71.62	73.33	0	0	0	0	69.03
8/29/2020	10:54:00 PM	0	73.21	59.33	60	75.62	71.62	73.33	0	0	0	0	69.05
8/29/2020	10:48:00 PM	0	73.21	59.33	60	75.62	71.62	73.33	0	0	0	0	69.14
8/29/2020	10:42:00 PM	0	73.21	59.34	60	75.62	71.62	73.33	0	0	0	0	69.15
8/29/2020	10:36:00 PM	0	73.88	59.31	60	75.63	71.63	73.33	0	0	0	0	69.16
8/29/2020	10:30:00 PM	0	74.22	59.33	60	75.62	71.62	73.33	0	0	0	0	69.25
8/29/2020	10:24:00 PM	0	74.22	59.33	60	75.62	71.62	73.33	0	0	0	0	69.24
8/29/2020	10:18:00 PM	0	74.22	59.31	60	75.62	71.62	73.33	0	0	0	0	69.3
8/29/2020	10:12:00 PM	0	74.22	59.29	60	75.62	71.62	73.33	0	0	0	0	69.3
8/29/2020	10:06:00 PM	0	74.22	59.33	60	75.62	71.62	73.33	0	0	0	0	69.3
8/29/2020	10:00:00 PM	0	74.22	59.31	60	75.62	71.62	73.33	0	0	0	0	69.28

8/29/2020	9:54:00 PM	0	74.22	59.33	60	75.62	71.62	73.33	0	0	0	0	69.32
8/29/2020	9:48:00 PM	0	74.22	59.19	60	75.62	71.62	73.33	0	0	0	0	69.3
8/29/2020	9:42:00 PM	0	74.22	59.15	60	75.62	71.62	73.33	0	0	0	0	69.32
8/29/2020	9:36:00 PM	0	74.22	59.3	60	75.62	71.62	73.33	0	0	0	0	69.37
8/29/2020	9:30:00 PM	0	74.22	59.3	60	75.62	71.62	73.33	0	0	0	0	69.4
8/29/2020	9:24:00 PM	0	74.22	59.28	60	75.62	71.62	73.33	0	0	0	0	69.44
8/29/2020	9:18:00 PM	0	74.22	59.32	60	75.62	71.62	74.18	0	0	0	0	69.47
8/29/2020	9:12:00 PM	0	74.22	59.28	60	75.62	71.62	74.35	0	0	0	0	69.53
8/29/2020	9:06:00 PM	0	74.22	59.2	60	75.62	71.62	74.35	0	0	0	0	69.58
8/29/2020	9:00:00 PM	0	74.22	59.25	60	75.62	71.62	74.35	0	0	0	0	69.63
8/29/2020	8:54:00 PM	0	74.22	59.23	60	75.62	71.62	74.35	0	0	0	0	69.68
8/29/2020	8:48:00 PM	0	74.22	59.24	60	75.62	71.62	74.35	0	0	0	0	69.72
8/29/2020	8:42:00 PM	0	74.22	59.35	60	75.62	71.62	74.35	0	0	0	0	69.66
8/29/2020	8:36:00 PM	0	74.22	59.39	60	75.62	71.62	74.35	0	0	0	0	69.69
8/29/2020	8:30:00 PM	0	74.22	59.35	60	75.62	71.62	74.35	0	0	0	0	69.72
8/29/2020	8:24:00 PM	0	74.22	59.32	60	75.62	71.62	74.35	0	0	0	0	69.73
8/29/2020	8:18:00 PM	0	74.22	59.26	60	75.62	71.62	74.35	0	0	0	0	69.73
8/29/2020	8:12:00 PM	0	74.22	59.2	60	75.62	71.62	74.35	0	0	0	0	69.76
8/29/2020	8:06:00 PM	0	74.22	59.16	60	75.62	71.62	74.35	0	0	0	0	69.78
8/29/2020	8:00:00 PM	0	74.22	59.15	60	75.63	71.63	74.35	0	0	0	0	69.79
8/29/2020	7:54:00 PM	0	74.22	59.12	60	75.62	71.62	74.35	0	0	0	0	69.83
8/29/2020	7:48:00 PM	0	74.22	59.05	60	75.62	71.62	74.35	0	0	0	0	69.9
8/29/2020	7:42:00 PM	0	74.22	59.06	60	75.62	71.62	74.35	0	0	0	0	69.96
8/29/2020	7:36:00 PM	0	74.22	58.99	60	75.62	71.62	74.35	0	0	0	0	69.99
8/29/2020	7:30:00 PM	0	74.22	58.99	60	75.62	71.62	74.35	0	0	0	0	70.03
8/29/2020	7:24:00 PM	0	74.22	58.99	60	75.62	71.62	74.35	0	0	0	0	70.07
8/29/2020	7:18:00 PM	0	74.22	59.09	60	75.62	71.62	74.35	0	0	0	0	70.09
8/29/2020	7:12:00 PM	0	74.22	59.01	60	75.62	71.62	74.35	0	0	0	0	70.03
8/29/2020	7:06:00 PM	0	74.22	58.85	60	75.62	71.62	74.35	0	0	0	0	70.09
8/29/2020	7:00:00 PM	0	74.22	58.83	60	75.62	71.62	74.35	0	0	0	0	70.14
8/29/2020	6:54:00 PM	0	74.22	58.79	60	75.62	71.62	74.35	0	0	0	0	70.2
8/29/2020	6:48:00 PM	0	74.22	58.76	60	75.62	71.62	74.35	0	0	0	0	70.23
8/29/2020	6:42:00 PM	0	74.22	58.74	60	75.62	71.62	74.35	0	0	0	0	70.22
8/29/2020	6:36:00 PM	0	74.22	58.77	60	75.62	71.62	74.35	0	0	0	0	70.16
8/29/2020	6:30:00 PM	0	74.22	58.75	60	75.63	71.63	74.35	0	0	0	0	70.14
8/29/2020	6:24:00 PM	0	74.22	58.72	60	75.62	71.62	74.35	0	0	0	0	70.14
8/29/2020	6:18:00 PM	0	74.22	58.67	60	75.62	71.62	74.35	0	0	0	0	70.18
8/29/2020	6:12:00 PM	0	74.22	58.72	60	75.62	71.62	74.35	0	0	0	0	70.3
8/29/2020	6:06:00 PM	0	74.22	58.77	60	75.62	71.62	74.35	0	0	0	0	70.21
8/29/2020	6:00:00 PM	0	74.22	58.81	60	75.62	71.62	74.35	0	0	0	0	70.11
8/29/2020	5:54:00 PM	0	74.22	58.82	60	75.63	71.63	74.35	0	0	0	0	70.04
8/29/2020	5:48:00 PM	0	74.22	58.79	60	75.62	71.62	74.35	0	0	0	0	70.08
8/29/2020	5:42:00 PM	0	74.22	58.74	60	75.62	71.62	74.35	0	0	0	0	70.13
8/29/2020	5:36:00 PM	0	74.22	58.7	60	75.62	71.62	74.35	0	0	0	0	70.16
8/29/2020	5:30:00 PM	0	74.22	58.69	60	75.63	71.63	74.35	0	0	0	0	70.17
8/29/2020	5:24:00 PM	0	74.22	58.63	60	75.62	71.62	74.35	0	0	0	0	70.2
8/29/2020	5:18:00 PM	0	74.22	58.6	60	75.62	71.62	74.35	0	0	0	0	70.17

8/29/2020	5:12:00 PM	0	74.22	58.56	60	75.62	71.62	74.35	0	0	0	0	70.17
8/29/2020	5:06:00 PM	0	74.09	58.5	60	75.62	71.62	74.4	0	0	0	0	70.2
8/29/2020	5:00:00 PM	0	74.03	58.51	60	75.62	71.62	74.42	0	0	0	0	70.22
8/29/2020	4:54:00 PM	0	74.03	58.48	60	75.62	71.62	74.42	0	0	0	0	70.21
8/29/2020	4:48:00 PM	0	74.03	58.48	60	75.62	71.62	74.42	0	0	0	0	70.14
8/29/2020	4:42:00 PM	0	74.03	58.55	60	75.62	71.62	74.25	0	0	0	0	70.2
8/29/2020	4:36:00 PM	0	74.03	58.7	60	75.62	71.62	73.4	0	0	0	0	70.18
8/29/2020	4:30:00 PM	0	74.03	58.84	60	75.62	71.62	73.4	0	0	0	0	70.05
8/29/2020	4:24:00 PM	0	74.03	58.96	60	75.62	71.62	73.4	0	0	0	0	69.98
8/29/2020	4:18:00 PM	0	74.03	59.07	60	75.62	71.62	73.4	0	0	0	0	69.85
8/29/2020	4:12:00 PM	0	74.03	59.16	60	75.62	71.62	73.4	0	0	0	0	69.86
8/29/2020	4:06:00 PM	0	73.2	59.25	60	75.62	71.62	73.4	0	0	0	0	69.71
8/29/2020	4:00:00 PM	0	73.03	59.33	60	75.62	71.62	73.4	0	0	0	0	69.69
8/29/2020	3:54:00 PM	0	73.03	59.42	60	75.62	71.62	73.4	0	0	0	0	69.62
8/29/2020	3:48:00 PM	0	73.03	59.51	60	75.62	71.62	72.38	0	0	0	0	69.57
8/29/2020	3:42:00 PM	0	73.03	59.56	60	75.62	71.62	72.38	0	0	0	0	69.49
8/29/2020	3:36:00 PM	0	73.03	59.63	60	75.62	71.62	72.38	0	0	0	0	69.48
8/29/2020	3:30:00 PM	0	73.03	59.68	60	75.62	71.62	72.38	0	0	0	0	69.49
8/29/2020	3:24:00 PM	0	73.03	59.73	60	75.62	71.62	72.38	0	0	0	0	69.44
8/29/2020	3:18:00 PM	0	73.03	59.78	60	75.62	71.62	72.38	0	0	0	0	69.48
8/29/2020	3:12:00 PM	0	73.03	59.81	60	75.62	71.62	72.38	0	0	0	0	69.49
8/29/2020	3:06:00 PM	0	73.03	59.89	60	75.62	71.62	72.38	0	0	0	0	69.45
8/29/2020	3:00:00 PM	0	73.03	59.94	60	75.62	71.62	72.38	0	0	0	0	69.48
8/29/2020	2:54:00 PM	0	73.03	60	60	75.62	71.62	72.38	0	0	0	0	69.49
8/29/2020	2:48:00 PM	0	73.03	60.02	60	75.62	71.62	72.38	0	0	0	0	69.45
8/29/2020	2:42:00 PM	0	73.03	60	60	75.62	71.62	72.38	0	0	0	0	69.52
8/29/2020	2:36:00 PM	0	73.03	59.99	60	75.62	71.62	72.38	0	0	0	0	69.48
8/29/2020	2:30:00 PM	0	73.03	59.98	60	75.62	71.62	72.38	0	0	0	0	69.52
8/29/2020	2:24:00 PM	0	73.03	60.01	60	75.62	71.62	72.38	0	0	0	0	69.53
8/29/2020	2:18:00 PM	0	73.03	59.97	60	75.62	71.62	72.38	0	0	0	0	69.48
8/29/2020	2:12:00 PM	0	73.03	59.89	60	75.62	71.62	72.38	0	0	0	0	69.48
8/29/2020	2:06:00 PM	0	73.03	59.98	60	75.62	71.62	72.38	0	0	0	0	69.47
8/29/2020	2:00:00 PM	0	73.03	59.98	60	75.62	71.62	72.38	0	0	0	0	69.49
8/29/2020	1:54:00 PM	0	73.03	59.98	60	75.62	71.62	72.38	0	0	0	0	69.48
8/29/2020	1:48:00 PM	0	73.03	59.97	60	75.62	71.62	72.38	0	0	0	0	69.44
8/29/2020	1:42:00 PM	0	73.03	60.11	60	75.62	71.62	72.38	0	0	0	0	69.38
8/29/2020	1:36:00 PM	0	73.03	60.1	60	75.62	71.62	72.38	0	0	0	0	69.35
8/29/2020	1:30:00 PM	0	73.03	60.02	60	75.62	71.62	72.38	0	0	0	0	69.33
8/29/2020	1:24:00 PM	0	73.03	59.96	60	75.62	71.62	72.38	0	0	0	0	69.37
8/29/2020	1:18:00 PM	0	73.03	60.04	60	75.62	71.62	72.38	0	0	0	0	69.37
8/29/2020	1:12:00 PM	0	73.03	59.97	60	75.62	71.62	72.38	0	0	0	0	69.37
8/29/2020	1:06:00 PM	0	73.03	60.08	60	75.62	71.62	72.38	0	0	0	0	69.38
8/29/2020	1:00:00 PM	0	73.03	60	60	75.62	71.62	72.38	0	0	0	0	69.38
8/29/2020	12:54:00 PM	0	73.03	60.03	60	75.62	71.62	72.38	0	0	0	0	69.42
8/29/2020	12:48:00 PM	0	73.03	59.98	60	75.62	71.62	72.38	0	0	0	0	69.47
8/29/2020	12:42:00 PM	0	73.03	59.93	60	75.62	71.62	72.38	0	0	0	0	69.47
8/29/2020	12:36:00 PM	0	73.03	60.01	60	75.62	71.62	72.38	0	0	0	0	69.49

8/29/2020 12:30:00 PM	0	73.03	59.96	60	75.62	71.62	72.38	0	0	0	0	69.49
8/29/2020 12:24:00 PM	0	73.03	60.06	60	75.62	71.62	72.38	0	0	0	0	69.51
8/29/2020 12:18:00 PM	0	73.03	59.98	60	75.62	71.62	72.38	0	0	0	0	69.49
8/29/2020 12:12:00 PM	0	73.03	60.06	60	75.62	71.62	72.38	0	0	0	0	69.52
8/29/2020 12:06:00 PM	0	73.03	59.99	60	75.62	71.62	72.38	0	0	0	0	69.49
8/29/2020 12:00:00 PM	0	73.03	59.96	60	75.62	71.62	72.38	0	0	0	0	69.47
8/29/2020 11:54:00 AM	0	73.03	59.99	60	75.62	71.62	72.38	0	0	0	0	69.45
8/29/2020 11:48:00 AM	0	73.03	59.96	60	75.62	71.62	72.38	0	0	0	0	69.45
8/29/2020 11:42:00 AM	0	73.03	60.09	60	75.62	71.62	72.38	0	0	0	0	69.42
8/29/2020 11:36:00 AM	0	73.03	59.92	60	75.62	71.62	72.38	0	0	0	0	69.4
8/29/2020 11:30:00 AM	0	73.03	60.15	60	75.62	71.62	72.38	0	0	0	0	69.37
8/29/2020 11:24:00 AM	0	73.03	60.01	60	75.62	71.62	72.38	0	0	0	0	69.35
8/29/2020 11:18:00 AM	0	73.03	60.14	60	75.62	71.62	72.38	0	0	0	0	69.37
8/29/2020 11:12:00 AM	0	73.03	60.15	60	75.62	71.62	72.38	0	0	0	0	69.4
8/29/2020 11:06:00 AM	0	73.03	60.18	60	75.62	71.62	72.38	0	0	0	0	69.34
8/29/2020 11:00:00 AM	0	73.03	60.1	60	75.62	71.62	72.38	0	0	0	0	69.33
8/29/2020 10:54:00 AM	0	73.03	60.04	60	75.62	71.62	72.38	0	0	0	0	69.39
8/29/2020 10:48:00 AM	0	73.03	60.18	60	75.62	71.62	72.38	0	0	0	0	69.39
8/29/2020 10:42:00 AM	0	73.03	59.99	60	75.62	71.62	72.38	0	0	0	0	69.4
8/29/2020 10:36:00 AM	0	73.03	60.24	60	75.62	71.62	72.38	0	0	0	0	69.38
8/29/2020 10:30:00 AM	0	73.03	60.11	60	75.62	71.62	72.38	0	0	0	0	69.4
8/29/2020 10:24:00 AM	0	73.03	60.25	60	75.62	71.62	72.38	0	0	0	0	69.35
8/29/2020 10:18:00 AM	0	73.03	60.18	60	75.62	71.62	72.38	0	0	0	0	69.39
8/29/2020 10:12:00 AM	0	73.03	60.11	60	75.62	71.62	72.38	0	0	0	0	69.4
8/29/2020 10:06:00 AM	0	73.03	60.32	60	75.62	71.62	72.38	0	0	0	0	69.44
8/29/2020 10:00:00 AM	0	73.03	60.24	60	75.62	71.62	72.38	0	0	0	0	69.45
8/29/2020 9:54:00 AM	0	73.03	60.36	60	75.62	71.62	72.38	0	0	0	0	69.47
8/29/2020 9:48:00 AM	0	73.03	60.25	60	75.62	71.62	72.38	0	0	0	0	69.43
8/29/2020 9:42:00 AM	0	73.03	60.36	60	75.62	71.62	72.38	0	0	0	0	69.42
8/29/2020 9:36:00 AM	0	73.03	60.27	60	75.62	71.62	72.38	0	0	0	0	69.43
8/29/2020 9:30:00 AM	0	73.03	60.16	60	75.62	71.62	72.38	0	0	0	0	69.42
8/29/2020 9:24:00 AM	0	73.03	60.34	60	75.62	71.62	72.38	0	0	0	0	69.42
8/29/2020 9:18:00 AM	0	73.03	60.13	60	75.62	71.62	72.38	0	0	0	0	69.4
8/29/2020 9:12:00 AM	0	73.03	60.39	60	75.62	71.62	72.38	0	0	0	0	69.38
8/29/2020 9:06:00 AM	0	73.03	60.32	60	75.62	71.62	72.38	0	0	0	0	69.39
8/29/2020 9:00:00 AM	0	73.03	60.55	60	75.62	71.62	72.38	0	0	0	0	69.43
8/29/2020 8:54:00 AM	0	73.03	60.36	60	75.62	71.62	72.38	0	0	0	0	69.48
8/29/2020 8:48:00 AM	0	73.03	60.25	60	75.62	71.62	72.38	0	0	0	0	69.49
8/29/2020 8:42:00 AM	0	73.03	60.46	60	75.62	71.62	72.38	0	0	0	0	69.51
8/29/2020 8:36:00 AM	0	73.03	60.32	60	75.62	71.62	72.38	0	0	0	0	69.48
8/29/2020 8:30:00 AM	0	73.03	60.47	60	75.62	71.62	72.38	0	0	0	0	69.56
8/29/2020 8:24:00 AM	0	73.03	60.36	60	75.62	71.62	72.38	0	0	0	0	69.57
8/29/2020 8:18:00 AM	0	73.03	60.57	60	75.62	71.62	72.38	0	0	0	0	69.57
8/29/2020 8:12:00 AM	0	73.03	60.47	60	75.62	71.62	72.38	0	0	0	0	69.59
8/29/2020 8:06:00 AM	0	73.03	60.41	60	75.62	71.62	72.38	0	0	0	0	69.59
8/29/2020 8:00:00 AM	0	73.3	60.52	60	75.62	71.62	72.96	0	0	0	0	69.57
8/29/2020 7:54:00 AM	0	73.43	60.36	60	75.62	71.62	73.26	0	0	0	0	69.58

8/29/2020	7:48:00 AM	0	73.43	60.59	60	75.62	71.62	73.26	0	0	0	0	69.61
8/29/2020	7:42:00 AM	0	73.43	60.51	60	75.62	71.62	73.26	0	0	0	0	69.58
8/29/2020	7:36:00 AM	0	73.43	60.57	60	75.62	71.62	73.26	0	0	0	0	69.58
8/29/2020	7:30:00 AM	0	73.43	60.68	60	75.62	71.62	73.26	0	0	0	0	69.56
8/29/2020	7:24:00 AM	0	73.43	60.49	60	75.62	71.62	73.26	0	0	0	0	69.61
8/29/2020	7:18:00 AM	0	73.43	60.82	60	75.62	71.62	73.26	0	0	0	0	69.63
8/29/2020	7:12:00 AM	0	73.43	60.56	60	75.62	71.62	73.26	0	0	0	0	69.61
8/29/2020	7:06:00 AM	0	73.43	60.84	60	75.62	71.62	73.26	0	0	0	0	69.62
8/29/2020	7:00:00 AM	0	73.43	60.7	60	75.62	71.62	73.26	0	0	0	0	69.63
8/29/2020	6:54:00 AM	0	73.43	60.82	60	75.62	71.62	73.26	0	0	0	0	69.62
8/29/2020	6:48:00 AM	0	73.43	60.74	60	75.62	71.62	73.26	0	0	0	0	69.63
8/29/2020	6:42:00 AM	0	73.43	60.7	60	75.62	71.62	73.26	0	0	0	0	69.69
8/29/2020	6:36:00 AM	0	73.43	60.86	60	75.62	71.62	73.26	0	0	0	0	69.71
8/29/2020	6:30:00 AM	0	73.43	60.74	60	75.62	71.62	73.26	0	0	0	0	69.78
8/29/2020	6:24:00 AM	0	73.43	60.97	60	75.62	71.62	73.26	0	0	0	0	69.83
8/29/2020	6:18:00 AM	0	73.43	60.71	60	75.62	71.62	73.26	0	0	0	0	69.87
8/29/2020	6:12:00 AM	0	73.43	60.93	60	75.62	71.62	73.26	0	0	0	0	69.9
8/29/2020	6:06:00 AM	0	73.43	60.86	60	75.62	71.62	73.26	0	0	0	0	69.91
8/29/2020	6:00:00 AM	0	73.43	60.8	60	75.62	71.62	73.26	0	0	0	0	69.92
8/29/2020	5:54:00 AM	0	73.43	61	60	75.62	71.62	73.26	0	0	0	0	69.96
8/29/2020	5:48:00 AM	0	73.43	60.84	60	75.62	71.62	73.26	0	0	0	0	69.98
8/29/2020	5:42:00 AM	0	73.43	61.11	60	75.62	71.62	73.26	0	0	0	0	69.95
8/29/2020	5:36:00 AM	0	73.43	60.84	60	75.62	71.62	73.26	0	0	0	0	69.99
8/29/2020	5:30:00 AM	0	73.43	61	60	75.62	71.62	73.26	0	0	0	0	70
8/29/2020	5:24:00 AM	0	73.43	60.96	60	75.62	71.62	73.26	0	0	0	0	70.01
8/29/2020	5:18:00 AM	0	73.43	60.95	60	75.62	71.62	73.26	0	0	0	0	70.07
8/29/2020	5:12:00 AM	0	73.43	61.07	60	75.62	71.62	73.26	0	0	0	0	70.05
8/29/2020	5:06:00 AM	0	73.43	60.84	60	75.62	71.62	73.26	0	0	0	0	70.11
8/29/2020	5:00:00 AM	0	73.43	61.05	60	75.62	71.62	73.26	0	0	0	0	70.12
8/29/2020	4:54:00 AM	0	73.43	60.82	60	75.62	71.62	73.26	0	0	0	0	70.2
8/29/2020	4:48:00 AM	0	73.43	60.96	60	75.62	71.62	73.26	0	0	0	0	70.25
8/29/2020	4:42:00 AM	0	73.43	60.93	60	75.62	71.62	73.26	0	0	0	0	70.26
8/29/2020	4:36:00 AM	0	73.43	60.76	60	75.62	71.62	73.26	0	0	0	0	70.31
8/29/2020	4:30:00 AM	0	73.43	61.05	60	75.62	71.62	73.26	0	0	0	0	70.32
8/29/2020	4:24:00 AM	0	73.43	60.65	60	75.62	71.62	73.26	0	0	0	0	70.36
8/29/2020	4:18:00 AM	0	73.43	60.93	60	75.62	71.62	73.26	0	0	0	0	70.34
8/29/2020	4:12:00 AM	0	73.43	60.84	60	75.62	71.62	73.26	0	0	0	0	70.39
8/29/2020	4:06:00 AM	0	73.43	60.91	60	75.62	71.62	73.26	0	0	0	0	70.4
8/29/2020	4:00:00 AM	0	73.43	60.87	60	75.62	71.62	73.26	0	0	0	0	70.39
8/29/2020	3:54:00 AM	0	73.43	60.66	60	75.62	71.62	73.26	0	0	0	0	70.4
8/29/2020	3:48:00 AM	0	73.43	60.84	60	75.62	71.62	73.26	0	0	0	0	70.43
8/29/2020	3:42:00 AM	0	73.43	60.61	60	75.62	71.62	73.26	0	0	0	0	70.48
8/29/2020	3:36:00 AM	0	73.43	60.78	60	75.62	71.62	73.26	0	0	0	0	70.48
8/29/2020	3:30:00 AM	0	73.43	60.69	60	75.62	71.62	73.26	0	0	0	0	70.53
8/29/2020	3:24:00 AM	0	73.43	60.71	60	75.62	71.62	73.26	0	0	0	0	70.59
8/29/2020	3:18:00 AM	0	73.43	60.75	60	75.62	71.62	73.26	0	0	0	0	70.6
8/29/2020	3:12:00 AM	0	73.43	60.58	60	75.62	71.62	73.26	0	0	0	0	70.66

8/29/2020	3:06:00 AM	0	73.43	60.8	60	75.62	71.62	73.26	0	0	0	0	70.72
8/29/2020	3:00:00 AM	0	73.43	60.53	60	75.62	71.62	73.26	0	0	0	0	70.77
8/29/2020	2:54:00 AM	0	73.43	60.66	60	75.62	71.62	73.26	0	0	0	0	70.83
8/29/2020	2:48:00 AM	0	73.43	60.62	60	75.62	71.62	73.26	0	0	0	0	70.86
8/29/2020	2:42:00 AM	0	73.43	60.48	60	75.62	71.62	73.26	0	0	0	0	70.83
8/29/2020	2:36:00 AM	0	73.43	60.6	60	75.62	71.62	73.26	0	0	0	0	70.88
8/29/2020	2:30:00 AM	0	73.43	60.69	60	75.62	71.62	73.26	0	0	0	0	70.87
8/29/2020	2:24:00 AM	0	73.43	60.61	60	75.62	71.62	73.26	0	0	0	0	70.86
8/29/2020	2:18:00 AM	0	73.43	60.52	60	75.62	71.62	73.26	0	0	0	0	70.91
8/29/2020	2:12:00 AM	0	73.43	60.61	60	75.62	71.62	73.26	0	0	0	0	70.91
8/29/2020	2:06:00 AM	0	73.43	60.39	60	75.62	71.62	73.26	0	0	0	0	70.89
8/29/2020	2:00:00 AM	0	73.43	60.47	60	75.62	71.62	73.26	0	0	0	0	70.94
8/29/2020	1:54:00 AM	0	73.43	60.41	60	75.62	71.62	73.26	0	0	0	0	70.94
8/29/2020	1:48:00 AM	0	73.43	60.45	60	75.62	71.62	73.26	0	0	0	0	70.97
8/29/2020	1:42:00 AM	0	73.43	60.48	60	75.62	71.62	73.26	0	0	0	0	71.01
8/29/2020	1:36:00 AM	0	73.43	60.43	60	75.62	71.62	73.26	0	0	0	0	71.06
8/29/2020	1:30:00 AM	0	73.43	60.32	60	75.62	71.62	73.26	0	0	0	0	71.09
8/29/2020	1:24:00 AM	0	73.43	60.27	60	75.62	71.62	73.26	0	0	0	0	71.17
8/29/2020	1:18:00 AM	0	73.43	60.35	60	75.62	71.62	73.26	0	0	0	0	71.14
8/29/2020	1:12:00 AM	0	73.43	60.23	60	75.63	71.62	73.26	0	0	0	0	71.18
8/29/2020	1:06:00 AM	0	73.43	60.23	60	75.62	71.62	73.26	0	0	0	0	71.2
8/29/2020	1:00:00 AM	0	73.43	60.18	60	75.62	71.62	73.26	0	0	0	0	71.27
8/29/2020	12:54:00 AM	0	73.43	60.05	60	75.62	71.62	73.26	0	0	0	0	71.27
8/29/2020	12:48:00 AM	0	73.43	60.02	60	75.62	71.62	73.26	0	0	0	0	71.32
8/29/2020	12:42:00 AM	0	73.43	59.9	60	75.62	71.62	73.26	0	0	0	0	71.36
8/29/2020	12:36:00 AM	0	73.43	59.96	60	75.62	71.62	73.26	0	0	0	0	71.4
8/29/2020	12:30:00 AM	0	73.43	59.97	60	75.62	71.62	73.26	0	0	0	0	71.43
8/29/2020	12:24:00 AM	0	73.43	59.82	60	75.62	71.62	73.26	0	0	0	0	71.43
8/29/2020	12:18:00 AM	0	73.43	59.88	60	75.62	71.62	73.26	0	0	0	0	71.44
8/29/2020	12:12:00 AM	0	73.43	59.8	60	75.62	71.62	73.26	0	0	0	0	71.45
8/29/2020	12:06:00 AM	0	73.43	59.81	60	75.62	71.62	73.26	0	0	0	0	71.51
8/29/2020	12:00:00 AM	0	73.43	59.78	60	75.62	71.62	73.26	0	0	0	0	71.5
8/28/2020	11:54:00 PM	0	73.43	59.85	60	75.62	71.62	73.26	0	0	0	0	71.55
8/28/2020	11:48:00 PM	0	73.43	59.78	60	75.62	71.62	73.26	0	0	0	0	71.51
8/28/2020	11:42:00 PM	0	73.43	59.74	60	75.62	71.62	73.26	0	0	0	0	71.55
8/28/2020	11:36:00 PM	0	73.43	59.7	60	75.62	71.62	73.26	0	0	0	0	71.55
8/28/2020	11:30:00 PM	0	73.43	59.69	60	75.62	71.62	73.26	0	0	0	0	71.56
8/28/2020	11:24:00 PM	0	73.43	59.66	60	75.62	71.62	73.26	0	0	0	0	71.6
8/28/2020	11:18:00 PM	0	73.43	59.6	60	75.62	71.62	73.26	0	0	0	0	71.58
8/28/2020	11:12:00 PM	0	73.43	59.54	60	75.62	71.62	73.26	0	0	0	0	71.6
8/28/2020	11:06:00 PM	0	73.43	59.5	60	75.62	71.62	73.26	0	0	0	0	71.6
8/28/2020	11:00:00 PM	0	73.43	59.43	60	75.62	71.62	73.26	0	0	0	0	71.6
8/28/2020	10:54:00 PM	0	72.89	59.38	60	75.62	71.62	73.26	0	0	0	0	71.66
8/28/2020	10:48:00 PM	0	72.62	59.3	60	75.62	71.62	73.26	0	0	0	0	71.6
8/28/2020	10:42:00 PM	0	72.62	59.24	60	75.62	71.62	73.26	0	0	0	0	71.61
8/28/2020	10:36:00 PM	0	72.62	59.16	60	75.62	71.62	73.26	0	0	0	0	71.62
8/28/2020	10:30:00 PM	0	72.62	59.08	60	75.62	71.62	73.26	0	0	0	0	71.62

8/28/2020	10:24:00 PM	0	72.62	59.02	60	75.62	71.62	73.26	0	0	0	0	71.66
8/28/2020	10:18:00 PM	0	72.62	58.97	60	75.62	71.62	73.09	0	0	0	0	71.62
8/28/2020	10:12:00 PM	0	72.62	58.93	60	75.62	71.62	72.23	0	0	0	0	71.63
8/28/2020	10:06:00 PM	0	72.62	58.88	60	75.62	71.62	72.23	0	0	0	0	71.65
8/28/2020	10:00:00 PM	0	72.62	58.83	60	75.62	71.62	72.23	0	0	0	0	71.6
8/28/2020	9:54:00 PM	0	72.62	58.73	60	75.62	71.62	72.23	0	0	0	0	71.57
8/28/2020	9:48:00 PM	0	72.62	58.63	60	75.62	71.62	72.23	0	0	0	0	71.58
8/28/2020	9:42:00 PM	0	72.62	58.55	60	75.62	71.62	72.23	0	0	0	0	71.58
8/28/2020	9:36:00 PM	0	72.62	58.47	60	75.62	71.62	72.23	0	0	0	0	71.56
8/28/2020	9:30:00 PM	0	72.62	58.45	60	75.62	71.62	72.23	0	0	0	0	71.53
8/28/2020	9:24:00 PM	0	72.62	58.42	60	75.62	71.62	72.23	0	0	0	0	71.53
8/28/2020	9:18:00 PM	0	72.62	58.4	60	75.62	71.62	72.23	0	0	0	0	71.5
8/28/2020	9:12:00 PM	0	72.62	58.34	60	75.62	71.62	72.23	0	0	0	0	71.46
8/28/2020	9:06:00 PM	0	72.62	58.29	60	75.62	71.62	72.23	0	0	0	0	71.41
8/28/2020	9:00:00 PM	0	72.62	58.29	60	75.62	71.62	72.23	0	0	0	0	71.44
8/28/2020	8:54:00 PM	0	72.62	58.27	60	75.62	71.62	71.88	0	0	0	0	71.41
8/28/2020	8:48:00 PM	0	72.62	58.25	60	75.62	71.62	71.18	0	0	0	0	71.43
8/28/2020	8:42:00 PM	0	72.62	58.21	60	75.62	71.62	71.18	0	0	0	0	71.4
8/28/2020	8:36:00 PM	0	72.62	58.26	60	75.62	71.62	71.18	0	0	0	0	71.39
8/28/2020	8:30:00 PM	0	72.62	58.29	60	75.62	71.62	71.18	0	0	0	0	71.39
8/28/2020	8:24:00 PM	0	72.62	58.27	60	75.62	71.62	71.18	0	0	0	0	71.41
8/28/2020	8:18:00 PM	0	72.62	58.26	60	75.62	71.62	70.12	0	0	0	0	71.39
8/28/2020	8:12:00 PM	0	72.62	58.25	60	75.62	71.62	70.12	0	0	0	0	71.41
8/28/2020	8:06:00 PM	0	72.62	58.25	60	75.62	71.62	69.94	0	0	0	0	71.47
8/28/2020	8:00:00 PM	0	71.78	58.23	60	75.62	71.62	69.05	0	0	0	0	71.55
8/28/2020	7:54:00 PM	0	71.62	58.21	60	75.62	71.62	69.05	0	0	0	0	71.75
8/28/2020	7:48:00 PM	0	71.62	58.26	60	75.62	71.62	68.19	0	0	0	0	71.99
8/28/2020	7:42:00 PM	0	71.62	58.3	60	75.62	71.62	68.02	0	0	0	0	72.42
8/28/2020	7:36:00 PM	0	71.62	58.4	60	75.62	71.62	67	0	0	0	0	73.26
8/28/2020	7:30:00 PM	0	71.62	58.48	60	75.62	71.62	66.82	0	0	0	0	74.67
8/28/2020	7:24:00 PM	0	71.62	58.64	60	75.62	71.62	65.94	0	0	0	0	77.28
8/28/2020	7:18:00 PM	0	71.62	58.73	60	75.62	71.62	64.71	0	0	0	0	82.39
8/28/2020	7:12:00 PM	0	71.62	58.27	60	75.62	71.62	63.36	0.17	0	0	0.17	92.91
8/28/2020	7:06:00 PM	0	71.62	60.38	60	75.62	71.62	63.36	1	0	0	0.33	94.67
8/28/2020	7:00:00 PM	0	71.62	60.87	60	75.62	71.62	62.85	1	0	0	0.5	93.32
8/28/2020	6:54:00 PM	0.67	71.62	60.36	60	75.62	71.62	62.85	1	0	0	0.5	92.08
8/28/2020	6:48:00 PM	1	71.62	60.73	60	75.62	71.62	63.87	1	0	0	0.5	93.32
8/28/2020	6:42:00 PM	1	71.62	60.87	60	75.62	71.62	63.87	1	0	0	0.33	93.37
8/28/2020	6:36:00 PM	1	71.62	60.38	60	75.62	71.62	63.87	1	0	0	0.33	94.04
8/28/2020	6:30:00 PM	1	71.62	60.45	60	75.62	71.62	63.87	1	0	0	0.5	94.72
8/28/2020	6:24:00 PM	1	71.62	59.95	60	75.62	71.62	63.87	1	0	0	0.33	95.09
8/28/2020	6:18:00 PM	1	71.62	60.41	60	75.62	71.62	64.21	1	0	0	0.5	95.81
8/28/2020	6:12:00 PM	1	71.62	60.26	60	75.62	71.62	63.87	1	0	0	0.5	94.62
8/28/2020	6:06:00 PM	1	71.62	60.64	60	75.62	71.62	64.37	1	0	0	0.5	94.85
8/28/2020	6:00:00 PM	1	71.62	60.79	60	75.62	71.62	64.37	1	0	0	0.67	93.5
8/28/2020	5:54:00 PM	1	71.62	60.41	60	75.62	71.62	63.87	1	0	0	0.33	93.61
8/28/2020	5:48:00 PM	1	71.62	60.35	60	75.62	71.62	65.58	1	0	0	0.5	92.48

8/28/2020	5:42:00 PM	0.17	71.62	60.17	60	75.62	71.62	65.58	0.17	0	0	0	90.09
8/28/2020	5:36:00 PM	0	71.62	60.65	60	75.62	71.62	64.87	1	0	0	0.5	97.59
8/28/2020	5:30:00 PM	0	71.62	60.59	60	75.62	71.62	64.87	1	0	0	0.5	97.54
8/28/2020	5:24:00 PM	0.33	71.62	60.8	60	75.62	71.62	64.87	1	0	0	0.5	97.01
8/28/2020	5:18:00 PM	1	71.62	60.9	60	75.62	71.62	64.87	1	0	0	0.33	96.28
8/28/2020	5:12:00 PM	1	71.62	60.59	60	75.62	71.62	64.87	1	0	0	0.5	98.23
8/28/2020	5:06:00 PM	1	71.62	60.48	60	75.62	71.62	65.41	1	0	0	0.5	98.16
8/28/2020	5:00:00 PM	1	71.62	60.83	60	75.62	71.62	65.41	1	0	0	0.5	97.15
8/28/2020	4:54:00 PM	1	71.62	60.84	60	75.62	71.62	65.76	1	0	0	0.5	97.59
8/28/2020	4:48:00 PM	1	71.62	60.6	60	75.62	71.62	65.76	1	0	0	0.33	97.92
8/28/2020	4:42:00 PM	1	71.62	61.02	60	75.62	71.62	65.76	1	0	0	0.5	97.57
8/28/2020	4:36:00 PM	1	71.62	60.48	60	75.62	71.62	65.76	1	0	0	0.5	98.9
8/28/2020	4:30:00 PM	1	71.62	60.53	60	75.62	71.62	65.76	1	0	0	0.5	96.84
8/28/2020	4:24:00 PM	1	71.62	60.49	60	75.62	71.62	65.76	1	0	0	0.5	96.8
8/28/2020	4:18:00 PM	1	71.62	60.38	60	75.62	71.62	65.58	1	0	0	0.5	98.06
8/28/2020	4:12:00 PM	1	71.62	60.73	60	75.62	71.62	64.87	1	0	0	0.5	93.4
8/28/2020	4:06:00 PM	1	71.62	60.57	60	75.62	71.62	64.87	1	0	0	0.5	94.6
8/28/2020	4:00:00 PM	1	71.62	60.73	60	75.62	71.62	64.87	1	0	0	0.5	93.33
8/28/2020	3:54:00 PM	1	71.62	60.29	60	75.62	71.62	64.87	1	0	0	0.33	95.03
8/28/2020	3:48:00 PM	1	71.62	60.54	60	75.62	71.62	64.87	1	0	0	0.5	95.78
8/28/2020	3:42:00 PM	1	71.62	60.49	60	75.62	71.62	64.87	1	0	0	0.5	95.54
8/28/2020	3:36:00 PM	1	71.62	60.6	60	75.62	71.62	64.87	1	0	0	0.5	95.69
8/28/2020	3:30:00 PM	1	71.62	60.49	60	75.62	71.62	64.71	1	0	0	0.33	95.99
8/28/2020	3:24:00 PM	1	71.62	60.53	60	75.62	71.62	64.87	1	0	0	0.33	93.52
8/28/2020	3:18:00 PM	1	71.62	60.67	60	75.62	71.62	64.87	1	0	0	0.5	93.74
8/28/2020	3:12:00 PM	1	71.62	60.73	60	75.62	71.62	64.87	1	0	0	0.5	93.13
8/28/2020	3:06:00 PM	1	71.62	60.69	60	75.62	71.62	65.93	1	0	0	0.5	92.8
8/28/2020	3:00:00 PM	1	71.62	65.57	60	75.62	71.62	69.62	1	0.33	0	0.83	92.98
8/28/2020	2:54:00 PM	1	71.62	61.2	60	75.62	71.62	67.42	1	0.17	0	0.67	96.78
8/28/2020	2:48:00 PM	1	71.62	63.28	60	75.62	71.62	67.63	1	0.5	0	0.67	90.84
8/28/2020	2:42:00 PM	1	71.62	64.84	60	75.62	71.62	69.26	1	0.17	0	1	93.5
8/28/2020	2:36:00 PM	1	71.62	61.19	60	75.62	71.62	66.61	1	0.33	0	0.5	95.2
8/28/2020	2:30:00 PM	1	71.62	64.22	60	75.62	71.62	67.7	1	0.5	0	0.5	89.74
8/28/2020	2:24:00 PM	1	71.62	63.99	60	75.62	71.62	68.69	1	0	0	1	95.74
8/28/2020	2:18:00 PM	1	71.62	60.96	60	75.62	71.62	66.75	1	0.5	0	0.5	92.51
8/28/2020	2:12:00 PM	1	71.62	65.25	60	75.62	71.62	68.55	1	0.5	0	0.67	89.85
8/28/2020	2:06:00 PM	1	71.62	61.14	60	75.62	71.62	67.52	1	0	0	0.83	95.92
8/28/2020	2:00:00 PM	1	71.62	63.81	60	75.62	71.62	67.03	1	0.5	0	0.5	91.59
8/28/2020	1:54:00 PM	1	71.62	64.92	60	75.62	71.62	68.67	1	0.17	0	1	92.57
8/28/2020	1:48:00 PM	1	71.62	62.94	60	75.62	71.62	64.75	1	1	0	0	85.28
8/28/2020	1:42:00 PM	1	72.17	64.56	60	75.62	71.62	67.36	1	0.6	0	0.6	87.47
8/28/2020	1:36:00 PM	1	72.17	63.17	60	75.62	71.62	67.95	1	0	0	0.83	91.36
8/28/2020	1:30:00 PM	1	72.17	61.41	60	75.62	71.62	65.4	1	0.5	0	0.5	90.76
8/28/2020	1:24:00 PM	1	72.17	65.04	60	75.62	71.62	67.75	1	0.33	0	0.83	88.27
8/28/2020	1:18:00 PM	1	72.17	61.94	60	75.62	71.62	66.18	1	0.17	0	0.67	93.04
8/28/2020	1:12:00 PM	1	72.17	62.45	60	75.62	71.62	66.15	1	0.5	0	0.5	88.89
8/28/2020	1:06:00 PM	1	72.17	64.86	60	75.62	71.62	67.78	1	0.33	0	0.83	88.49

8/28/2020	1:00:00 PM	1	72.17	61.57	60	75.62	71.62	66.12	1	0.17	0	0.67	92.97
8/28/2020	12:54:00 PM	1	72.17	63.02	60	75.62	71.62	66.82	1	0.5	0	0.5	87.84
8/28/2020	12:48:00 PM	1	72.17	64.66	60	75.62	71.62	67.5	1	0.33	0	0.83	89.67
8/28/2020	12:42:00 PM	1	72.17	61.1	60	75.62	71.62	66.08	1	0.17	0	0.67	93.58
8/28/2020	12:36:00 PM	1	72.17	63.02	60	75.62	71.62	66.95	1	0.5	0	0.33	87.97
8/28/2020	12:30:00 PM	1	72.17	64.48	60	75.62	71.62	68.09	1	0.17	0	1	88.43
8/28/2020	12:24:00 PM	1	72.17	60.42	60	75.62	71.62	65.76	1	0.33	0	0.5	89.84
8/28/2020	12:18:00 PM	1	71.21	67.32	60	75.62	71.62	75.68	1	0.5	0.33	0.83	88.3
8/28/2020	12:12:00 PM	1	71.21	60.78	60	75.62	71.62	65.21	1	0.17	0	0.5	92.11
8/28/2020	12:06:00 PM	1	71.21	63.86	60	75.62	71.62	66.71	1	0.5	0	0.5	88.33
8/28/2020	12:00:00 PM	1	71.21	64.56	60	75.62	71.62	67.76	1	0.17	0	1	89.41
8/28/2020	11:54:00 AM	1	71.21	60.34	60	75.62	71.62	64.99	1	0.33	0	0.5	91.49
8/28/2020	11:48:00 AM	1	71.21	65.11	60	75.62	71.62	67.47	1	0.5	0	0.67	87.62
8/28/2020	11:42:00 AM	1	71.21	62.59	60	75.62	71.62	66.65	1	0	0	0.83	91.99
8/28/2020	11:36:00 AM	1	71.21	61.8	60	75.62	71.62	66.02	1	0.5	0	0.5	87.74
8/28/2020	11:30:00 AM	0.5	71.21	67.41	60	75.62	71.62	73.34	1	0.33	0.17	1	87.05
8/28/2020	11:24:00 AM	0	71.21	61.01	60	75.62	71.62	64.96	1	0.5	0.33	0.33	89.6
8/28/2020	11:18:00 AM	0.17	71.21	65.24	60	75.62	71.62	66.72	1	0.5	0	0.67	88.72
8/28/2020	11:12:00 AM	1	71.21	62.96	60	75.62	71.62	66.15	1	0	0	0.83	91.86
8/28/2020	11:06:00 AM	1	71.21	62.22	60	75.62	71.62	65.8	1	0.67	0	0.33	89.07
8/28/2020	11:00:00 AM	1	71.21	65.93	60	75.62	71.62	67.89	1	0.33	0	1	87.42
8/28/2020	10:54:00 AM	1	71.21	60.69	60	75.62	71.62	65.38	1	0.33	0	0.5	91.28
8/28/2020	10:48:00 AM	1	71.21	68.17	60	75.62	71.62	72.79	1	0.5	0.17	0.83	85.79
8/28/2020	10:42:00 AM	1	71.21	60.59	60	75.62	71.62	64.71	1	0.17	0	0.67	91.65
8/28/2020	10:36:00 AM	1	71.21	64.7	60	75.62	71.62	66.86	1	0.5	0	0.5	87.83
8/28/2020	10:30:00 AM	1	71.21	63.03	60	75.62	71.62	65.73	1	0	0	1	92.68
8/28/2020	10:24:00 AM	1	71.21	62.01	60	75.62	71.62	66.17	1	0.67	0	0.33	88.62
8/28/2020	10:18:00 AM	1	71.21	67.34	60	75.62	71.62	72.15	1	0.17	0	1	90.65
8/28/2020	10:12:00 AM	1	71.21	62.11	60	75.62	71.62	65.69	1	0.5	0.33	0.5	90.92
8/28/2020	10:06:00 AM	1	71.21	65.86	60	75.62	71.62	66.98	1	0.33	0	0.83	88.44
8/28/2020	10:00:00 AM	1	71.21	60.6	60	75.62	71.62	65.15	1	0.17	0	0.67	93.65
8/28/2020	9:54:00 AM	1	71.21	68.51	60	75.62	71.62	71.78	1	0.5	0.33	0.83	86.9
8/28/2020	9:48:00 AM	1	71.21	61.02	60	75.62	71.62	64.65	1	0.17	0	0.67	92.71
8/28/2020	9:42:00 AM	1	71.21	65.06	60	75.62	71.62	66.8	1	0.5	0	0.5	89.68
8/28/2020	9:36:00 AM	1	71.21	63.1	60	75.62	71.62	65.42	1	0	0	0.83	92.9
8/28/2020	9:30:00 AM	1	71.21	61.82	60	75.62	71.62	65.1	1	0.5	0	0.5	92.22
8/28/2020	9:24:00 AM	1	71.21	65.64	60	75.62	71.62	66.69	1	0.33	0	0.83	88.55
8/28/2020	9:18:00 AM	1	71.21	60.89	60	75.62	71.62	64.29	1	0.17	0	0.67	93.31
8/28/2020	9:12:00 AM	1	71.21	64.68	60	75.62	71.62	65.77	1	0.5	0	0.5	89.14
8/28/2020	9:06:00 AM	1	71.21	63.95	60	75.62	71.62	65.85	1	0	0	1	91.04
8/28/2020	9:00:00 AM	1	71.21	61.67	60	75.62	71.62	64.98	1	0.5	0	0.5	92.11
8/28/2020	8:54:00 AM	1	71.21	65.33	60	75.62	71.62	66.54	1	0.33	0	0.83	88.68
8/28/2020	8:48:00 AM	1	71.21	60.76	60	75.62	71.62	64.3	1	0.17	0	0.67	95.96
8/28/2020	8:42:00 AM	1	71.21	64.22	60	75.62	71.62	65.92	1	0.5	0	0.5	92.54
8/28/2020	8:36:00 AM	1	71.21	64.25	60	75.62	71.62	65.5	1	0	0	1	92.45
8/28/2020	8:30:00 AM	1	71.21	61.38	60	75.62	71.62	64.84	1	0.5	0	0.33	92.27
8/28/2020	8:24:00 AM	1	71.21	65.82	60	75.62	71.62	66.79	1	0.33	0	0.83	86.25

8/28/2020	8:18:00 AM	1	71.21	60.32	60	75.62	71.62	61.38	1	0.17	0	0.5	90.64
8/28/2020	8:12:00 AM	1	71.21	60.49	60	75.62	71.62	61.38	1	0	0	0.5	91.44
8/28/2020	8:06:00 AM	1	71.21	60.36	60	75.62	71.62	62.42	1	0	0	0.5	90.58
8/28/2020	8:00:00 AM	1	71.21	60.4	60	75.62	71.62	62.42	1	0	0	0.5	90.44
8/28/2020	7:54:00 AM	1	71.21	60.46	60	75.62	71.62	62.42	1	0	0	0.33	88.52
8/28/2020	7:48:00 AM	0.17	71.21	64.36	60	75.62	71.62	65.56	0.83	0	0	0.83	87.72
8/28/2020	7:42:00 AM	0	71.21	60.76	60	75.62	71.62	62.61	1	0.5	0	0.5	85.85
8/28/2020	7:36:00 AM	0	71.21	60.4	60	75.62	71.62	61.38	1	0	0	0.5	88.96
8/28/2020	7:30:00 AM	0.83	71.21	60.39	60	75.62	71.62	61.38	1	0	0	0.5	89.49
8/28/2020	7:24:00 AM	1	71.21	60.25	60	75.62	71.62	62.07	1	0	0	0.33	85.69
8/28/2020	7:18:00 AM	1	71.21	60.11	60	75.62	71.62	62.42	1	0	0	0.33	87.44
8/28/2020	7:12:00 AM	1	71.21	59.96	60	75.62	71.62	62.42	1	0	0	0.33	89.36
8/28/2020	7:06:00 AM	1	71.72	60.53	60	75.62	71.62	62.42	1	0	0	0.5	89.46
8/28/2020	7:00:00 AM	1	72.22	59.87	60	75.62	71.62	62.42	1	0	0	0.33	88.44
8/28/2020	6:54:00 AM	1	72.22	60.03	60	75.62	71.62	62.42	1	0	0	0.33	87.56
8/28/2020	6:48:00 AM	1	72.22	60.01	60	75.62	71.62	62.42	1	0	0	0.33	88.95
8/28/2020	6:42:00 AM	1	72.22	60.46	60	75.62	71.62	62.76	1	0	0	0.5	87.09
8/28/2020	6:36:00 AM	1	73.25	60.4	60	75.62	71.62	63.45	1	0	0	0.5	82.17
8/28/2020	6:30:00 AM	1	73.25	60.26	60	75.62	71.62	65.4	1	0	0	0.33	79.1
8/28/2020	6:24:00 AM	0.33	73.25	61.02	60	75.62	71.62	72.55	0.17	0	0	0	69.28
8/28/2020	6:18:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.33
8/28/2020	6:12:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.29
8/28/2020	6:06:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.3
8/28/2020	6:00:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.29
8/28/2020	5:54:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.33
8/28/2020	5:48:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.32
8/28/2020	5:42:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.33
8/28/2020	5:36:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.4
8/28/2020	5:30:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.43
8/28/2020	5:24:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.47
8/28/2020	5:18:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.45
8/28/2020	5:12:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.45
8/28/2020	5:06:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.48
8/28/2020	5:00:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.52
8/28/2020	4:54:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.56
8/28/2020	4:48:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.58
8/28/2020	4:42:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.57
8/28/2020	4:36:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.57
8/28/2020	4:30:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.57
8/28/2020	4:24:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.56
8/28/2020	4:18:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.62
8/28/2020	4:12:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.66
8/28/2020	4:06:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.66
8/28/2020	4:00:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.69
8/28/2020	3:54:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.77
8/28/2020	3:48:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.76
8/28/2020	3:42:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.78

8/28/2020	3:36:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.81
8/28/2020	3:30:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.79
8/28/2020	3:24:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.77
8/28/2020	3:18:00 AM	0	73.25	61.02	60	75.62	71.62	72.9	0	0	0	0	69.78
8/28/2020	3:12:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	69.81
8/28/2020	3:06:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	69.77
8/28/2020	3:00:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	69.82
8/28/2020	2:54:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	69.82
8/28/2020	2:48:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	69.88
8/28/2020	2:42:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	69.91
8/28/2020	2:36:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	69.96
8/28/2020	2:30:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	69.96
8/28/2020	2:24:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70
8/28/2020	2:18:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70
8/28/2020	2:12:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70.03
8/28/2020	2:06:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70.05
8/28/2020	2:00:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70.01
8/28/2020	1:54:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70.04
8/28/2020	1:48:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70.05
8/28/2020	1:42:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70.07
8/28/2020	1:36:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70.04
8/28/2020	1:30:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70.09
8/28/2020	1:24:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70.09
8/28/2020	1:18:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70.12
8/28/2020	1:12:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70.14
8/28/2020	1:06:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70.16
8/28/2020	1:00:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70.21
8/28/2020	12:54:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70.26
8/28/2020	12:48:00 AM	0	73.3	60.92	60	75.62	71.62	72.6	0	0	0	0	70.23
8/28/2020	12:42:00 AM	0	73.3	60.75	60	75.62	71.62	72.6	0	0	0	0	70.29
8/28/2020	12:36:00 AM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.29
8/28/2020	12:30:00 AM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.3
8/28/2020	12:24:00 AM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.34
8/28/2020	12:18:00 AM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.35
8/28/2020	12:12:00 AM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.39
8/28/2020	12:06:00 AM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.38
8/28/2020	12:00:00 AM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.44
8/27/2020	11:54:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.47
8/27/2020	11:48:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.48
8/27/2020	11:42:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.52
8/27/2020	11:36:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.58
8/27/2020	11:30:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.58
8/27/2020	11:24:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.57
8/27/2020	11:18:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.62
8/27/2020	11:12:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.6
8/27/2020	11:06:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.62
8/27/2020	11:00:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.62

8/27/2020	10:54:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.64
8/27/2020	10:48:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.64
8/27/2020	10:42:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.62
8/27/2020	10:36:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.64
8/27/2020	10:30:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.63
8/27/2020	10:24:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.63
8/27/2020	10:18:00 PM	0	73.3	59.89	60	75.62	71.62	72.6	0	0	0	0	70.63
8/27/2020	10:12:00 PM	0	72.43	59.89	60	75.62	71.62	72.6	0	0	0	0	70.6
8/27/2020	10:06:00 PM	0	72.26	59.89	60	75.62	71.62	72.6	0	0	0	0	70.64
8/27/2020	10:00:00 PM	0	72.26	59.89	60	75.62	71.62	72.6	0	0	0	0	70.64
8/27/2020	9:54:00 PM	0	72.26	59.89	60	75.62	71.62	72.6	0	0	0	0	70.6
8/27/2020	9:48:00 PM	0	72.26	59.89	60	75.62	71.62	72.6	0	0	0	0	70.59
8/27/2020	9:42:00 PM	0	72.26	59.89	60	75.62	71.62	72.6	0	0	0	0	70.6
8/27/2020	9:36:00 PM	0	72.26	59.89	60	75.62	71.62	72.08	0	0	0	0	70.58
8/27/2020	9:30:00 PM	0	72.26	59.89	60	75.62	71.62	71.55	0	0	0	0	70.57
8/27/2020	9:24:00 PM	0	72.26	59.89	60	75.62	71.62	71.55	0	0	0	0	70.54
8/27/2020	9:18:00 PM	0	72.26	59.89	60	75.62	71.62	71.55	0	0	0	0	70.53
8/27/2020	9:12:00 PM	0	72.26	59.89	60	75.62	71.62	71.55	0	0	0	0	70.53
8/27/2020	9:06:00 PM	0	72.26	59.89	60	75.62	71.62	71.55	0	0	0	0	70.5
8/27/2020	9:00:00 PM	0	72.26	59.89	60	75.62	71.62	71.55	0	0	0	0	70.48
8/27/2020	8:54:00 PM	0	72.26	59.89	60	75.62	71.62	71.55	0	0	0	0	70.45
8/27/2020	8:48:00 PM	0	72.26	59.89	60	75.62	71.62	70.86	0	0	0	0	70.43
8/27/2020	8:42:00 PM	0	72.26	59.89	60	75.62	71.62	70.51	0	0	0	0	70.47
8/27/2020	8:36:00 PM	0	72.26	59.89	60	75.62	71.62	70.51	0	0	0	0	70.44
8/27/2020	8:30:00 PM	0	72.26	59.89	60	75.62	71.62	70.51	0	0	0	0	70.43
8/27/2020	8:24:00 PM	0	72.26	59.89	60	75.62	71.62	70.51	0	0	0	0	70.44
8/27/2020	8:18:00 PM	0	72.26	59.89	60	75.62	71.62	69.61	0	0	0	0	70.54
8/27/2020	8:12:00 PM	0	72.26	59.89	60	75.62	71.62	69.43	0	0	0	0	70.6
8/27/2020	8:06:00 PM	0	72.26	59.89	60	75.62	71.62	69.43	0	0	0	0	70.72
8/27/2020	8:00:00 PM	0	72.26	59.89	60	75.62	71.62	68.92	0	0	0	0	70.83
8/27/2020	7:54:00 PM	0	72.26	59.89	60	75.62	71.62	68.42	0	0	0	0	71.08
8/27/2020	7:48:00 PM	0	71.59	59.89	60	75.62	71.62	68.08	0	0	0	0	71.49
8/27/2020	7:42:00 PM	0	71.26	59.89	60	75.62	71.62	67.39	0	0	0	0	72.15
8/27/2020	7:36:00 PM	0	71.26	59.89	60	75.62	71.62	66.52	0	0	0	0	73.21
8/27/2020	7:30:00 PM	0	71.26	59.89	60	75.62	71.62	65.82	0	0	0	0	75.18
8/27/2020	7:24:00 PM	0	71.26	59.89	60	75.62	71.62	64.95	0	0	0	0	78.86
8/27/2020	7:18:00 PM	0	71.26	59.55	60	75.62	71.62	63.62	0	0	0	0	86.68
8/27/2020	7:12:00 PM	0	71.26	61.64	60	77.19	71.02	63.28	1	0	0	0.33	87.7
8/27/2020	7:06:00 PM	0	71.26	61.67	60	75.62	71.62	65.73	1	0	0	0.83	94.2
8/27/2020	7:00:00 PM	0	71.26	63.73	60	75.62	71.62	66.07	1	0.5	0	0.33	90.13
8/27/2020	6:54:00 PM	0.5	71.26	60.22	60	75.62	71.62	63.7	1	0	0	0.5	93.4
8/27/2020	6:48:00 PM	1	71.26	65.52	60	75.62	71.62	68.01	1	0.33	0	0.83	88.33
8/27/2020	6:42:00 PM	1	71.26	60.16	60	75.62	71.62	62.59	1	0.17	0	0.33	92.06
8/27/2020	6:36:00 PM	1	71.26	60.04	60	75.62	71.62	62.76	1	0	0	0.5	92.46
8/27/2020	6:30:00 PM	1	71.26	60.23	60	75.62	71.62	63.28	1	0	0	0.33	93.51
8/27/2020	6:24:00 PM	1	71.26	60.16	60	75.62	71.62	63.45	1	0	0	0.33	92.14
8/27/2020	6:18:00 PM	1	71.26	60.53	60	75.62	71.62	63.62	1	0	0	0.5	92.13

8/27/2020	6:12:00 PM	1	71.26	60.22	60	75.62	71.62	63.62	1	0	0	0.5	93.25
8/27/2020	6:06:00 PM	1	72.08	60.3	60	75.62	71.62	63.37	1	0	0	0.5	91.85
8/27/2020	6:00:00 PM	1	72.08	60.28	60	75.62	71.62	63.37	1	0	0	0.5	93.11
8/27/2020	5:54:00 PM	1	72.08	60.66	60	75.62	71.62	63.37	1	0	0	0.5	91.24
8/27/2020	5:48:00 PM	1	72.08	60.9	60	75.62	71.62	63.37	1	0	0	0.33	92.37
8/27/2020	5:42:00 PM	1	72.08	60.66	60	75.62	71.62	63.37	1	0	0	0.5	92.25
8/27/2020	5:36:00 PM	1	72.08	60.35	60	75.62	71.62	63.37	1	0	0	0.33	92.23
8/27/2020	5:30:00 PM	1	72.08	60.37	60	75.62	71.62	63.37	1	0	0	0.5	93.74
8/27/2020	5:24:00 PM	1	72.08	60.05	60	75.62	71.62	63.37	1	0	0	0.33	93.6
8/27/2020	5:18:00 PM	1	72.08	60.04	60	75.62	71.62	63.37	1	0	0	0.5	91.97
8/27/2020	5:12:00 PM	1	72.08	60.22	60	75.62	71.62	63.37	1	0	0	0.5	92.11
8/27/2020	5:06:00 PM	1	72.08	60.67	60	75.62	71.62	64.27	1	0	0	0.5	92.13
8/27/2020	5:00:00 PM	1	72.08	60.13	60	75.62	71.62	64.45	1	0	0	0.33	91.66
8/27/2020	4:54:00 PM	1	72.08	60	60	75.62	71.62	64.45	1	0	0	0.33	92.52
8/27/2020	4:48:00 PM	1	72.08	60.49	60	75.62	71.62	64.45	1	0	0	0.33	92.97
8/27/2020	4:42:00 PM	1	72.08	60.17	60	75.62	71.62	64.45	1	0	0	0.5	94
8/27/2020	4:36:00 PM	1	72.08	60.09	60	75.62	71.62	64.45	1	0	0	0.33	93.24
8/27/2020	4:30:00 PM	1	72.08	60.34	60	75.62	71.62	64.45	1	0	0	0.5	91.77
8/27/2020	4:24:00 PM	1	72.08	60.39	60	75.62	71.62	64.45	1	0	0	0.5	92.25
8/27/2020	4:18:00 PM	1	72.08	60.28	60	75.62	71.62	64.45	1	0	0	0.5	91.27
8/27/2020	4:12:00 PM	1	72.08	60.12	60	75.62	71.62	64.45	1	0	0	0.5	93.19
8/27/2020	4:06:00 PM	1	72.08	60.44	60	75.62	71.62	64.45	1	0	0	0.5	91.35
8/27/2020	4:00:00 PM	1	72.08	60.78	60	75.62	71.62	64.45	1	0	0	0.5	91.57
8/27/2020	3:54:00 PM	1	72.08	60.56	60	75.62	71.62	64.45	1	0	0	0.5	89.51
8/27/2020	3:48:00 PM	1	72.08	60.58	60	75.62	71.62	64.45	1	0	0	0.33	90.02
8/27/2020	3:42:00 PM	1	72.08	60.77	60	75.62	71.62	66.5	1	0	0	0.67	93.52
8/27/2020	3:36:00 PM	1	72.08	63.28	60	75.62	71.62	67.71	1	0.67	0	0.5	89.43
8/27/2020	3:30:00 PM	1	72.08	64.47	60	75.62	71.62	68.69	1	0.17	0	1	89.95
8/27/2020	3:24:00 PM	1	72.08	60.48	60	75.62	71.62	65.84	1	0.33	0	0.5	92.89
8/27/2020	3:18:00 PM	1	72.08	63.58	60	75.62	71.62	67.64	1	0.5	0	0.5	89.4
8/27/2020	3:12:00 PM	1	72.08	64.44	60	75.62	71.62	68.73	1	0.17	0	1	91.3
8/27/2020	3:06:00 PM	1	72.08	60.84	60	75.62	71.62	65.83	1	0.33	0	0.33	93.04
8/27/2020	3:00:00 PM	1	72.08	64.67	60	75.62	71.62	68.01	1	0.5	0	0.67	89.71
8/27/2020	2:54:00 PM	1	72.08	63.01	60	75.62	71.62	67.79	1	0	0	0.83	91.64
8/27/2020	2:48:00 PM	1	72.08	61.26	60	75.62	71.62	65.97	1	0.5	0	0.5	91.6
8/27/2020	2:42:00 PM	1	72.08	65.15	60	75.62	71.62	68.24	1	0.5	0	0.67	87.87
8/27/2020	2:36:00 PM	1	72.08	62.31	60	75.62	71.62	67.09	1	0	0	0.83	93.36
8/27/2020	2:30:00 PM	1	72.08	62.11	60	75.62	71.62	66.42	1	0.5	0	0.5	91.14
8/27/2020	2:24:00 PM	1	72.08	65.32	60	75.62	71.62	68.53	1	0.33	0	0.83	88.82
8/27/2020	2:18:00 PM	1	72.08	61.21	60	75.62	71.62	66.08	1	0.17	0	0.67	93.43
8/27/2020	2:12:00 PM	1	72.08	63.44	60	75.62	71.62	67.37	1	0.67	0	0.5	89.89
8/27/2020	2:06:00 PM	1	72.08	64.48	60	75.62	71.62	67.93	1	0.17	0	1	90.1
8/27/2020	2:00:00 PM	1	72.08	60.35	60	75.62	71.62	65.24	1	0.33	0	0.5	91.56
8/27/2020	1:54:00 PM	1	72.08	65.08	60	75.62	71.62	67.72	1	0.5	0	0.67	88.77
8/27/2020	1:48:00 PM	1	72.08	62.59	60	75.62	71.62	66.58	1	0	0	0.83	92.97
8/27/2020	1:42:00 PM	1	72.08	61.83	60	75.62	71.62	66.22	1	0.5	0	0.5	89.8
8/27/2020	1:36:00 PM	1	72.08	64.95	60	75.62	71.62	67.81	1	0.33	0	0.83	88.88

8/27/2020	1:30:00 PM	1	72.08	61.34	60	75.62	71.62	65.94	1	0.17	0	0.67	93.02
8/27/2020	1:24:00 PM	1	72.08	63.32	60	75.62	71.62	67.37	1	0.5	0	0.5	87.24
8/27/2020	1:18:00 PM	1	72.08	65.54	60	75.62	71.62	73.09	1	0	0	1	90.69
8/27/2020	1:12:00 PM	1	72.08	63.06	60	75.62	71.62	66.9	1	0.67	0.33	0.5	89.27
8/27/2020	1:06:00 PM	1	72.08	64.69	60	75.62	71.62	67.04	1	0.5	0	0.83	88.85
8/27/2020	1:00:00 PM	1	72.08	61.87	60	75.62	71.62	66.33	1	0	0	0.83	93.23
8/27/2020	12:54:00 PM	1	72.08	63.03	60	75.62	71.62	66.38	1	0.5	0	0.5	89.27
8/27/2020	12:48:00 PM	1	72.08	65.21	60	75.62	71.62	68.07	1	0.33	0	1	88.63
8/27/2020	12:42:00 PM	1	72.08	60.56	60	75.62	71.62	65.5	1	0.33	0	0.5	92.54
8/27/2020	12:36:00 PM	1	72.08	64.92	60	75.62	71.62	67.74	1	0.5	0	0.5	87.48
8/27/2020	12:30:00 PM	1	72.08	63.46	60	75.62	71.62	66.97	1	0	0	0.83	90.82
8/27/2020	12:24:00 PM	1	72.08	61.7	60	75.62	71.62	65.83	1	0.5	0	0.5	93.19
8/27/2020	12:18:00 PM	1	72.08	65.34	60	75.62	71.62	67.93	1	0.33	0	0.83	88.65
8/27/2020	12:12:00 PM	1	72.08	61.31	60	75.62	71.62	65.74	1	0.17	0	0.67	92.09
8/27/2020	12:06:00 PM	1	72.08	64.66	60	75.62	71.62	67.24	1	0.5	0	0.5	87.14
8/27/2020	12:00:00 PM	1	72.08	63.56	60	75.62	71.62	66.61	1	0	0	1	93.83
8/27/2020	11:54:00 AM	1	72.08	62.63	60	75.62	71.62	66.3	1	0.67	0	0.5	87.57
8/27/2020	11:48:00 AM	1	72.08	65.1	60	75.62	71.62	72.04	1	0	0	1	92.9
8/27/2020	11:42:00 AM	1	72.08	63.29	60	75.62	71.62	67.7	1	0.67	0.33	0.5	87.39
8/27/2020	11:36:00 AM	1	72.08	65.87	60	75.62	71.62	67.23	1	0.17	0	1	89.36
8/27/2020	11:30:00 AM	1	72.08	60.34	60	75.62	71.62	64.79	1	0.33	0	0.5	91.28
8/27/2020	11:24:00 AM	1	72.08	68.69	60	75.62	71.62	72.98	1	0.33	0.17	1	88.41
8/27/2020	11:18:00 AM	1	72.08	60.7	60	75.62	71.62	64.27	1	0.33	0.17	0.5	91.14
8/27/2020	11:12:00 AM	1	72.08	65.79	60	75.62	71.62	67.37	1	0.33	0	0.83	86.5
8/27/2020	11:06:00 AM	1	72.08	61.7	60	75.62	71.62	65.85	1	0.17	0	0.67	91.83
8/27/2020	11:00:00 AM	1	72.08	67.75	60	75.62	71.62	71.79	1	0.67	0.33	0.67	85.54
8/27/2020	10:54:00 AM	1	72.08	61.33	60	75.62	71.62	65.08	1	0	0	0.83	94.48
8/27/2020	10:48:00 AM	1	72.08	63.67	60	75.62	71.62	66.2	1	0.5	0	0.5	88.07
8/27/2020	10:42:00 AM	1	72.08	64.41	60	75.62	71.62	69.47	1	0	0	1	88.6
8/27/2020	10:36:00 AM	1	72.08	64.19	60	75.62	71.62	68.36	1	0.83	0.33	0.33	87.2
8/27/2020	10:30:00 AM	1	72.08	64.88	60	75.62	71.62	66.87	1	0.17	0	1	90.59
8/27/2020	10:24:00 AM	1	72.08	60.88	60	75.62	71.62	65.05	1	0.33	0	0.33	91.8
8/27/2020	10:18:00 AM	1	72.08	65.91	60	75.62	71.62	66.64	1	0.33	0	0.83	87.51
8/27/2020	10:12:00 AM	1	72.08	61.57	60	75.62	71.62	66.33	1	0.17	0	0.67	90.83
8/27/2020	10:06:00 AM	1	71.04	68.26	60	75.62	71.62	72.42	1	0.67	0.5	0.67	86.06
8/27/2020	10:00:00 AM	1	71.04	61.08	60	75.62	71.62	65.82	1	0.17	0	0.67	92.34
8/27/2020	9:54:00 AM	1	71.04	68.75	60	75.62	71.62	71.79	1	0.5	0.33	0.83	85.9
8/27/2020	9:48:00 AM	1	71.04	61	60	75.62	71.62	64.54	1	0.17	0	0.67	93.28
8/27/2020	9:42:00 AM	1	71.04	64.33	60	75.62	71.62	66.35	1	0.5	0	0.5	87.2
8/27/2020	9:36:00 AM	1	71.04	63.99	60	75.62	71.62	67.81	1	0	0	1	91.15
8/27/2020	9:30:00 AM	1	71.04	65.13	60	75.62	71.62	69.12	1	0.67	0.33	0.5	86.75
8/27/2020	9:24:00 AM	1	71.04	63.84	60	75.62	71.62	67.4	1	0	0	1	91.99
8/27/2020	9:18:00 AM	1	71.04	65.64	60	75.62	71.62	68.39	1	0.67	0.33	0.5	88.43
8/27/2020	9:12:00 AM	1	71.04	63.02	60	75.62	71.62	65.24	1	0	0	1	94.11
8/27/2020	9:06:00 AM	1	71.04	62.31	60	75.62	71.62	65.21	1	0.5	0	0.5	88.8
8/27/2020	9:00:00 AM	1	70.9	65.38	60	75.62	71.62	67.08	1	0.33	0	0.83	87.54
8/27/2020	8:54:00 AM	1	70.9	60.48	60	75.62	71.62	63.53	1	0.33	0	0.5	93.16

8/27/2020	8:48:00 AM	1	70.9	65.38	60	75.62	71.62	66.18	1	0.67	0	0.67	88.88
8/27/2020	8:42:00 AM	1	70.9	61.76	60	75.62	71.62	64.36	1	0	0	0.83	93.6
8/27/2020	8:36:00 AM	1	70.9	64.22	60	75.62	71.62	65.71	1	0.67	0	0.33	87.35
8/27/2020	8:30:00 AM	1	70.9	64.27	60	75.62	71.62	65.52	1	0.17	0	1	86.49

ROS_HP108_UnOccRmHumSp_Sh.PresentValue	ROS_HP108_MaDmpr.PresentValue
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Date	Time	ROS_HP114_OccSnr.PresentValue	ROS_HP114_RmTemp.PresentValue	ROS_HP114_RmHum.PresentValue	ROS_HP114_RmHumSp_Sh.PresentValue	ROS_HP114_EffClgSp.PresentValue	ROS_HP114_EffHtgSp.PresentValue	ROS_HP114_DaTemp.PresentValue	ROS_HP114_FanSts.PresentValue	ROS_HP114_CompStg1En.PresentValue	ROS_HP114_CompStg2En.PresentValue	ROS_HP114_DehumEn.PresentValue	ROS_HP114_HotGasRHTemp.PresentValue
9/3/2020	8:30:00 AM	1	71.17	63.08	60	75.54	71.54	63.41	1	0	0	1	97.61
9/3/2020	8:24:00 AM	1	71.17	63.16	60	75.54	71.54	70.96	1	0.67	0	0.5	86.64
9/3/2020	8:18:00 AM	1	71.17	60.97	60	75.54	71.54	61.49	1	0	0	0.67	97.82
9/3/2020	8:12:00 AM	1	71.17	65.28	60	75.54	71.54	72.44	1	0.5	0	0.67	88.96
9/3/2020	8:06:00 AM	1	71.17	59.39	60	75.54	71.54	60.83	1	0.33	0	0.5	97.63
9/3/2020	8:00:00 AM	1	70.66	65.55	60	75.54	71.54	70.32	1	0.33	0	0.83	88.33
9/3/2020	7:54:00 AM	1	70.14	59.21	60	75.54	71.54	62.27	1	0.5	0	0.33	94.78
9/3/2020	7:48:00 AM	1	70.14	65.35	60	75.54	71.54	69.78	1	0.17	0	1	91.54
9/3/2020	7:42:00 AM	1	70.14	59.63	60	75.54	71.54	63.5	1	0.67	0	0.17	92.49
9/3/2020	7:36:00 AM	1	70.14	64.1	60	75.54	71.54	68.2	1	0	0	1	94.83
9/3/2020	7:30:00 AM	1	70.14	60.43	60	75.54	71.54	65.02	1	0.83	0	0.17	89.17
9/3/2020	7:24:00 AM	0	70.14	63.38	60	75.54	71.54	68.82	1	0	0	1	93.5
9/3/2020	7:18:00 AM	0.33	70.31	60.4	60	75.54	71.54	64.59	1	0.67	0	0.33	86.31
9/3/2020	7:12:00 AM	1	71.17	60.68	60	75.54	71.54	60.98	1	0	0	0.5	85.82
9/3/2020	7:06:00 AM	1	71.17	59.36	60	75.54	71.54	60.61	1	0	0	0.5	91.86
9/3/2020	7:00:00 AM	1	71.17	59.26	60	75.54	71.54	61.84	1	0	0	0	79.04
9/3/2020	6:54:00 AM	1	71.17	59.73	60	75.54	71.54	66.9	1	0	0	0.33	76.34
9/3/2020	6:48:00 AM	1	71.17	59.73	60	75.54	71.54	70.39	1	0	0	0	65.51
9/3/2020	6:42:00 AM	0.33	71.17	59.22	60	75.54	71.54	72.99	0.17	0	0	0	65.42
9/3/2020	6:36:00 AM	0	71.17	59.14	60	75.54	71.54	72.99	0	0	0	0	65.42
9/3/2020	6:30:00 AM	0	71.17	59.1	60	75.54	71.54	72.99	0	0	0	0	65.45
9/3/2020	6:24:00 AM	0	71.17	59.1	60	75.54	71.54	72.99	0	0	0	0	65.46
9/3/2020	6:18:00 AM	0	71.3	59.1	60	75.54	71.54	73.79	0	0	0	0	65.47
9/3/2020	6:12:00 AM	0	71.3	59.09	60	75.54	71.54	73.79	0	0	0	0	65.5
9/3/2020	6:06:00 AM	0	71.3	59.19	60	75.54	71.54	73.79	0	0	0	0	65.47
9/3/2020	6:00:00 AM	0	71.3	59.23	60	75.54	71.54	73.79	0	0	0	0	65.46
9/3/2020	5:54:00 AM	0	71.3	59.23	60	75.54	71.54	73.79	0	0	0	0	65.45
9/3/2020	5:48:00 AM	0	71.3	59.23	60	75.54	71.54	73.79	0	0	0	0	65.46
9/3/2020	5:42:00 AM	0	71.3	59.22	60	75.54	71.54	73.79	0	0	0	0	65.46
9/3/2020	5:36:00 AM	0	71.3	59.2	60	75.54	71.54	73.79	0	0	0	0	65.47
9/3/2020	5:30:00 AM	0	71.3	59.21	60	75.54	71.54	73.79	0	0	0	0	65.51

9/3/2020	5:24:00 AM	0	71.3	59.19	60	75.54	71.54	73.79	0	0	0	0	65.51
9/3/2020	5:18:00 AM	0	71.3	59.17	60	75.54	71.54	73.79	0	0	0	0	65.54
9/3/2020	5:12:00 AM	0	71.3	59.18	60	75.54	71.54	73.79	0	0	0	0	65.57
9/3/2020	5:06:00 AM	0	71.3	59.18	60	75.54	71.54	73.79	0	0	0	0	65.62
9/3/2020	5:00:00 AM	0	71.3	59.2	60	75.54	71.54	73.79	0	0	0	0	65.62
9/3/2020	4:54:00 AM	0	71.3	59.21	60	75.54	71.54	73.79	0	0	0	0	65.64
9/3/2020	4:48:00 AM	0	71.3	59.21	60	75.54	71.54	73.79	0	0	0	0	65.65
9/3/2020	4:42:00 AM	0	71.3	59.24	60	75.54	71.54	73.79	0	0	0	0	65.69
9/3/2020	4:36:00 AM	0	71.3	59.24	60	75.54	71.54	73.79	0	0	0	0	65.7
9/3/2020	4:30:00 AM	0	71.47	59.24	60	75.54	71.54	73.79	0	0	0	0	65.7
9/3/2020	4:24:00 AM	0	72.33	59.23	60	75.54	71.54	73.79	0	0	0	0	65.72
9/3/2020	4:18:00 AM	0	72.33	59.25	60	75.54	71.54	73.79	0	0	0	0	65.76
9/3/2020	4:12:00 AM	0	72.33	59.25	60	75.54	71.54	73.79	0	0	0	0	65.76
9/3/2020	4:06:00 AM	0	72.33	59.26	60	75.54	71.54	73.79	0	0	0	0	65.73
9/3/2020	4:00:00 AM	0	72.33	59.26	60	75.54	71.54	73.79	0	0	0	0	65.72
9/3/2020	3:54:00 AM	0	72.33	59.26	60	75.54	71.54	73.79	0	0	0	0	65.76
9/3/2020	3:48:00 AM	0	72.33	59.26	60	75.54	71.54	73.79	0	0	0	0	65.77
9/3/2020	3:42:00 AM	0	72.33	59.26	60	75.54	71.54	73.79	0	0	0	0	65.78
9/3/2020	3:36:00 AM	0	72.33	59.26	60	75.54	71.54	73.79	0	0	0	0	65.78
9/3/2020	3:30:00 AM	0	72.33	59.26	60	75.54	71.54	73.79	0	0	0	0	65.8
9/3/2020	3:24:00 AM	0	72.33	59.26	60	75.54	71.54	73.79	0	0	0	0	65.86
9/3/2020	3:18:00 AM	0	72.33	59.26	60	75.54	71.54	73.79	0	0	0	0	65.9
9/3/2020	3:12:00 AM	0	72.33	59.28	60	75.54	71.54	73.79	0	0	0	0	65.94
9/3/2020	3:06:00 AM	0	72.33	59.29	60	75.54	71.54	73.79	0	0	0	0	65.97
9/3/2020	3:00:00 AM	0	72.33	59.3	60	75.54	71.54	73.79	0	0	0	0	66.02
9/3/2020	2:54:00 AM	0	72.33	59.31	60	75.54	71.54	73.79	0	0	0	0	66.03
9/3/2020	2:48:00 AM	0	72.33	59.29	60	75.54	71.54	73.79	0	0	0	0	66.09
9/3/2020	2:42:00 AM	0	72.33	59.25	60	75.54	71.54	73.79	0	0	0	0	66.1
9/3/2020	2:36:00 AM	0	72.33	59.2	60	75.54	71.54	73.79	0	0	0	0	66.13
9/3/2020	2:30:00 AM	0	72.33	59.17	60	75.54	71.54	73.79	0	0	0	0	66.1
9/3/2020	2:24:00 AM	0	72.33	59.18	60	75.54	71.54	73.79	0	0	0	0	66.13
9/3/2020	2:18:00 AM	0	72.33	59.17	60	75.54	71.54	73.79	0	0	0	0	66.14
9/3/2020	2:12:00 AM	0	72.33	59.15	60	75.54	71.54	73.79	0	0	0	0	66.18
9/3/2020	2:06:00 AM	0	72.33	59.11	60	75.54	71.54	73.79	0	0	0	0	66.26
9/3/2020	2:00:00 AM	0	72.33	59.12	60	75.54	71.54	73.79	0	0	0	0	66.31
9/3/2020	1:54:00 AM	0	72.33	59.08	60	75.54	71.54	73.79	0	0	0	0	66.34
9/3/2020	1:48:00 AM	0	72.33	59.02	60	75.54	71.54	73.79	0	0	0	0	66.37
9/3/2020	1:42:00 AM	0	72.33	58.92	60	75.54	71.54	73.79	0	0	0	0	66.42
9/3/2020	1:36:00 AM	0	72.33	58.87	60	75.54	71.54	73.79	0	0	0	0	66.45
9/3/2020	1:30:00 AM	0	72.33	58.81	60	75.54	71.54	73.79	0	0	0	0	66.44
9/3/2020	1:24:00 AM	0	72.33	58.77	60	75.54	71.54	74.63	0	0	0	0	66.44
9/3/2020	1:18:00 AM	0	72.33	58.72	60	75.54	71.54	74.79	0	0	0	0	66.45
9/3/2020	1:12:00 AM	0	72.33	58.67	60	75.54	71.54	74.79	0	0	0	0	66.42
9/3/2020	1:06:00 AM	0	72.33	58.64	60	75.54	71.54	74.79	0	0	0	0	66.41
9/3/2020	1:00:00 AM	0	72.33	58.6	60	75.54	71.54	74.79	0	0	0	0	66.42
9/3/2020	12:54:00 AM	0	72.33	58.55	60	75.54	71.54	74.79	0	0	0	0	66.45
9/3/2020	12:48:00 AM	0	72.33	58.51	60	75.54	71.54	74.79	0	0	0	0	66.49

9/3/2020 12:42:00 AM	0	72.33	58.46	60	75.54	71.54	74.79	0	0	0	0	66.52
9/3/2020 12:36:00 AM	0	72.33	58.43	60	75.54	71.54	74.79	0	0	0	0	66.56
9/3/2020 12:30:00 AM	0	72.33	58.35	60	75.54	71.54	74.79	0	0	0	0	66.61
9/3/2020 12:24:00 AM	0	72.33	58.28	60	75.54	71.54	74.79	0	0	0	0	66.65
9/3/2020 12:18:00 AM	0	72.33	58.21	60	75.54	71.54	74.79	0	0	0	0	66.72
9/3/2020 12:12:00 AM	0	72.33	58.16	60	75.54	71.54	74.79	0	0	0	0	66.75
9/3/2020 12:06:00 AM	0	72.33	58.11	60	75.54	71.54	74.79	0	0	0	0	66.75
9/3/2020 12:00:00 AM	0	72.33	58.07	60	75.54	71.54	74.79	0	0	0	0	66.76
9/2/2020 11:54:00 PM	0	72.33	57.99	60	75.54	71.54	74.79	0	0	0	0	66.75
9/2/2020 11:48:00 PM	0	72.33	57.93	60	75.54	71.54	74.79	0	0	0	0	66.75
9/2/2020 11:42:00 PM	0	72.33	57.87	60	75.54	71.54	74.79	0	0	0	0	66.75
9/2/2020 11:36:00 PM	0	72.33	57.8	60	75.54	71.54	74.79	0	0	0	0	66.76
9/2/2020 11:30:00 PM	0	72.33	57.73	60	75.54	71.54	74.79	0	0	0	0	66.82
9/2/2020 11:24:00 PM	0	72.33	57.67	60	75.54	71.54	74.79	0	0	0	0	66.86
9/2/2020 11:18:00 PM	0	72.33	57.61	60	75.54	71.54	74.79	0	0	0	0	66.88
9/2/2020 11:12:00 PM	0	72.33	57.53	60	75.54	71.54	74.79	0	0	0	0	66.99
9/2/2020 11:06:00 PM	0	72.33	57.47	60	75.54	71.54	74.79	0	0	0	0	67.04
9/2/2020 11:00:00 PM	0	72.33	57.39	60	75.54	71.54	74.79	0	0	0	0	67.07
9/2/2020 10:54:00 PM	0	72.33	57.32	60	75.54	71.54	74.79	0	0	0	0	67.12
9/2/2020 10:48:00 PM	0	72.33	57.24	60	75.54	71.54	74.79	0	0	0	0	67.17
9/2/2020 10:42:00 PM	0	72.33	57.17	60	75.54	71.54	74.97	0	0	0	0	67.23
9/2/2020 10:36:00 PM	0	72.33	57.09	60	75.54	71.54	75.85	0	0	0	0	67.29
9/2/2020 10:30:00 PM	0	72.33	56.99	60	75.54	71.54	75.85	0	0	0	0	67.31
9/2/2020 10:24:00 PM	0	72.33	56.93	60	75.54	71.54	75.85	0	0	0	0	67.31
9/2/2020 10:18:00 PM	0	72.33	56.85	60	75.54	71.54	75.85	0	0	0	0	67.32
9/2/2020 10:12:00 PM	0	72.33	56.79	60	75.54	71.54	75.85	0	0	0	0	67.33
9/2/2020 10:06:00 PM	0	72.33	56.7	60	75.54	71.54	75.85	0	0	0	0	67.37
9/2/2020 10:00:00 PM	0	72.33	56.66	60	75.54	71.54	75.85	0	0	0	0	67.37
9/2/2020 9:54:00 PM	0	72.33	56.58	60	75.54	71.54	75.85	0	0	0	0	67.4
9/2/2020 9:48:00 PM	0	72.33	56.61	60	75.54	71.54	75.85	0	0	0	0	67.45
9/2/2020 9:42:00 PM	0	72.33	56.52	60	75.54	71.54	75.85	0	0	0	0	67.46
9/2/2020 9:36:00 PM	0	72.33	56.31	60	75.54	71.54	75.85	0	0	0	0	67.46
9/2/2020 9:30:00 PM	0	72.33	56.19	60	75.54	71.54	75.85	0	0	0	0	67.54
9/2/2020 9:24:00 PM	0	72.33	56.09	60	75.54	71.54	75.85	0	0	0	0	67.59
9/2/2020 9:18:00 PM	0	72.33	55.97	60	75.54	71.54	75.85	0	0	0	0	67.66
9/2/2020 9:12:00 PM	0	72.42	55.84	60	75.54	71.54	76.62	0	0	0	0	67.71
9/2/2020 9:06:00 PM	0	72.42	55.78	60	75.54	71.54	76.62	0	0	0	0	67.78
9/2/2020 9:00:00 PM	0	72.42	55.7	60	75.54	71.54	76.62	0	0	0	0	67.87
9/2/2020 8:54:00 PM	0	72.42	55.63	60	75.54	71.54	76.62	0	0	0	0	67.94
9/2/2020 8:48:00 PM	0	72.58	55.41	60	75.54	71.54	76.62	0	0	0	0	67.99
9/2/2020 8:42:00 PM	0	73.43	55.16	60	75.54	71.54	76.62	0	0	0	0	68.07
9/2/2020 8:36:00 PM	0	73.43	54.97	60	75.54	71.54	76.62	0	0	0	0	68.08
9/2/2020 8:30:00 PM	0	73.43	54.85	60	75.54	71.54	76.62	0	0	0	0	68.11
9/2/2020 8:24:00 PM	0	73.43	54.7	60	75.54	71.54	76.62	0	0	0	0	68.17
9/2/2020 8:18:00 PM	0	73.43	54.53	60	75.54	71.54	76.62	0	0	0	0	68.17
9/2/2020 8:12:00 PM	0	73.43	54.38	60	75.54	71.54	76.62	0	0	0	0	68.24
9/2/2020 8:06:00 PM	0	73.43	54.21	60	75.54	71.54	76.62	0	0	0	0	68.29

9/2/2020	8:00:00 PM	0	73.43	54.08	60	75.54	71.54	76.62	0	0	0	0	68.35
9/2/2020	7:54:00 PM	0	73.43	53.91	60	75.54	71.54	76.62	0	0	0	0	68.39
9/2/2020	7:48:00 PM	0	73.43	53.71	60	75.54	71.54	76.62	0	0	0	0	68.48
9/2/2020	7:42:00 PM	0	73.43	53.51	60	75.54	71.54	76.62	0	0	0	0	68.56
9/2/2020	7:36:00 PM	0	73.43	53.28	60	75.54	71.54	76.62	0	0	0	0	68.69
9/2/2020	7:30:00 PM	0	73.43	53.06	60	75.54	71.54	76.62	0	0	0	0	68.79
9/2/2020	7:24:00 PM	0	73.43	52.82	60	75.54	71.54	75.75	0	0	0	0	68.86
9/2/2020	7:18:00 PM	0	73.43	52.52	60	75.54	71.54	75.57	0	0	0	0	68.95
9/2/2020	7:12:00 PM	0	73.43	52.27	60	75.54	71.54	75.57	0	0	0	0	69.02
9/2/2020	7:06:00 PM	0	73.43	52.02	60	75.54	71.54	75.57	0	0	0	0	69.05
9/2/2020	7:00:00 PM	0	73.43	51.78	60	75.54	71.54	75.57	0	0	0	0	69.09
9/2/2020	6:54:00 PM	0	73.43	51.5	60	75.54	71.54	75.57	0	0	0	0	69.09
9/2/2020	6:48:00 PM	0	73.43	51.26	60	75.54	71.54	75.39	0	0	0	0	69.02
9/2/2020	6:42:00 PM	0	73.43	50.93	60	75.54	71.54	74.51	0	0	0	0	69.02
9/2/2020	6:36:00 PM	0	73.43	50.85	60	75.54	71.54	74.51	0.33	0	0	0	69.03
9/2/2020	6:30:00 PM	0	73.43	51.3	60	75.54	71.54	74.51	1	0	0	0	69.1
9/2/2020	6:24:00 PM	0	73.43	51.85	60	75.54	71.54	74.51	1	0	0	0	69.12
9/2/2020	6:18:00 PM	0.83	73.43	52.46	60	75.54	71.54	74.51	1	0	0	0	69.18
9/2/2020	6:12:00 PM	1	72.42	53.38	60	75.54	71.54	74.51	1	0	0	0	69.26
9/2/2020	6:06:00 PM	1	72.42	54.3	60	75.54	71.54	74.51	1	0	0	0	69.28
9/2/2020	6:00:00 PM	0.5	72.42	55.02	60	75.54	71.54	74.51	0.5	0	0	0	69.31
9/2/2020	5:54:00 PM	0	72.42	54.79	60	75.54	71.54	74.51	0	0	0	0	69.25
9/2/2020	5:48:00 PM	0	72.42	54.56	60	75.54	71.54	74.51	0	0	0	0	69.16
9/2/2020	5:42:00 PM	0	72.42	54.38	60	75.54	71.54	74.51	0	0	0	0	69.1
9/2/2020	5:36:00 PM	0	72.42	54.25	60	75.54	71.54	74.51	0	0	0	0	69.02
9/2/2020	5:30:00 PM	0	72.42	54.25	60	75.54	71.54	74	0	0	0	0	69.07
9/2/2020	5:24:00 PM	0	72.42	54.71	60	75.54	71.54	73.49	1	0	0	0	69.25
9/2/2020	5:18:00 PM	0	71.73	55.64	60	75.54	71.54	73.16	1	0	0	0	69.5
9/2/2020	5:12:00 PM	0.5	71.39	56.52	60	75.54	71.54	72.48	1	0	0	0	69.89
9/2/2020	5:06:00 PM	1	71.39	57.34	60	75.54	71.54	72.48	1	0	0	0	70.52
9/2/2020	5:00:00 PM	1	71.39	57.9	60	75.54	71.54	71.62	1	0	0	0	71.66
9/2/2020	4:54:00 PM	1	71.39	58.58	60	75.54	71.54	70.92	1	0	0	0	74.05
9/2/2020	4:48:00 PM	1	71.39	58.99	60	75.54	71.54	67.62	1	0	0	0	79.45
9/2/2020	4:42:00 PM	1	71.39	58.63	60	75.54	71.54	64.68	1	0	0	0.5	90.43
9/2/2020	4:36:00 PM	1	71.39	59.52	60	75.54	71.54	64.69	1	0	0	0	84.69
9/2/2020	4:30:00 PM	1	71.39	59.94	60	75.54	71.54	63.65	1	0	0	0.5	90.56
9/2/2020	4:24:00 PM	1	72.42	58.59	60	75.54	71.54	62.61	1	0	0	0.17	88.76
9/2/2020	4:18:00 PM	0.83	72.42	60.58	60	75.54	71.54	67.87	0.83	0	0	0.5	77.08
9/2/2020	4:12:00 PM	0	72.42	60.04	60	75.54	71.54	70.47	0	0	0	0	69.33
9/2/2020	4:06:00 PM	0	72.42	59.93	60	75.54	71.54	69.41	0	0	0	0	69.47
9/2/2020	4:00:00 PM	0	72.42	59.85	60	75.54	71.54	69.41	0	0	0	0	69.65
9/2/2020	3:54:00 PM	0	72.42	59.77	60	75.54	71.54	69.41	0	0	0	0	69.92
9/2/2020	3:48:00 PM	0	72.42	59.65	60	75.54	71.54	68.57	0	0	0	0	70.29
9/2/2020	3:42:00 PM	0	72.42	59.58	60	75.54	71.54	68.4	0	0	0	0	70.92
9/2/2020	3:36:00 PM	0	72.42	59.45	60	75.54	71.54	67.72	0	0	0	0	72.03
9/2/2020	3:30:00 PM	0	72.42	59.51	60	75.54	71.54	66.86	0	0	0	0	74.03
9/2/2020	3:24:00 PM	0	72.42	59.43	60	75.54	71.54	65.82	0	0	0	0	77.84

9/2/2020	3:18:00 PM	0	72.42	58.57	60	75.54	71.54	64.39	0	0	0	0	85.61
9/2/2020	3:12:00 PM	0	72.42	61.05	60	75.54	71.54	72.15	0.83	0.17	0	0.83	94.25
9/2/2020	3:06:00 PM	0	72.42	59.51	60	75.54	71.54	63.57	1	0.17	0	0	89.65
9/2/2020	3:00:00 PM	0	72.42	60.55	60	75.54	71.54	64.97	1	0	0	0.5	89.19
9/2/2020	2:54:00 PM	1	72.42	58.77	60	75.54	71.54	65.67	1	0	0	0.33	93.49
9/2/2020	2:48:00 PM	1	71.9	62.44	60	75.54	71.54	83.9	1	0.5	0	0.67	91.45
9/2/2020	2:42:00 PM	1	71.39	59.13	60	75.54	71.54	65.17	1	0.33	0	0.5	96.73
9/2/2020	2:36:00 PM	1	71.39	63.45	60	75.54	71.54	80.21	1	0.5	0	0.67	92.43
9/2/2020	2:30:00 PM	1	71.39	59.63	60	75.54	71.54	63.85	1	0.33	0	0.5	99.33
9/2/2020	2:24:00 PM	1	71.39	64.45	60	75.54	71.54	77.48	1	0.5	0	0.67	91.94
9/2/2020	2:18:00 PM	1	71.39	59.31	60	75.54	71.54	63	1	0.33	0	0.5	102.2
9/2/2020	2:12:00 PM	1	71.39	65.81	60	75.54	71.54	75.54	1	0.33	0	0.83	93.64
9/2/2020	2:06:00 PM	1	71.39	59.4	60	75.54	71.54	63.91	1	0.5	0	0.33	101.16
9/2/2020	2:00:00 PM	1	71.39	65.78	60	75.54	71.54	70.52	1	0	0	1	99.83
9/2/2020	1:54:00 PM	1	71.39	60.9	60	75.54	71.54	67.93	1	0.83	0	0.17	94.64
9/2/2020	1:48:00 PM	1	71.39	63.88	60	75.54	71.54	64.55	1	0	0	1	105.15
9/2/2020	1:42:00 PM	1	71.39	69.54	60	75.54	71.54	81.93	1	0.5	0.33	0.83	90.84
9/2/2020	1:36:00 PM	1	71.39	59	60	75.54	71.54	64.62	1	0.5	0.33	0.33	104.08
9/2/2020	1:30:00 PM	1	71.39	65.99	60	75.54	71.54	65.13	1	0	0	1	104.65
9/2/2020	1:24:00 PM	1	71.39	69.28	60	75.54	71.54	79.86	1	0.5	0.33	0.83	90.25
9/2/2020	1:18:00 PM	1	71.39	59.18	60	75.54	71.54	63.45	1	0.33	0.17	0.5	106.03
9/2/2020	1:12:00 PM	1	71.39	67.05	60	75.54	71.54	65.78	1	0	0	1	104.76
9/2/2020	1:06:00 PM	1	71.39	69.96	60	75.54	71.54	80.36	1	0.67	0.5	0.67	89.68
9/2/2020	1:00:00 PM	1	71.39	59.36	60	75.54	71.54	63.63	1	0.33	0.17	0.5	106.47
9/2/2020	12:54:00 PM	1	71.22	67.79	60	75.54	71.54	65.69	1	0	0	1	102.07
9/2/2020	12:48:00 PM	1	70.37	68.12	60	75.54	71.54	78.14	1	0.67	0.5	0.67	88.77
9/2/2020	12:42:00 PM	1	70.37	59.55	60	75.54	71.54	62.66	1	0.33	0.17	0.5	106.31
9/2/2020	12:36:00 PM	1	70.37	68.46	60	75.54	71.54	65.92	1	0	0	1	99.56
9/2/2020	12:30:00 PM	1	70.37	66.41	60	75.54	71.54	76.64	1	0.67	0.5	0.67	88.08
9/2/2020	12:24:00 PM	1	70.37	59.92	60	75.54	71.54	60.8	1	0.17	0	0.67	106.16
9/2/2020	12:18:00 PM	1	70.37	69.98	60	75.54	71.54	66.74	1	0	0	1	98.56
9/2/2020	12:12:00 PM	1	70.37	66.05	60	75.54	71.54	75.18	1	0.83	0.67	0.5	88.1
9/2/2020	12:06:00 PM	0.33	70.1	60.44	60	75.54	71.54	60.8	1	0.17	0	0.67	106.33
9/2/2020	12:00:00 PM	0.5	70.1	70.56	60	75.54	71.54	67.31	1	0	0	1	98.36
9/2/2020	11:54:00 AM	1	70.1	65.05	60	75.54	71.54	75.68	1	0.83	0.67	0.5	87.96
9/2/2020	11:48:00 AM	1	70.1	60.34	60	75.54	71.54	61.15	1	0.17	0	0.67	108.78
9/2/2020	11:42:00 AM	1	70.1	70.79	60	75.54	71.54	66.89	1	0	0	1	100.87
9/2/2020	11:36:00 AM	1	70.1	65.69	60	75.54	71.54	76.35	1	0.83	0.67	0.5	89.12
9/2/2020	11:30:00 AM	1	70.1	59.58	60	75.54	71.54	60.54	1	0.17	0	0.67	108.5
9/2/2020	11:24:00 AM	1	70.1	69.88	60	75.54	71.54	65.09	1	0	0	1	101.09
9/2/2020	11:18:00 AM	1	70.1	67.35	60	75.54	71.54	76.38	1	0.67	0.5	0.67	88.43
9/2/2020	11:12:00 AM	1	70.1	60	60	75.54	71.54	60.89	1	0.33	0.17	0.5	107.39
9/2/2020	11:06:00 AM	1	70.1	69.95	60	75.54	71.54	65.04	1	0	0	1	101.04
9/2/2020	11:00:00 AM	1	70.1	67.65	60	75.54	71.54	76.32	1	0.67	0.5	0.67	87.58
9/2/2020	10:54:00 AM	1	70.1	59.84	60	75.54	71.54	60.8	1	0.33	0.17	0.5	106.05
9/2/2020	10:48:00 AM	1	70.1	69.43	60	75.54	71.54	64.25	1	0	0	1	98.99
9/2/2020	10:42:00 AM	1	70.1	68.17	60	75.54	71.54	76.16	1	0.67	0.5	0.67	90.01

9/2/2020	10:36:00 AM	1	70.1	59.39	60	75.54	71.54	60.84	1	0.33	0.17	0.5	105.07
9/2/2020	10:30:00 AM	1	70.1	69.03	60	75.54	71.54	63.42	1	0	0	1	98.92
9/2/2020	10:24:00 AM	1	70.1	68.66	60	75.54	71.54	75.52	1	0.67	0.33	0.83	88.35
9/2/2020	10:18:00 AM	1	70.1	59.49	60	75.54	71.54	60.86	1	0.33	0.17	0.5	104.09
9/2/2020	10:12:00 AM	1	69.93	68.63	60	75.54	71.54	63.06	1	0	0	1	100.78
9/2/2020	10:06:00 AM	1	69.08	69.88	60	75.54	71.54	75.48	1	0.5	0.33	0.83	86.96
9/2/2020	10:00:00 AM	1	69.08	59.3	60	75.54	71.54	61.75	1	0.5	0.33	0.33	103.32
9/2/2020	9:54:00 AM	1	69.08	67.92	60	75.54	71.54	62.2	1	0	0	1	99.69
9/2/2020	9:48:00 AM	1	69.08	70.01	60	75.54	71.54	73.81	1	0.5	0.33	0.83	90.28
9/2/2020	9:42:00 AM	1	69.08	59.16	60	75.54	71.54	62.27	1	0.5	0.33	0.33	101.31
9/2/2020	9:36:00 AM	1	69.08	66.29	60	75.54	71.54	60.89	1	0	0	1	100.89
9/2/2020	9:30:00 AM	1	69.08	71.23	60	75.54	71.54	72.13	1	0.33	0.17	1	87.19
9/2/2020	9:24:00 AM	1	69.08	59.73	60	75.54	71.54	63.8	1	0.67	0.5	0.17	97.73
9/2/2020	9:18:00 AM	1	69.08	64.27	60	75.54	71.54	60.35	1	0	0	1	101.3
9/2/2020	9:12:00 AM	1	69.08	72.58	60	75.54	71.54	69.43	1	0	0	1	90.47
9/2/2020	9:06:00 AM	1	69.08	61.74	60	75.54	71.54	67.01	1	0.83	0.5	0.33	91.68
9/2/2020	9:00:00 AM	1	69.08	62.06	60	75.54	71.54	59.37	1	0	0	1	105.35
9/2/2020	8:54:00 AM	1	69.08	72.65	60	75.54	71.54	64.83	1	0	0	1	94.19
9/2/2020	8:48:00 AM	1	68.05	64.62	60	75.54	71.54	71.91	1	0.83	0.67	0.5	86.65
9/2/2020	8:42:00 AM	1	68.05	60.08	60	75.54	71.54	58.74	1	0.17	0	0.67	107.18
9/2/2020	8:36:00 AM	1	68.05	70.16	60	75.54	71.54	62.28	1	0	0	1	96.96
9/2/2020	8:30:00 AM	1	68.05	68.67	60	75.54	71.54	72.28	1	0.5	0.33	0.83	85.65
9/2/2020	8:24:00 AM	1	68.05	59.27	60	75.54	71.54	59.22	1	0.33	0.17	0.5	100.32
9/2/2020	8:18:00 AM	1	68.05	68.17	60	75.54	71.54	60.55	1	0	0	1	96.4
9/2/2020	8:12:00 AM	1	68.05	70.5	60	75.54	71.54	70.66	1	0.33	0.17	1	85.82
9/2/2020	8:06:00 AM	0.83	68.05	59.48	60	75.54	71.54	61.31	1	0.5	0.33	0.33	98.46
9/2/2020	8:00:00 AM	1	68.05	66.06	60	75.54	71.54	59.55	1	0	0	1	99.35
9/2/2020	7:54:00 AM	1	68.05	72.51	60	75.54	71.54	69.4	1	0.17	0	1	87.6
9/2/2020	7:48:00 AM	1	68.05	60.27	60	75.54	71.54	63.69	1	0.83	0.67	0.17	92.22
9/2/2020	7:42:00 AM	0.83	68.05	62.52	60	75.54	71.54	58.32	1	0	0	1	95.58
9/2/2020	7:36:00 AM	0	68.05	60.97	60	75.54	71.54	58.63	1	0.33	0	0.67	95.15
9/2/2020	7:30:00 AM	0	68.05	61.4	60	75.54	71.54	59.79	1	0.33	0	0.67	94.03
9/2/2020	7:24:00 AM	0	68.05	67.27	60	75.54	71.54	59.8	1	0	0	1	97.45
9/2/2020	7:18:00 AM	0	67.54	71.29	60	75.54	71.54	71.45	1	0.33	0.17	1	86.45
9/2/2020	7:12:00 AM	0	67.04	59.48	60	75.54	71.54	62.32	1	0.67	0.5	0.17	98.13
9/2/2020	7:06:00 AM	0.83	67.04	65.19	60	75.54	71.54	59.29	1	0	0	1	103.73
9/2/2020	7:00:00 AM	1	67.04	70.63	60	75.54	71.54	71	1	0.33	0.17	1	89.2
9/2/2020	6:54:00 AM	1	67.04	59.65	60	75.54	71.54	61.92	1	0.67	0.5	0.17	95.3
9/2/2020	6:48:00 AM	1	67.04	63.2	60	75.54	71.54	59.92	1	0	0	1	94.63
9/2/2020	6:42:00 AM	0.5	67.04	61.43	60	75.54	71.54	58.38	1	0.33	0	0.67	93.49
9/2/2020	6:36:00 AM	0	67.04	60.82	60	75.54	71.54	58.74	1	0.33	0	0.67	90.44
9/2/2020	6:30:00 AM	0	67.04	61.24	60	75.54	71.54	58.57	1	0.33	0	0.67	88.36
9/2/2020	6:24:00 AM	0	67.04	61.43	60	75.54	71.54	58.95	1	0.33	0	0.83	87.72
9/2/2020	6:18:00 AM	0	67.04	62.08	60	75.54	71.54	59.03	1	0.17	0	0.83	89.16
9/2/2020	6:12:00 AM	0	67.04	61.49	60	75.54	71.54	58.06	1	0.17	0	0.67	91.19
9/2/2020	6:06:00 AM	0	67.04	60.92	60	75.54	71.54	57.46	1	0.33	0	0.67	90.08
9/2/2020	6:00:00 AM	0	67.04	60.6	60	75.54	71.54	58.84	1	0.17	0	0.67	90.96

9/2/2020	5:54:00 AM	0	67.04	61.1	60	75.54	71.54	59.14	1	0.33	0	0.67	89.75
9/2/2020	5:48:00 AM	0	67.04	62.07	60	75.54	71.54	59.84	1	0.33	0	0.83	89.27
9/2/2020	5:42:00 AM	0	67.04	61.46	60	75.54	71.54	59.23	1	0	0	0.67	90.7
9/2/2020	5:36:00 AM	0	67.04	61.39	60	75.54	71.54	57.59	1	0.33	0	0.67	90.31
9/2/2020	5:30:00 AM	0	67.04	60.76	60	75.54	71.54	58.48	1	0.33	0	0.67	91.73
9/2/2020	5:24:00 AM	0	67.04	61.26	60	75.54	71.54	59.05	1	0.33	0	0.67	89.67
9/2/2020	5:18:00 AM	0	67.04	61.35	60	75.54	71.54	59	1	0.33	0	0.67	88.32
9/2/2020	5:12:00 AM	0	67.04	61.67	60	75.54	71.54	59.43	1	0.17	0	1	88.45
9/2/2020	5:06:00 AM	0	67.04	61.54	60	75.54	71.54	58.87	1	0.17	0	0.67	89.54
9/2/2020	5:00:00 AM	0	67.04	61.41	60	75.54	71.54	58.16	1	0.33	0	0.67	92.77
9/2/2020	4:54:00 AM	0	67.04	60.7	60	75.54	71.54	58.76	1	0.33	0	0.67	92.32
9/2/2020	4:48:00 AM	0	67.04	61.12	60	75.54	71.54	59.45	1	0.17	0	0.67	89.72
9/2/2020	4:42:00 AM	0	67.04	61.43	60	75.54	71.54	59.74	1	0.33	0	0.83	88.44
9/2/2020	4:36:00 AM	0	67.04	61.9	60	75.54	71.54	59.39	1	0.17	0	0.83	90.59
9/2/2020	4:30:00 AM	0	67.04	61.43	60	75.54	71.54	58.34	1	0.17	0	0.67	92.68
9/2/2020	4:24:00 AM	0	67.04	60.84	60	75.54	71.54	58.26	1	0.33	0	0.5	91.34
9/2/2020	4:18:00 AM	0	67.04	60.77	60	75.54	71.54	59.43	1	0.33	0	0.67	90.97
9/2/2020	4:12:00 AM	0	67.04	61.21	60	75.54	71.54	59.36	1	0.33	0	0.67	89.63
9/2/2020	4:06:00 AM	0	67.04	61.83	60	75.54	71.54	59.67	1	0.33	0	0.83	89.18
9/2/2020	4:00:00 AM	0	67.04	61.64	60	75.54	71.54	59.22	1	0	0	0.67	91.47
9/2/2020	3:54:00 AM	0	67.04	61.18	60	75.54	71.54	58.09	1	0.33	0	0.67	91.42
9/2/2020	3:48:00 AM	0	67.04	60.7	60	75.54	71.54	58.86	1	0.33	0	0.67	92.02
9/2/2020	3:42:00 AM	0	67.04	61.06	60	75.54	71.54	59.17	1	0.33	0	0.67	89.84
9/2/2020	3:36:00 AM	0	67.04	61.43	60	75.54	71.54	59.47	1	0.33	0	0.83	87.8
9/2/2020	3:30:00 AM	0	67.04	61.52	60	75.54	71.54	59.7	1	0.17	0	0.83	89.24
9/2/2020	3:24:00 AM	0	67.04	62.06	60	75.54	71.54	58.41	1	0.17	0	0.67	92.32
9/2/2020	3:18:00 AM	0	67.04	61.3	60	75.54	71.54	58.77	1	0.33	0	0.67	91.81
9/2/2020	3:12:00 AM	0	67.04	60.78	60	75.54	71.54	58.87	1	0.33	0	0.67	90.24
9/2/2020	3:06:00 AM	0	67.04	60.97	60	75.54	71.54	59.54	1	0.17	0	0.67	89.94
9/2/2020	3:00:00 AM	0	67.83	61.3	60	75.54	71.54	59.7	1	0.33	0	0.83	89.18
9/2/2020	2:54:00 AM	0	67.83	62.05	60	75.54	71.54	59.15	1	0.17	0	0.83	89.29
9/2/2020	2:48:00 AM	0	67.83	61.52	60	75.54	71.54	58.24	1	0.17	0	0.5	90.79
9/2/2020	2:42:00 AM	0	67.83	60.62	60	75.54	71.54	58.35	1	0.33	0	0.67	91.42
9/2/2020	2:36:00 AM	0	67.83	60.87	60	75.54	71.54	59.85	1	0.33	0	0.67	91.88
9/2/2020	2:30:00 AM	0	67.83	61.32	60	75.54	71.54	59.61	1	0.33	0	0.67	90.15
9/2/2020	2:24:00 AM	0	67.83	61.67	60	75.54	71.54	59.71	1	0.33	0	0.83	89.24
9/2/2020	2:18:00 AM	0	67.83	61.57	60	75.54	71.54	59.47	1	0	0	0.83	90.27
9/2/2020	2:12:00 AM	0	67.83	61.15	60	75.54	71.54	58.43	1	0.33	0	0.67	92.05
9/2/2020	2:06:00 AM	0	67.83	60.87	60	75.54	71.54	59.3	1	0.33	0	0.67	91.87
9/2/2020	2:00:00 AM	0	67.83	61.03	60	75.54	71.54	59.64	1	0.33	0	0.67	91.37
9/2/2020	1:54:00 AM	0	67.83	61.4	60	75.54	71.54	60.07	1	0.33	0	0.83	89.05
9/2/2020	1:48:00 AM	0	67.83	61.6	60	75.54	71.54	60.28	1	0.17	0	0.83	89.28
9/2/2020	1:42:00 AM	0	67.83	61.63	60	75.54	71.54	59.12	1	0.17	0	0.67	91.47
9/2/2020	1:36:00 AM	0	67.83	61.26	60	75.54	71.54	58.64	1	0.33	0	0.67	94.62
9/2/2020	1:30:00 AM	0	67.83	60.84	60	75.54	71.54	59.47	1	0.33	0	0.67	90.98
9/2/2020	1:24:00 AM	0	67.83	61.02	60	75.54	71.54	59.48	1	0.33	0	0.67	90.08
9/2/2020	1:18:00 AM	0	67.83	61.63	60	75.54	71.54	60.23	1	0.33	0	0.83	87.73

9/2/2020	1:12:00 AM	0	67.83	61.73	60	75.54	71.54	60	1	0.17	0	0.83	89.33
9/2/2020	1:06:00 AM	0	67.83	61.68	60	75.54	71.54	59.11	1	0.17	0	0.67	92.93
9/2/2020	1:00:00 AM	0	67.83	61.11	60	75.54	71.54	58.79	1	0.33	0	0.67	91.69
9/2/2020	12:54:00 AM	0	67.83	60.58	60	75.54	71.54	59.16	1	0.33	0	0.67	91.83
9/2/2020	12:48:00 AM	0	67.83	61.13	60	75.54	71.54	60.1	1	0.17	0	0.67	90.04
9/2/2020	12:42:00 AM	0	67.83	61.33	60	75.54	71.54	60.44	1	0.33	0	0.83	90.07
9/2/2020	12:36:00 AM	0	67.83	61.81	60	75.54	71.54	60.36	1	0.17	0	0.83	91.78
9/2/2020	12:30:00 AM	0	67.83	61.57	60	75.54	71.54	58.78	1	0.17	0	0.67	91.79
9/2/2020	12:24:00 AM	0	67.83	61.05	60	75.54	71.54	58.73	1	0.33	0	0.67	91.67
9/2/2020	12:18:00 AM	0	67.83	60.86	60	75.54	71.54	59.31	1	0.33	0	0.5	89.52
9/2/2020	12:12:00 AM	0	67.83	61.18	60	75.54	71.54	60.03	1	0.33	0	0.67	89.71
9/2/2020	12:06:00 AM	0	67.83	60.92	60	75.54	71.54	60.06	1	0.17	0	0.83	89.72
9/2/2020	12:00:00 AM	0	67.83	61.85	60	75.54	71.54	60.35	1	0.17	0	0.83	90.96
9/1/2020	11:54:00 PM	0	67.83	61.35	60	75.54	71.54	59.38	1	0.17	0	0.67	92.59
9/1/2020	11:48:00 PM	0	67.83	60.8	60	75.54	71.54	59.12	1	0.33	0	0.67	93.93
9/1/2020	11:42:00 PM	0	67.83	60.81	60	75.54	71.54	59.99	1	0.17	0	0.67	91.3
9/1/2020	11:36:00 PM	0	67.83	60.65	60	75.54	71.54	60.34	1	0.17	0	0.67	90.18
9/1/2020	11:30:00 PM	0	67.83	61.49	60	75.54	71.54	60.44	1	0.33	0	0.83	88.81
9/1/2020	11:24:00 PM	0	67.83	61.68	60	75.54	71.54	60.08	1	0.17	0	0.83	91.06
9/1/2020	11:18:00 PM	0	67.83	61.58	60	75.54	71.54	59.05	1	0.17	0	0.67	92.62
9/1/2020	11:12:00 PM	0	67.83	61.15	60	75.54	71.54	59.57	1	0.33	0	0.67	92.98
9/1/2020	11:06:00 PM	0	67.83	60.69	60	75.54	71.54	59.97	1	0.33	0	0.5	90.61
9/1/2020	11:00:00 PM	0	68.52	61.07	60	75.54	71.54	60.28	1	0.33	0	0.67	89.91
9/1/2020	10:54:00 PM	0	68.86	61.1	60	75.54	71.54	60.66	1	0.33	0	0.83	89.42
9/1/2020	10:48:00 PM	0	68.86	61.78	60	75.54	71.54	60.86	1	0.17	0	0.83	91.91
9/1/2020	10:42:00 PM	0	68.86	61.62	60	75.54	71.54	59.81	1	0.17	0	0.67	94.83
9/1/2020	10:36:00 PM	0	68.86	61.08	60	75.54	71.54	59.48	1	0.33	0	0.67	92.38
9/1/2020	10:30:00 PM	0	68.86	60.71	60	75.54	71.54	59.9	1	0.33	0	0.5	92.46
9/1/2020	10:24:00 PM	0	68.86	60.97	60	75.54	71.54	60.53	1	0.33	0	0.67	91.24
9/1/2020	10:18:00 PM	0	68.86	61.52	60	75.54	71.54	60.84	1	0.33	0	0.83	90.83
9/1/2020	10:12:00 PM	0	68.86	61.73	60	75.54	71.54	60.78	1	0.17	0	0.83	92.38
9/1/2020	10:06:00 PM	0	68.86	61.5	60	75.54	71.54	59.27	1	0.17	0	0.67	92.68
9/1/2020	10:00:00 PM	0	68.86	60.96	60	75.54	71.54	60.01	1	0.33	0	0.67	93.07
9/1/2020	9:54:00 PM	0	68.86	60.72	60	75.54	71.54	60.93	1	0.33	0	0.67	92.75
9/1/2020	9:48:00 PM	0	68.86	61.39	60	75.54	71.54	61.15	1	0.33	0	0.67	92.3
9/1/2020	9:42:00 PM	0	68.86	61.5	60	75.54	71.54	60.76	1	0.33	0	0.83	91.08
9/1/2020	9:36:00 PM	0	68.86	61.74	60	75.54	71.54	60.7	1	0	0	0.83	90.98
9/1/2020	9:30:00 PM	0	68.86	61.24	60	75.54	71.54	59.69	1	0.33	0	0.67	94.42
9/1/2020	9:24:00 PM	0	68.86	60.72	60	75.54	71.54	60.33	1	0.33	0	0.67	92.3
9/1/2020	9:18:00 PM	0	68.86	61.22	60	75.54	71.54	60.62	1	0.33	0	0.67	90.85
9/1/2020	9:12:00 PM	0	68.86	61.16	60	75.54	71.54	60.8	1	0.33	0	0.67	90.22
9/1/2020	9:06:00 PM	0	68.86	61.72	60	75.54	71.54	60.76	1	0.33	0	0.83	90.13
9/1/2020	9:00:00 PM	0	68.86	61.78	60	75.54	71.54	60.99	1	0	0	0.83	92.91
9/1/2020	8:54:00 PM	0	68.86	61.06	60	75.54	71.54	59.76	1	0.33	0	0.67	92.69
9/1/2020	8:48:00 PM	0	68.86	60.81	60	75.54	71.54	60.61	1	0.33	0	0.67	93.94
9/1/2020	8:42:00 PM	0	68.86	60.91	60	75.54	71.54	60.75	1	0.33	0	0.67	91.93
9/1/2020	8:36:00 PM	0	68.86	61.42	60	75.54	71.54	61.19	1	0.33	0	0.83	90.04

9/1/2020	8:30:00 PM	0	68.86	62.14	60	75.54	71.54	61.47	1	0.17	0	0.83	92.57
9/1/2020	8:24:00 PM	0	68.86	61.6	60	75.54	71.54	60.06	1	0.17	0	0.67	92.96
9/1/2020	8:18:00 PM	0	68.86	61.32	60	75.54	71.54	60.19	1	0.33	0	0.67	94.44
9/1/2020	8:12:00 PM	0	68.86	60.74	60	75.54	71.54	60.34	1	0.33	0	0.67	91.81
9/1/2020	8:06:00 PM	0	69.2	60.83	60	75.54	71.54	61.08	1	0.33	0	0.67	91.24
9/1/2020	8:00:00 PM	0	69.87	61.55	60	75.54	71.54	61.45	1	0.33	0	0.83	91.17
9/1/2020	7:54:00 PM	0	69.87	62.1	60	75.54	71.54	61.33	1	0	0	0.83	93.54
9/1/2020	7:48:00 PM	0	69.87	61.76	60	75.54	71.54	60.29	1	0.17	0	0.67	95.55
9/1/2020	7:42:00 PM	0	69.87	60.72	60	75.54	71.54	60.96	1	0.33	0	0.67	91.66
9/1/2020	7:36:00 PM	0	69.87	60.48	60	75.54	71.54	60.78	1	0.17	0	0.67	95.59
9/1/2020	7:30:00 PM	0	69.87	67.07	60	75.54	71.54	65.13	1	0	0	1	91.81
9/1/2020	7:24:00 PM	0	69.87	60.4	60	75.54	71.54	64.89	1	0.83	0	0.17	88.32
9/1/2020	7:18:00 PM	0	69.87	60.35	60	75.54	71.54	58.83	1	0	0	0.67	96.25
9/1/2020	7:12:00 PM	0	69.87	67.37	60	75.54	71.54	65.87	1	0	0	1	89.49
9/1/2020	7:06:00 PM	0	69.87	60.01	60	75.54	71.54	64.39	1	0.83	0	0.17	91.2
9/1/2020	7:00:00 PM	0	69.87	60.19	60	75.54	71.54	58.74	1	0	0	0.67	100.16
9/1/2020	6:54:00 PM	0	69.87	67.19	60	75.54	71.54	65.57	1	0	0	1	93.09
9/1/2020	6:48:00 PM	0	69.87	60.38	60	75.54	71.54	64.84	1	0.83	0	0.17	92.22
9/1/2020	6:42:00 PM	0	69.87	60.31	60	75.54	71.54	58.83	1	0	0	0.5	101.34
9/1/2020	6:36:00 PM	0	69.87	67.4	60	75.54	71.54	65.49	1	0	0	1	94.05
9/1/2020	6:30:00 PM	0	69.87	60.21	60	75.54	71.54	64.63	1	0.83	0	0.17	92.03
9/1/2020	6:24:00 PM	0	69.87	60.51	60	75.54	71.54	59.01	1	0	0	0.67	101.72
9/1/2020	6:18:00 PM	0	69.87	68.14	60	75.54	71.54	65.31	1	0	0	1	94.47
9/1/2020	6:12:00 PM	0	69.87	60.66	60	75.54	71.54	65.4	1	0.83	0	0.17	89.93
9/1/2020	6:06:00 PM	0	69.87	60.07	60	75.54	71.54	59.38	1	0	0	0.67	102.86
9/1/2020	6:00:00 PM	0	69.87	68.72	60	75.54	71.54	62.71	1	0	0	1	99.27
9/1/2020	5:54:00 PM	0	70.06	61.89	60	75.54	71.54	67.55	1	0.83	0	0.33	84.12
9/1/2020	5:48:00 PM	0	70.1	59.46	60	75.54	71.54	59.82	1	0	0	0.5	95.81
9/1/2020	5:42:00 PM	0	70.1	61.22	60	75.28	71.28	62.12	1	0	0	0.5	89.08
9/1/2020	5:36:00 PM	0	70.95	60.06	60	75.54	71.54	60.62	1	0.17	0	0.67	96.42
9/1/2020	5:30:00 PM	0	71.12	59.02	60	75.54	71.54	60.62	1	0	0	0	92.42
9/1/2020	5:24:00 PM	0.5	71.12	61.16	60	75.54	71.54	61.5	1	0	0	0.83	92.29
9/1/2020	5:18:00 PM	1	71.12	58.93	60	75.54	71.54	61.5	1	0	0	0.33	95.37
9/1/2020	5:12:00 PM	0.83	71.12	61.2	60	75.54	71.54	66.39	0.83	0	0	0.5	74.94
9/1/2020	5:06:00 PM	0	71.12	60.31	60	75.54	71.54	68.48	0	0	0	0	67.47
9/1/2020	5:00:00 PM	0	71.12	60.23	60	75.54	71.54	67.63	0	0	0	0	67.59
9/1/2020	4:54:00 PM	0	71.12	60.17	60	75.54	71.54	67.46	0	0	0	0	67.76
9/1/2020	4:48:00 PM	0	71.12	60.09	60	75.54	71.54	67.46	0	0	0	0	68.04
9/1/2020	4:42:00 PM	0	71.12	60.09	60	75.54	71.54	66.77	0	0	0	0	68.44
9/1/2020	4:36:00 PM	0	71.12	60.09	60	75.54	71.54	66.42	0	0	0	0	69.07
9/1/2020	4:30:00 PM	0	71.12	60.59	60	75.54	71.54	65.72	0	0	0	0	70.07
9/1/2020	4:24:00 PM	0	71.12	60.49	60	75.54	71.54	65.2	0	0	0	0	71.78
9/1/2020	4:18:00 PM	0	71.12	60.31	60	75.54	71.54	63.94	0	0	0	0	74.82
9/1/2020	4:12:00 PM	0	71.12	59.82	60	75.54	71.54	62.7	0	0	0	0	80.89
9/1/2020	4:06:00 PM	0	71.12	58.95	60	75.54	71.54	60.62	0	0	0	0	94.86
9/1/2020	4:00:00 PM	0	71.12	65.18	60	75.54	71.54	62.19	0.83	0	0	0.83	102.44
9/1/2020	3:54:00 PM	0	71.12	70.53	60	75.54	71.54	74.5	1	0.33	0.17	1	90.01

9/1/2020	3:48:00 PM	0	71.12	59.73	60	75.54	71.54	65.94	1	0.67	0.33	0.17	98.23
9/1/2020	3:42:00 PM	1	71.12	66.11	60	75.54	71.54	62.9	1	0	0	1	98.3
9/1/2020	3:36:00 PM	1	71.12	69.83	60	75.54	71.54	75.61	1	0.33	0.17	1	90.18
9/1/2020	3:30:00 PM	1	71.12	59.4	60	75.54	71.54	64.67	1	0.67	0.17	0.17	102.11
9/1/2020	3:24:00 PM	1	71.12	66.54	60	75.54	71.54	62.99	1	0	0	1	103.94
9/1/2020	3:18:00 PM	1	71.12	64.81	60	75.54	71.54	71.33	1	0.67	0	0.5	89.41
9/1/2020	3:12:00 PM	1	71.12	60.24	60	75.54	71.54	60.53	1	0.17	0	0.67	107.04
9/1/2020	3:06:00 PM	1	71.12	68.05	60	75.54	71.54	66.08	1	0	0	1	95.94
9/1/2020	3:00:00 PM	1	71.12	60.13	60	75.54	71.54	66.86	1	0.83	0	0.17	95.71
9/1/2020	2:54:00 PM	1	71.12	63.89	60	75.54	71.54	61.84	1	0	0	1	103.45
9/1/2020	2:48:00 PM	1	71.12	70.5	60	75.54	71.54	73.83	1	0.17	0	1	91.26
9/1/2020	2:42:00 PM	1	71.12	59.92	60	75.54	71.54	65.78	1	0.67	0.5	0.33	98.26
9/1/2020	2:36:00 PM	1	71.12	65.19	60	75.54	71.54	61.84	1	0	0	1	104.01
9/1/2020	2:30:00 PM	1	71.12	64.96	60	75.54	71.54	69.85	1	0.5	0	0.67	89.48
9/1/2020	2:24:00 PM	1	71.12	60	60	75.54	71.54	61.53	1	0.33	0	0.5	106.86
9/1/2020	2:18:00 PM	1	71.12	69.69	60	75.54	71.54	67.08	1	0	0	1	98.73
9/1/2020	2:12:00 PM	1	71.12	62.78	60	75.54	71.54	72.62	1	0.83	0.33	0.5	89.67
9/1/2020	2:06:00 PM	1	71.12	60.94	60	75.54	71.54	60.88	1	0.17	0	0.67	108.21
9/1/2020	2:00:00 PM	1	71.12	68.33	60	75.54	71.54	67.2	1	0.17	0	1	94.06
9/1/2020	1:54:00 PM	1	71.12	59.63	60	75.54	71.54	65.33	1	0.67	0	0.17	99.28
9/1/2020	1:48:00 PM	1	71.12	65.84	60	75.54	71.54	62.7	1	0	0	1	102.19
9/1/2020	1:42:00 PM	1	71.12	64.52	60	75.54	71.54	70.86	1	0.5	0	0.67	90.37
9/1/2020	1:36:00 PM	1	71.12	60.5	60	75.54	71.54	61.06	1	0.17	0	0.67	106.96
9/1/2020	1:30:00 PM	1	71.12	67.82	60	75.54	71.54	67.17	1	0.17	0	1	94.83
9/1/2020	1:24:00 PM	1	71.12	59.63	60	75.54	71.54	64.89	1	0.67	0	0.17	97.69
9/1/2020	1:18:00 PM	1	71.12	66.1	60	75.54	71.54	63.48	1	0	0	1	99.72
9/1/2020	1:12:00 PM	1	71.12	62.64	60	75.54	71.54	69.99	1	0.67	0	0.5	89.97
9/1/2020	1:06:00 PM	1	71.12	61.91	60	75.54	71.54	61.58	1	0	0	0.67	103.56
9/1/2020	1:00:00 PM	1	71.12	65.96	60	75.54	71.54	70.69	1	0.33	0	0.83	88.86
9/1/2020	12:54:00 PM	1	71.12	59.18	60	75.54	71.54	62.05	1	0.5	0	0.33	99.95
9/1/2020	12:48:00 PM	1	71.12	66.9	60	75.54	71.54	67.42	1	0	0	1	93
9/1/2020	12:42:00 PM	1	71.12	60.03	60	75.54	71.54	66.36	1	0.83	0	0.17	95.78
9/1/2020	12:36:00 PM	1	71.12	64.86	60	75.54	71.54	62.89	1	0	0	1	101.79
9/1/2020	12:30:00 PM	1	71.12	63.04	60	75.54	71.54	72.26	1	0.67	0	0.5	88.29
9/1/2020	12:24:00 PM	1	71.12	60.62	60	75.54	71.54	60.8	1	0.17	0	0.67	103.06
9/1/2020	12:18:00 PM	1	71.12	66.86	60	75.54	71.54	70.24	1	0.17	0	1	90.52
9/1/2020	12:12:00 PM	1	71.12	58.96	60	75.54	71.54	64.13	1	0.67	0	0.17	99.15
9/1/2020	12:06:00 PM	1	71.12	65.82	60	75.54	71.54	64.89	1	0	0	1	98.56
9/1/2020	12:00:00 PM	1	71.12	61.47	60	75.54	71.54	70.63	1	0.83	0	0.33	90.16
9/1/2020	11:54:00 AM	1	71.12	61.8	60	75.54	71.54	61.14	1	0	0	0.83	103.73
9/1/2020	11:48:00 AM	1	71.12	65.39	60	75.54	71.54	70.92	1	0.33	0	0.83	90.12
9/1/2020	11:42:00 AM	1	71.12	58.87	60	75.54	71.54	62.24	1	0.5	0	0.33	102.12
9/1/2020	11:36:00 AM	1	71.12	66.75	60	75.54	71.54	67.62	1	0	0	1	93.96
9/1/2020	11:30:00 AM	1	71.12	59.87	60	75.54	71.54	67.17	1	0.83	0	0.17	94.7
9/1/2020	11:24:00 AM	1	71.12	63.78	60	75.54	71.54	62.53	1	0	0	1	102.5
9/1/2020	11:18:00 AM	1	71.12	63.58	60	75.54	71.54	72.08	1	0.67	0	0.5	88.53
9/1/2020	11:12:00 AM	1	71.12	60.26	60	75.54	71.54	61.25	1	0.17	0	0.67	101.59

9/1/2020	11:06:00 AM	1	71.12	66.33	60	75.54	71.54	70.5	1	0.17	0	1	90.39
9/1/2020	11:00:00 AM	1	71.12	59.37	60	75.54	71.54	63.91	1	0.67	0	0.17	98.46
9/1/2020	10:54:00 AM	1	71.12	65.98	60	75.54	71.54	66.13	1	0	0	1	96.18
9/1/2020	10:48:00 AM	1	71.12	60.72	60	75.54	71.54	69.31	1	0.83	0	0.33	91.77
9/1/2020	10:42:00 AM	1	71.12	63.62	60	75.54	71.54	62.28	1	0	0	0.83	99.9
9/1/2020	10:36:00 AM	1	71.12	64.11	60	75.54	71.54	72.28	1	0.5	0	0.67	88.43
9/1/2020	10:30:00 AM	1	71.12	59.65	60	75.54	71.54	61.19	1	0.33	0	0.5	101.67
9/1/2020	10:24:00 AM	1	71.12	67.62	60	75.54	71.54	70.17	1	0.17	0	1	90.3
9/1/2020	10:18:00 AM	1	71.12	59.2	60	75.54	71.54	64.95	1	0.67	0	0.17	95.86
9/1/2020	10:12:00 AM	1	71.12	65.13	60	75.54	71.54	64	1	0	0	1	98.14
9/1/2020	10:06:00 AM	1	71.12	62.11	60	75.54	71.54	71.99	1	0.67	0	0.5	86.78
9/1/2020	10:00:00 AM	1	71.12	60.76	60	75.54	71.54	60.44	1	0.17	0	0.67	97.19
9/1/2020	9:54:00 AM	1	71.12	66.07	60	75.54	71.54	71.94	1	0.33	0	0.83	88.49
9/1/2020	9:48:00 AM	1	71.46	58.53	60	75.54	71.54	63.29	1	0.67	0	0.17	97.9
9/1/2020	9:42:00 AM	1	72.15	63.6	60	75.54	71.54	64.31	1	0	0	1	91.47
9/1/2020	9:36:00 AM	1	72.15	59.08	60	75.54	71.54	62.13	1	0.17	0	0.17	88.75
9/1/2020	9:30:00 AM	1	72.15	62.74	60	75.54	71.54	62.98	1	0	0	0.83	97.06
9/1/2020	9:24:00 AM	1	72.15	62.79	60	75.54	71.54	73.82	1	0.67	0	0.5	85.88
9/1/2020	9:18:00 AM	1	72.15	60.25	60	75.54	71.54	61.76	1	0.17	0	0.5	98.64
9/1/2020	9:12:00 AM	1	72.15	64.5	60	75.54	71.54	74.55	1	0.5	0	0.83	88.3
9/1/2020	9:06:00 AM	1	72.15	58.83	60	75.54	71.54	62.69	1	0.5	0	0.33	93.19
9/1/2020	9:00:00 AM	1	72.15	64.34	60	75.54	71.54	73.99	1	0.33	0	0.83	87.73
9/1/2020	8:54:00 AM	1	72.15	59.11	60	75.54	71.54	63.54	1	0.5	0	0.17	92.27
9/1/2020	8:48:00 AM	1	71.62	64.29	60	75.54	71.54	74.19	1	0.17	0	1	89.36
9/1/2020	8:42:00 AM	1	71.52	58.96	60	75.54	71.54	64.67	1	0.67	0	0.17	92.98
9/1/2020	8:36:00 AM	1	71.52	64.41	60	75.54	71.54	73.26	1	0.17	0	1	88.6
9/1/2020	8:30:00 AM	1	71.52	59.21	60	75.54	71.54	65.31	1	0.67	0	0.17	94.16
9/1/2020	8:24:00 AM	1	71.52	65.37	60	75.54	71.54	74.07	1	0	0	1	87.86
9/1/2020	8:18:00 AM	1	70.5	60.1	60	75.54	71.54	70.08	1	1	0.17	0.33	86.69
9/1/2020	8:12:00 AM	1	70.5	63.72	60	75.54	71.54	65.09	1	0	0	0.83	91.36
9/1/2020	8:06:00 AM	1	70.5	60.1	60	75.54	71.54	70.95	1	0.83	0	0.33	85.69
9/1/2020	8:00:00 AM	1	70.5	62.4	60	75.54	71.54	61.43	1	0	0	0.83	93.07
9/1/2020	7:54:00 AM	1	70.5	61.93	60	75.54	71.54	72.42	1	0.67	0	0.5	84.14
9/1/2020	7:48:00 AM	1	70.5	60.86	60	75.54	71.54	59.8	1	0.17	0	0.67	94.15
9/1/2020	7:42:00 AM	1	70.5	64.12	60	75.54	71.54	72.1	1	0.5	0	0.67	84.46
9/1/2020	7:36:00 AM	1	70.5	59.21	60	75.54	71.54	60.39	1	0.33	0	0.33	94.57
9/1/2020	7:30:00 AM	0.83	70.5	65.78	60	75.54	71.54	69.07	1	0.17	0	1	87.69
9/1/2020	7:24:00 AM	0.67	70.5	59.09	60	75.54	71.54	62.08	1	0.67	0	0.17	94.77
9/1/2020	7:18:00 AM	1	70.5	66.03	60	75.54	71.54	65.39	1	0	0	1	87.85
9/1/2020	7:12:00 AM	1	70.5	59.78	60	75.54	71.54	64.6	1	0.67	0	0.17	82.72
9/1/2020	7:06:00 AM	1	71.01	60.29	60	75.54	71.54	59.9	1	0	0	0.5	86.41
9/1/2020	7:00:00 AM	1	71.52	58.46	60	75.54	71.54	59.92	1	0	0	0	84.09
9/1/2020	6:54:00 AM	1	71.52	61.58	60	75.54	71.54	64.27	1	0	0	0.67	77.91
9/1/2020	6:48:00 AM	0.17	71.52	61.56	60	75.54	71.54	71.22	0	0	0	0	66.21
9/1/2020	6:42:00 AM	0	71.52	61.61	60	75.54	71.54	71.22	0	0	0	0	66.21
9/1/2020	6:36:00 AM	0	71.52	61.63	60	75.54	71.54	71.22	0	0	0	0	66.21
9/1/2020	6:30:00 AM	0	71.52	61.59	60	75.54	71.54	71.22	0	0	0	0	66.22

9/1/2020	6:24:00 AM	0	71.52	61.52	60	75.54	71.54	71.22	0	0	0	0	66.26
9/1/2020	6:18:00 AM	0	71.52	61.4	60	75.54	71.54	71.22	0	0	0	0	66.26
9/1/2020	6:12:00 AM	0	71.52	61.32	60	75.54	71.54	71.22	0	0	0	0	66.3
9/1/2020	6:06:00 AM	0	71.52	61.29	60	75.54	71.54	71.22	0	0	0	0	66.36
9/1/2020	6:00:00 AM	0	71.52	61.31	60	75.54	71.54	71.22	0	0	0	0	66.42
9/1/2020	5:54:00 AM	0	71.52	61.3	60	75.54	71.54	71.22	0	0	0	0	66.42
9/1/2020	5:48:00 AM	0	71.52	61.31	60	75.54	71.54	71.22	0	0	0	0	66.48
9/1/2020	5:42:00 AM	0	71.52	61.32	60	75.54	71.54	71.22	0	0	0	0	66.51
9/1/2020	5:36:00 AM	0	71.52	61.35	60	75.54	71.54	71.22	0	0	0	0	66.59
9/1/2020	5:30:00 AM	0	71.52	61.41	60	75.54	71.54	71.22	0	0	0	0	66.6
9/1/2020	5:24:00 AM	0	71.52	61.43	60	75.54	71.54	71.22	0	0	0	0	66.64
9/1/2020	5:18:00 AM	0	71.52	61.47	60	75.54	71.54	71.22	0	0	0	0	66.65
9/1/2020	5:12:00 AM	0	71.52	61.49	60	75.54	71.54	71.22	0	0	0	0	66.67
9/1/2020	5:06:00 AM	0	71.52	61.53	60	75.54	71.54	71.22	0	0	0	0	66.64
9/1/2020	5:00:00 AM	0	71.52	61.55	60	75.54	71.54	71.22	0	0	0	0	66.59
9/1/2020	4:54:00 AM	0	71.52	61.52	60	75.54	71.54	71.22	0	0	0	0	66.59
9/1/2020	4:48:00 AM	0	71.52	61.54	60	75.54	71.54	71.22	0	0	0	0	66.59
9/1/2020	4:42:00 AM	0	71.52	61.53	60	75.54	71.54	71.22	0	0	0	0	66.67
9/1/2020	4:36:00 AM	0	71.52	61.55	60	75.54	71.54	71.22	0	0	0	0	66.68
9/1/2020	4:30:00 AM	0	71.52	61.56	60	75.54	71.54	71.22	0	0	0	0	66.72
9/1/2020	4:24:00 AM	0	71.52	61.57	60	75.54	71.54	71.22	0	0	0	0	66.75
9/1/2020	4:18:00 AM	0	71.52	61.57	60	75.54	71.54	71.22	0	0	0	0	66.76
9/1/2020	4:12:00 AM	0	71.52	61.56	60	75.54	71.54	71.22	0	0	0	0	66.75
9/1/2020	4:06:00 AM	0	71.52	61.59	60	75.54	71.54	71.22	0	0	0	0	66.82
9/1/2020	4:00:00 AM	0	71.52	61.6	60	75.54	71.54	71.22	0	0	0	0	66.82
9/1/2020	3:54:00 AM	0	71.52	61.6	60	75.54	71.54	71.22	0	0	0	0	66.84
9/1/2020	3:48:00 AM	0	71.52	61.59	60	75.54	71.54	71.22	0	0	0	0	66.88
9/1/2020	3:42:00 AM	0	71.52	61.59	60	75.54	71.54	71.22	0	0	0	0	66.91
9/1/2020	3:36:00 AM	0	71.52	61.62	60	75.54	71.54	71.22	0	0	0	0	66.94
9/1/2020	3:30:00 AM	0	71.52	61.63	60	75.54	71.54	71.22	0	0	0	0	66.92
9/1/2020	3:24:00 AM	0	71.52	61.62	60	75.54	71.54	71.22	0	0	0	0	66.91
9/1/2020	3:18:00 AM	0	71.52	61.62	60	75.54	71.54	71.22	0	0	0	0	66.91
9/1/2020	3:12:00 AM	0	71.52	61.62	60	75.54	71.54	71.22	0	0	0	0	66.91
9/1/2020	3:06:00 AM	0	71.52	61.6	60	75.54	71.54	71.22	0	0	0	0	66.91
9/1/2020	3:00:00 AM	0	71.52	61.61	60	75.54	71.54	71.22	0	0	0	0	66.91
9/1/2020	2:54:00 AM	0	71.52	61.62	60	75.54	71.54	71.22	0	0	0	0	66.91
9/1/2020	2:48:00 AM	0	71.52	61.64	60	75.54	71.54	71.22	0	0	0	0	66.94
9/1/2020	2:42:00 AM	0	71.52	61.64	60	75.54	71.54	71.22	0	0	0	0	66.94
9/1/2020	2:36:00 AM	0	71.52	61.6	60	75.54	71.54	71.22	0	0	0	0	66.99
9/1/2020	2:30:00 AM	0	71.52	61.59	60	75.54	71.54	71.22	0	0	0	0	67.03
9/1/2020	2:24:00 AM	0	71.52	61.62	60	75.54	71.54	71.22	0	0	0	0	67.06
9/1/2020	2:18:00 AM	0	71.52	61.57	60	75.54	71.54	71.22	0	0	0	0	67.06
9/1/2020	2:12:00 AM	0	71.52	61.59	60	75.54	71.54	71.22	0	0	0	0	67.07
9/1/2020	2:06:00 AM	0	71.52	61.64	60	75.54	71.54	71.22	0	0	0	0	67.04
9/1/2020	2:00:00 AM	0	71.52	61.66	60	75.54	71.54	71.22	0	0	0	0	67.06
9/1/2020	1:54:00 AM	0	71.52	61.65	60	75.54	71.54	71.22	0	0	0	0	67.07
9/1/2020	1:48:00 AM	0	71.52	61.67	60	75.54	71.54	71.22	0	0	0	0	67.07

9/1/2020	1:42:00 AM	0	71.52	61.69	60	75.54	71.54	71.22	0	0	0	0	67.09
9/1/2020	1:36:00 AM	0	71.52	61.66	60	75.54	71.54	71.22	0	0	0	0	67.15
9/1/2020	1:30:00 AM	0	71.52	61.58	60	75.54	71.54	71.22	0	0	0	0	67.17
9/1/2020	1:24:00 AM	0	71.52	61.6	60	75.54	71.54	71.22	0	0	0	0	67.24
9/1/2020	1:18:00 AM	0	71.52	61.63	60	75.54	71.54	71.22	0	0	0	0	67.31
9/1/2020	1:12:00 AM	0	71.52	61.64	60	75.54	71.54	71.22	0	0	0	0	67.32
9/1/2020	1:06:00 AM	0	71.52	61.64	60	75.54	71.54	71.22	0	0	0	0	67.38
9/1/2020	1:00:00 AM	0	71.52	61.61	60	75.54	71.54	71.22	0	0	0	0	67.46
9/1/2020	12:54:00 AM	0	71.52	61.61	60	75.54	71.54	71.22	0	0	0	0	67.54
9/1/2020	12:48:00 AM	0	71.52	61.66	60	75.54	71.54	71.22	0	0	0	0	67.57
9/1/2020	12:42:00 AM	0	71.52	61.67	60	75.54	71.54	71.22	0	0	0	0	67.62
9/1/2020	12:36:00 AM	0	71.52	61.66	60	75.54	71.54	71.22	0	0	0	0	67.64
9/1/2020	12:30:00 AM	0	71.52	61.66	60	75.54	71.54	71.22	0	0	0	0	67.67
9/1/2020	12:24:00 AM	0	71.52	61.64	60	75.54	71.54	71.22	0	0	0	0	67.69
9/1/2020	12:18:00 AM	0	71.52	61.6	60	75.54	71.54	71.22	0	0	0	0	67.72
9/1/2020	12:12:00 AM	0	71.52	61.62	60	75.54	71.54	71.22	0	0	0	0	67.75
9/1/2020	12:06:00 AM	0	71.52	61.64	60	75.54	71.54	71.22	0	0	0	0	67.77
9/1/2020	12:00:00 AM	0	71.52	61.6	60	75.54	71.54	71.22	0	0	0	0	67.73
8/31/2020	11:54:00 PM	0	71.52	61.61	60	75.54	71.54	71.22	0	0	0	0	67.71
8/31/2020	11:48:00 PM	0	71.52	61.59	60	75.54	71.54	71.22	0	0	0	0	67.71
8/31/2020	11:42:00 PM	0	70.82	61.6	60	75.54	71.54	71.1	0	0	0	0	67.71
8/31/2020	11:36:00 PM	0	70.68	61.59	60	75.54	71.54	71.07	0	0	0	0	67.72
8/31/2020	11:30:00 PM	0	70.68	61.56	60	75.54	71.54	71.07	0	0	0	0	67.76
8/31/2020	11:24:00 PM	0	70.68	61.5	60	75.54	71.54	71.07	0	0	0	0	67.77
8/31/2020	11:18:00 PM	0	70.68	61.47	60	75.54	71.54	71.07	0	0	0	0	67.77
8/31/2020	11:12:00 PM	0	70.68	61.43	60	75.54	71.54	71.07	0	0	0	0	67.82
8/31/2020	11:06:00 PM	0	70.68	61.39	60	75.54	71.54	71.07	0	0	0	0	67.85
8/31/2020	11:00:00 PM	0	70.68	61.38	60	75.54	71.54	71.07	0	0	0	0	67.87
8/31/2020	10:54:00 PM	0	70.68	61.39	60	75.54	71.54	71.07	0	0	0	0	67.93
8/31/2020	10:48:00 PM	0	70.68	61.34	60	75.54	71.54	71.07	0	0	0	0	67.93
8/31/2020	10:42:00 PM	0	70.68	61.26	60	75.54	71.54	71.07	0	0	0	0	67.93
8/31/2020	10:36:00 PM	0	70.68	61.24	60	75.54	71.54	71.07	0	0	0	0	67.95
8/31/2020	10:30:00 PM	0	70.68	61.23	60	75.54	71.54	71.07	0	0	0	0	67.98
8/31/2020	10:24:00 PM	0	70.68	61.22	60	75.54	71.54	71.07	0	0	0	0	68
8/31/2020	10:18:00 PM	0	70.68	61.2	60	75.54	71.54	71.07	0	0	0	0	68.04
8/31/2020	10:12:00 PM	0	70.68	61.15	60	75.54	71.54	71.07	0	0	0	0	68.08
8/31/2020	10:06:00 PM	0	70.68	61.1	60	75.54	71.54	71.07	0	0	0	0	68.08
8/31/2020	10:00:00 PM	0	70.68	61.1	60	75.54	71.54	71.07	0	0	0	0	68.08
8/31/2020	9:54:00 PM	0	70.68	61.03	60	75.54	71.54	71.07	0	0	0	0	68.07
8/31/2020	9:48:00 PM	0	70.68	60.94	60	75.54	71.54	71.07	0	0	0	0	68.04
8/31/2020	9:42:00 PM	0	70.68	60.92	60	75.54	71.54	71.07	0	0	0	0	68
8/31/2020	9:36:00 PM	0	70.68	60.91	60	75.54	71.54	71.07	0	0	0	0	68.01
8/31/2020	9:30:00 PM	0	70.68	60.89	60	75.54	71.54	70.37	0	0	0	0	68
8/31/2020	9:24:00 PM	0	70.68	60.85	60	75.54	71.54	70.01	0	0	0	0	68
8/31/2020	9:18:00 PM	0	70.68	60.81	60	75.54	71.54	70.01	0	0	0	0	68
8/31/2020	9:12:00 PM	0	70.68	60.8	60	75.54	71.54	70.01	0	0	0	0	68
8/31/2020	9:06:00 PM	0	70.68	60.73	60	75.54	71.54	70.01	0	0	0	0	68

8/31/2020	9:00:00 PM	0	70.68	60.69	60	75.54	71.54	70.01	0	0	0	0	68.06
8/31/2020	8:54:00 PM	0	70.68	60.65	60	75.54	71.54	70.01	0	0	0	0	68.07
8/31/2020	8:48:00 PM	0	70.68	60.65	60	75.54	71.54	70.01	0	0	0	0	68.08
8/31/2020	8:42:00 PM	0	70.68	60.63	60	75.54	71.54	70.01	0	0	0	0	68.08
8/31/2020	8:36:00 PM	0	70.68	60.63	60	75.54	71.54	70.01	0	0	0	0	68.08
8/31/2020	8:30:00 PM	0	70.68	60.55	60	75.54	71.54	70.01	0	0	0	0	68.08
8/31/2020	8:24:00 PM	0	70.68	60.48	60	75.54	71.54	70.01	0	0	0	0	68.08
8/31/2020	8:18:00 PM	0	70.68	60.41	60	75.54	71.54	70.01	0	0	0	0	68.07
8/31/2020	8:12:00 PM	0	70.68	60.32	60	75.54	71.54	70.01	0	0	0	0	68.03
8/31/2020	8:06:00 PM	0	70.68	60.26	60	75.54	71.54	70.01	0	0	0	0	68
8/31/2020	8:00:00 PM	0	70.68	60.22	60	75.54	71.54	70.01	0	0	0	0	68
8/31/2020	7:54:00 PM	0	70.68	60.18	60	75.54	71.54	68.95	0	0	0	0	68.03
8/31/2020	7:48:00 PM	0	70.68	60.13	60	75.54	71.54	68.95	0	0	0	0	68.01
8/31/2020	7:42:00 PM	0	70.68	60.11	60	75.54	71.54	68.95	0	0	0	0	68
8/31/2020	7:36:00 PM	0	70.68	60.12	60	75.54	71.54	68.95	0	0	0	0	68.04
8/31/2020	7:30:00 PM	0	70.68	60.21	60	75.54	71.54	68.95	0	0	0	0	68.06
8/31/2020	7:24:00 PM	0	70.68	60.3	60	75.54	71.54	68.95	0	0	0	0	68.11
8/31/2020	7:18:00 PM	0	70.68	60.2	60	75.54	71.54	67.93	0	0	0	0	68.16
8/31/2020	7:12:00 PM	0	70.68	59.99	60	75.54	71.54	67.93	0	0	0	0	68.28
8/31/2020	7:06:00 PM	0	70.68	59.73	60	75.54	71.54	67.93	0	0	0	0	68.4
8/31/2020	7:00:00 PM	0	70.68	59.68	60	75.54	71.54	67.59	0	0	0	0	68.62
8/31/2020	6:54:00 PM	0	70.68	59.69	60	75.54	71.54	66.91	0	0	0	0	68.93
8/31/2020	6:48:00 PM	0	70.68	59.77	60	75.54	71.54	66.73	0	0	0	0	69.39
8/31/2020	6:42:00 PM	0	70.68	59.41	60	75.54	71.54	65.86	0	0	0	0	70.11
8/31/2020	6:36:00 PM	0	70.68	59.28	60	75.54	71.54	65.33	0	0	0	0	71.35
8/31/2020	6:30:00 PM	0	70.68	59.44	60	75.54	71.54	64.44	0	0	0	0	73.54
8/31/2020	6:24:00 PM	0	70.68	59.62	60	75.54	71.54	63.38	0	0	0	0	77.73
8/31/2020	6:18:00 PM	0	70.68	59.11	60	75.54	71.54	61.84	0	0	0	0	86.95
8/31/2020	6:12:00 PM	0	70.68	60.69	60	75.54	71.54	61.14	0.5	0	0	0.5	104.82
8/31/2020	6:06:00 PM	0	70.68	68.85	60	75.54	71.54	69.02	1	0.17	0	1	95.27
8/31/2020	6:00:00 PM	0	70.68	59.85	60	75.54	71.54	64.57	1	0.67	0	0.17	95.44
8/31/2020	5:54:00 PM	0.5	70.68	60.98	60	75.54	71.54	61.76	1	0	0	0.5	92.72
8/31/2020	5:48:00 PM	1	70.68	59.3	60	75.54	71.54	61.23	1	0	0	0.5	100.26
8/31/2020	5:42:00 PM	0.83	70.68	60.45	60	75.54	71.54	62.1	0.83	0	0	0.17	85.64
8/31/2020	5:36:00 PM	0	70.68	59.61	60	75.54	71.54	60.88	0.33	0	0	0.33	100.44
8/31/2020	5:30:00 PM	0	70.68	66.94	60	75.54	71.54	69.92	1	0	0	1	97.25
8/31/2020	5:24:00 PM	0	70.68	60.54	60	75.54	71.54	66.31	1	0.67	0	0.17	96.94
8/31/2020	5:18:00 PM	0.17	70.68	64.14	60	75.54	71.54	63.59	1	0	0	1	104.14
8/31/2020	5:12:00 PM	1	70.68	65.22	60	75.54	71.54	72.83	1	0.67	0	0.5	91.22
8/31/2020	5:06:00 PM	1	70.68	59.76	60	75.54	71.54	62.02	1	0.17	0	0.67	107.08
8/31/2020	5:00:00 PM	1	70.68	67.2	60	75.54	71.54	70.96	1	0	0	1	97.52
8/31/2020	4:54:00 PM	1	70.68	60.34	60	75.54	71.54	67.2	1	0.83	0	0.17	96.42
8/31/2020	4:48:00 PM	1	70.68	63.57	60	75.54	71.54	63.58	1	0	0	1	106.66
8/31/2020	4:42:00 PM	1	70.68	65.26	60	75.54	71.54	73.12	1	0.5	0	0.67	89.99
8/31/2020	4:36:00 PM	1	70.68	59.41	60	75.54	71.54	62.37	1	0.17	0	0.5	98.58
8/31/2020	4:30:00 PM	1	70.68	59.53	60	75.54	71.54	61.84	1	0	0	0.17	91.74
8/31/2020	4:24:00 PM	1	70.68	60.87	60	75.54	71.54	62.53	1	0	0	0.67	93.02

8/31/2020	4:18:00 PM	1	71.69	59.14	60	75.54	71.54	61.84	1	0	0	0.5	98.66
8/31/2020	4:12:00 PM	1	71.69	60.22	60	75.54	71.54	62.53	1	0	0	0.17	90.98
8/31/2020	4:06:00 PM	1	71.69	60.31	60	75.54	71.54	62.87	1	0	0	0.67	95.33
8/31/2020	4:00:00 PM	1	71.69	58.96	60	75.54	71.54	61.84	1	0	0	0.17	91.74
8/31/2020	3:54:00 PM	1	71.69	60.97	60	75.54	71.54	65.53	1	0	0	0.33	75.58
8/31/2020	3:48:00 PM	0	71.69	59.49	60	75.54	71.54	67.8	0	0	0	0	69.12
8/31/2020	3:42:00 PM	0	71.69	59.38	60	75.54	71.54	67.46	0	0	0	0	69.73
8/31/2020	3:36:00 PM	0	71.69	59.34	60	75.54	71.54	66.77	0	0	0	0	70.73
8/31/2020	3:30:00 PM	0	71.69	59.6	60	75.54	71.54	66.25	0	0	0	0	72.42
8/31/2020	3:24:00 PM	0	71.69	59.55	60	75.54	71.54	65.02	0	0	0	0	75.48
8/31/2020	3:18:00 PM	0	71.69	59.32	60	75.54	71.54	63.76	0	0	0	0	81.48
8/31/2020	3:12:00 PM	0	71.69	58.64	60	75.54	71.54	61.67	0	0	0	0	95.72
8/31/2020	3:06:00 PM	0	71.69	65.13	60	75.54	71.54	69.9	1	0	0	1	98.61
8/31/2020	3:00:00 PM	0	71.69	60.72	60	75.54	71.54	67.59	1	0.83	0	0.17	94.72
8/31/2020	2:54:00 PM	0	71.69	63.28	60	75.54	71.54	64.35	1	0	0	1	101.86
8/31/2020	2:48:00 PM	0.67	71.69	60.49	60	75.54	71.54	64.29	1	0.33	0	0.17	87.47
8/31/2020	2:42:00 PM	1	71.69	60.53	60	75.54	71.54	63.91	1	0	0	0.67	107.21
8/31/2020	2:36:00 PM	1	71.81	65.59	60	75.54	71.54	75.48	1	0.33	0	0.83	91.07
8/31/2020	2:30:00 PM	1	71.83	58.88	60	75.54	71.54	63.09	1	0.5	0	0.33	98.09
8/31/2020	2:24:00 PM	1	71.83	60.5	60	75.54	71.54	62.7	1	0	0	0.33	85.72
8/31/2020	2:18:00 PM	1	71.83	60.07	60	75.54	71.54	62.54	1	0	0	0.67	97.49
8/31/2020	2:12:00 PM	1	71.83	64.83	60	75.54	71.54	75.22	1	0.5	0	0.67	88.44
8/31/2020	2:06:00 PM	1	71.83	58.95	60	75.54	71.54	62.59	1	0.33	0	0.33	94.24
8/31/2020	2:00:00 PM	1	71.83	60.34	60	75.54	71.54	62.87	1	0	0	0.33	85.54
8/31/2020	1:54:00 PM	1	71.83	59.02	60	75.54	71.54	62.02	1	0	0	0.5	97.15
8/31/2020	1:48:00 PM	1	71.83	64.86	60	75.54	71.54	76.38	1	0.33	0	0.83	87.85
8/31/2020	1:42:00 PM	1	71.83	58.76	60	75.54	71.54	63.18	1	0.33	0	0.17	94.07
8/31/2020	1:36:00 PM	1	71.83	64.42	60	75.54	71.54	70.7	1	0	0	1	95.95
8/31/2020	1:30:00 PM	1	71.83	60.59	60	75.54	71.54	68.41	1	0.83	0	0.17	90.77
8/31/2020	1:24:00 PM	1	71.83	60.73	60	75.54	71.54	62.27	1	0	0	0.67	88.99
8/31/2020	1:18:00 PM	1	71.83	58.69	60	75.54	71.54	61.93	1	0	0	0.33	97.65
8/31/2020	1:12:00 PM	1	71.83	64.52	60	75.54	71.54	73.9	1	0.17	0	1	94.6
8/31/2020	1:06:00 PM	1	71.83	59.59	60	75.54	71.54	64.52	1	0.67	0	0.17	92.73
8/31/2020	1:00:00 PM	1	71.83	60.73	60	75.54	71.54	63.04	1	0	0	0.5	86.17
8/31/2020	12:54:00 PM	1	71.83	58.85	60	75.54	71.54	62.37	1	0	0	0.5	97.39
8/31/2020	12:48:00 PM	1	71.83	64.41	60	75.54	71.54	76.83	1	0.33	0	0.83	87.86
8/31/2020	12:42:00 PM	1	71.83	58.94	60	75.54	71.54	63.28	1	0.33	0	0.17	93.72
8/31/2020	12:36:00 PM	1	71.83	64.16	60	75.54	71.54	73.72	1	0.17	0	1	91.51
8/31/2020	12:30:00 PM	1	71.83	59.44	60	75.54	71.54	64.84	1	0.67	0	0.17	91.93
8/31/2020	12:24:00 PM	1	71.83	60.78	60	75.54	71.54	62.87	1	0	0	0.5	85.63
8/31/2020	12:18:00 PM	1	71.83	59.19	60	75.54	71.54	62.37	1	0	0	0.33	94.96
8/31/2020	12:12:00 PM	1	71.83	63.95	60	75.54	71.54	77.44	1	0.5	0	0.83	87.07
8/31/2020	12:06:00 PM	1	71.83	58.48	60	75.54	71.54	62.94	1	0.33	0	0.33	92.79
8/31/2020	12:00:00 PM	1	71.32	63.99	60	75.54	71.54	75.34	1	0.17	0	1	89.31
8/31/2020	11:54:00 AM	1	70.81	59.42	60	75.54	71.54	65.14	1	0.67	0	0.17	93.17
8/31/2020	11:48:00 AM	1	70.81	64.17	60	75.54	71.54	72.88	1	0.17	0	1	92.33
8/31/2020	11:42:00 AM	1	70.81	59.77	60	75.54	71.54	66.02	1	0.67	0	0.17	94.24

8/31/2020	11:36:00 AM	1	70.81	62.87	60	75.24	71.24	65.3	1	0	0	1	95.29
8/31/2020	11:30:00 AM	1	70.81	59.55	60	75.24	71.24	62.39	1	0.17	0	0.17	84.52
8/31/2020	11:24:00 AM	1	70.81	61.1	60	75.24	71.24	64.09	1	0	0	0.83	96.09
8/31/2020	11:18:00 AM	1	70.81	62.27	60	75.24	71.24	74.36	1	0.67	0	0.5	84.56
8/31/2020	11:12:00 AM	1	70.81	59.67	60	75.24	71.24	61.4	1	0.17	0	0.67	90.75
8/31/2020	11:06:00 AM	1	70.81	58.81	60	75.24	71.24	61.58	1	0	0	0	85.76
8/31/2020	11:00:00 AM	1	70.81	62.18	60	75.24	71.24	68.26	1	0	0	0.83	94.34
8/31/2020	10:54:00 AM	1	70.81	60.66	60	75.24	71.24	71.05	1	0.83	0	0.17	82.69
8/31/2020	10:48:00 AM	1	70.81	61.57	60	75.24	71.24	65.85	1	0	0	0.83	92.84
8/31/2020	10:42:00 AM	1	70.81	61.04	60	75.24	71.24	71.68	1	0.83	0	0.33	83.97
8/31/2020	10:36:00 AM	1	71.83	60.26	60	75.24	71.24	61.57	1	0	0	0.5	88.2
8/31/2020	10:30:00 AM	1	71.83	58.3	60	75.24	71.24	61.24	1	0	0	0.17	89.96
8/31/2020	10:24:00 AM	1	71.83	63.28	60	75.24	71.24	73.91	1	0.17	0	1	87.94
8/31/2020	10:18:00 AM	1	71.83	59.1	60	75.24	71.24	63.88	1	0.5	0	0	86.63
8/31/2020	10:12:00 AM	1	71.83	60.47	60	75.24	71.24	61.93	1	0	0	0.67	86.14
8/31/2020	10:06:00 AM	1	71.83	58.54	60	75.24	71.24	61.58	1	0	0	0.17	89.38
8/31/2020	10:00:00 AM	1	71.83	62.97	60	75.24	71.24	76.64	1	0.33	0	0.83	88.59
8/31/2020	9:54:00 AM	1	71.83	58.88	60	75.24	71.24	62.51	1	0.33	0	0.33	92.51
8/31/2020	9:48:00 AM	1	71.83	60.49	60	75.24	71.24	62.61	1	0	0	0.33	81.3
8/31/2020	9:42:00 AM	1	71.83	58.7	60	75.24	71.24	62.97	1	0	0	0.33	92.43
8/31/2020	9:36:00 AM	1	71.83	62.14	60	75.24	71.24	78.23	1	0.5	0	0.67	84.3
8/31/2020	9:30:00 AM	1	71.83	59.32	60	75.24	71.24	63.44	1	0.17	0	0.5	91.04
8/31/2020	9:24:00 AM	1	71.83	61.27	60	75.24	71.24	68.18	1	0.33	0	0.5	78.87
8/31/2020	9:18:00 AM	1	71.83	58.35	60	75.24	71.24	62.72	1	0	0	0.33	85.31
8/31/2020	9:12:00 AM	1	71.83	62.12	60	75.24	71.24	79.28	1	0.5	0	0.67	86.56
8/31/2020	9:06:00 AM	1	71.83	58.69	60	75.24	71.24	63.71	1	0.33	0	0.5	88.95
8/31/2020	9:00:00 AM	1	71.83	61.99	60	75.24	71.24	78.44	1	0.67	0	0.5	84.83
8/31/2020	8:54:00 AM	1	71.83	59.67	60	75.24	71.24	64.37	1	0.33	0	0.5	90.69
8/31/2020	8:48:00 AM	1	71.83	61.27	60	75.24	71.24	74.54	1	0.83	0	0.33	81.07
8/31/2020	8:42:00 AM	1	71.83	61.14	60	75.24	71.24	67.4	1	0.17	0	0.67	89.64
8/31/2020	8:36:00 AM	1	71.83	59.93	60	75.24	71.24	71.32	1	1	0	0.17	82.96
8/31/2020	8:30:00 AM	1	71.83	61.61	60	75.24	71.24	69.61	1	0	0	0.83	91.16
8/31/2020	8:24:00 AM	1	71.83	60.07	60	75.24	71.24	68.8	1	0.83	0	0.17	81.01
8/31/2020	8:18:00 AM	1	71.83	62.37	60	75.24	71.24	73.15	1	0.17	0	1	86.46
8/31/2020	8:12:00 AM	1	71.83	59.06	60	75.23	71.23	66.26	1	0.83	0	0	81.56
8/31/2020	8:06:00 AM	1	71.49	63.83	60	75.19	71.19	75.73	1	0.17	0	1	87.68
8/31/2020	8:00:00 AM	1	70.81	60.25	60	75.19	71.19	72.6	1	1	0.83	0.17	78.81
8/31/2020	7:54:00 AM	1	70.81	62.8	60	75.19	71.19	68.44	1	0	0	0.83	90.84
8/31/2020	7:48:00 AM	1	70.81	62.16	60	75.19	71.19	78.32	1	1	0.67	0.5	77.46
8/31/2020	7:42:00 AM	1	70.81	61.3	60	75.19	71.19	62.84	1	0.17	0	0.67	89.27
8/31/2020	7:36:00 AM	0.33	69.78	64.52	60	75.64	71.64	82.63	1	0.67	0.5	0.67	79.37
8/31/2020	7:30:00 AM	0	69.78	59.46	60	75.87	71.87	60.6	1	0.33	0.17	0.5	87.52
8/31/2020	7:24:00 AM	0	69.44	65.57	60	75.87	71.87	80.51	1	0.5	0.33	0.83	83.1
8/31/2020	7:18:00 AM	0.83	68.77	59.02	60	75.87	71.87	61.54	1	0.5	0.33	0.17	87.49
8/31/2020	7:12:00 AM	1	68.77	65.65	60	75.87	71.87	75.51	1	0.17	0	1	83.83
8/31/2020	7:06:00 AM	1	68.77	59.67	60	75.87	71.87	66.11	1	0.83	0.67	0.17	84.57
8/31/2020	7:00:00 AM	1	68.43	64.52	60	75.87	71.87	66.32	1	0	0	1	89.87

8/31/2020	6:54:00 AM	1	67.74	61.93	60	75.87	71.87	73.88	1	1	0.67	0.33	80.03
8/31/2020	6:48:00 AM	1	67.74	60.18	60	75.87	71.87	58.62	1	0.17	0	0.67	91.25
8/31/2020	6:42:00 AM	0	67.74	60.55	60	75.87	71.87	59.35	1	0.33	0	0.67	87.4
8/31/2020	6:36:00 AM	0	67.74	60.66	60	75.87	71.87	59.45	1	0.17	0	0.67	89.61
8/31/2020	6:30:00 AM	0	67.74	60.47	60	75.87	71.87	59.68	1	0.33	0	0.67	88.02
8/31/2020	6:24:00 AM	0	67.74	60.59	60	75.87	71.87	59.54	1	0.33	0	0.67	88.21
8/31/2020	6:18:00 AM	0	67.74	60.82	60	75.87	71.87	59.43	1	0.33	0	0.67	87.79
8/31/2020	6:12:00 AM	0	67.74	60.84	60	75.87	71.87	59.89	1	0.33	0	0.67	88.27
8/31/2020	6:06:00 AM	0	67.74	60.68	60	75.87	71.87	59.96	1	0.33	0	0.67	88.05
8/31/2020	6:00:00 AM	0	67.74	60.95	60	75.87	71.87	59.94	1	0.33	0	0.67	87.77
8/31/2020	5:54:00 AM	0	67.74	61.1	60	75.87	71.87	60.23	1	0.33	0	0.83	87.39
8/31/2020	5:48:00 AM	0	67.74	60.56	60	75.87	71.87	59.79	1	0.33	0	0.67	88.07
8/31/2020	5:42:00 AM	0	67.74	60.93	60	75.87	71.87	60.52	1	0.17	0	0.83	88.73
8/31/2020	5:36:00 AM	0	67.74	60.9	60	75.87	71.87	60.19	1	0.33	0	0.67	89
8/31/2020	5:30:00 AM	0	67.63	60.89	60	75.87	71.87	59.57	1	0.17	0	0.67	89.64
8/31/2020	5:24:00 AM	0	67.61	61.03	60	75.87	71.87	60	1	0.33	0	0.67	89.24
8/31/2020	5:18:00 AM	0	68.47	60.79	60	75.87	71.87	59.82	1	0.33	0	0.67	88.14
8/31/2020	5:12:00 AM	0	68.64	60.62	60	75.87	71.87	59.09	1	0.33	0	0.67	88.03
8/31/2020	5:06:00 AM	0	68.64	60.74	60	75.87	71.87	59.71	1	0.33	0	0.67	88.85
8/31/2020	5:00:00 AM	0	68.64	60.68	60	75.87	71.87	59.46	1	0.33	0	0.5	88.23
8/31/2020	4:54:00 AM	0	68.64	60.6	60	75.87	71.87	60.12	1	0.33	0	0.67	89.71
8/31/2020	4:48:00 AM	0	68.64	60.8	60	75.87	71.87	60.16	1	0.33	0	0.67	88.52
8/31/2020	4:42:00 AM	0	68.64	60.8	60	75.87	71.87	60.18	1	0.33	0	0.67	88.89
8/31/2020	4:36:00 AM	0	68.64	60.8	60	75.87	71.87	60	1	0.33	0	0.67	88.13
8/31/2020	4:30:00 AM	0	68.64	61.01	60	75.87	71.87	60.07	1	0.33	0	0.83	88.36
8/31/2020	4:24:00 AM	0	68.64	61.09	60	75.87	71.87	60.33	1	0.17	0	0.83	87.72
8/31/2020	4:18:00 AM	0	68.64	61.01	60	75.87	71.87	60.25	1	0.17	0	0.67	88.64
8/31/2020	4:12:00 AM	0	68.64	60.9	60	75.87	71.87	59.99	1	0.17	0	0.67	88.1
8/31/2020	4:06:00 AM	0	68.64	61	60	75.87	71.87	59.82	1	0.33	0	0.67	88.94
8/31/2020	4:00:00 AM	0	68.64	60.64	60	75.87	71.87	59.67	1	0.33	0	0.67	89.73
8/31/2020	3:54:00 AM	0	68.64	60.58	60	75.87	71.87	60.05	1	0.33	0	0.67	88.92
8/31/2020	3:48:00 AM	0	68.64	60.62	60	75.87	71.87	60.26	1	0.33	0	0.5	89.19
8/31/2020	3:42:00 AM	0	68.64	60.54	60	75.87	71.87	60.25	1	0.33	0	0.67	88.83
8/31/2020	3:36:00 AM	0	68.64	60.75	60	75.87	71.87	60.65	1	0.33	0	0.67	88.74
8/31/2020	3:30:00 AM	0	68.64	61.12	60	75.87	71.87	60.97	1	0.33	0	0.83	87.55
8/31/2020	3:24:00 AM	0	68.64	60.99	60	75.87	71.87	60.79	1	0.33	0	0.67	87.44
8/31/2020	3:18:00 AM	0	68.64	61.14	60	75.87	71.87	60.76	1	0.17	0	0.83	88.46
8/31/2020	3:12:00 AM	0	68.64	61.04	60	75.87	71.87	60.51	1	0.17	0	0.67	88.97
8/31/2020	3:06:00 AM	0	68.64	60.93	60	75.87	71.87	59.73	1	0.17	0	0.67	89.84
8/31/2020	3:00:00 AM	0	69.48	60.63	60	75.87	71.87	59.65	1	0.33	0	0.67	90.06
8/31/2020	2:54:00 AM	0	69.65	60.47	60	75.87	71.87	59.78	1	0.33	0	0.67	91.06
8/31/2020	2:48:00 AM	0	69.65	60.88	60	75.87	71.87	60.73	1	0.33	0	0.67	90.44
8/31/2020	2:42:00 AM	0	69.65	60.98	60	75.87	71.87	61.25	1	0.17	0	0.67	89.09
8/31/2020	2:36:00 AM	0	69.65	61.14	60	75.87	71.87	61.26	1	0.33	0	0.83	87.29
8/31/2020	2:30:00 AM	0	69.65	60.35	60	75.87	71.87	60.48	1	0.17	0	0.67	86.37
8/31/2020	2:24:00 AM	0	69.65	63.99	60	75.87	71.87	66.34	1	0	0	0.83	89.98
8/31/2020	2:18:00 AM	0	69.65	60.57	60	75.87	71.87	66.2	1	0.83	0	0.17	81.34

8/31/2020	2:12:00 AM	0	69.65	60.24	60	75.87	71.87	59.55	1	0	0	0.67	91.26
8/31/2020	2:06:00 AM	0	69.65	64.85	60	75.87	71.87	72.74	1	0.33	0	0.83	82.17
8/31/2020	2:00:00 AM	0	69.65	58.84	60	75.87	71.87	60.79	1	0.5	0	0.33	84.09
8/31/2020	1:54:00 AM	0	69.65	62.45	60	75.87	71.87	61.96	1	0	0	0.67	89.35
8/31/2020	1:48:00 AM	0	69.65	62.42	60	75.87	71.87	71.91	1	0.67	0	0.5	81.39
8/31/2020	1:42:00 AM	0	69.65	59	60	75.87	71.87	58.74	1	0.17	0	0.33	89.5
8/31/2020	1:36:00 AM	0	69.65	64.61	60	75.87	71.87	69.6	1	0.17	0	1	86.76
8/31/2020	1:30:00 AM	0	70.17	59.66	60	75.87	71.87	63.28	1	0.67	0	0.17	83.16
8/31/2020	1:24:00 AM	0	70.68	61.04	60	75.87	71.87	60.07	1	0	0	0.67	89.29
8/31/2020	1:18:00 AM	0	70.68	64	60	75.87	71.87	72.12	1	0.5	0	0.67	80.36
8/31/2020	1:12:00 AM	0	70.68	58.54	60	75.87	71.87	59.37	1	0.33	0	0.33	88.86
8/31/2020	1:06:00 AM	0	70.68	63.77	60	75.87	71.87	67.51	1	0	0	0.83	89.9
8/31/2020	1:00:00 AM	0	70.68	60.24	60	75.87	71.87	66.05	1	0.83	0	0.17	81.59
8/31/2020	12:54:00 AM	0	70.68	60.66	60	75.87	71.87	59.71	1	0	0	0.67	88.03
8/31/2020	12:48:00 AM	0	70.68	63.99	60	75.87	71.87	73.19	1	0.5	0	0.67	80.13
8/31/2020	12:42:00 AM	0	70.68	58.7	60	75.87	71.87	59.93	1	0.33	0	0.33	86.22
8/31/2020	12:36:00 AM	0	70.68	63.68	60	75.87	71.87	68.4	1	0	0	0.83	88.2
8/31/2020	12:30:00 AM	0	70.68	60.32	60	75.87	71.87	67.26	1	0.83	0	0.17	82
8/31/2020	12:24:00 AM	0	70.68	60.32	60	75.87	71.87	60.35	1	0	0	0.67	89.83
8/31/2020	12:18:00 AM	0	70.68	64.11	60	75.87	71.87	73.29	1	0.5	0	0.67	84.19
8/31/2020	12:12:00 AM	0	70.68	58.8	60	75.87	71.87	60.52	1	0.33	0	0.33	86.38
8/31/2020	12:06:00 AM	0	70.68	63.41	60	75.87	71.87	67.44	1	0	0	0.83	90.17
8/31/2020	12:00:00 AM	0	70.68	60.34	60	75.87	71.87	66.98	1	0.67	0	0.17	81.12
8/30/2020	11:54:00 PM	0	70.68	60.35	60	75.87	71.87	59.9	1	0	0	0.67	91.43
8/30/2020	11:48:00 PM	0	70.68	63.64	60	75.87	71.87	74.11	1	0.5	0	0.67	81.21
8/30/2020	11:42:00 PM	0	70.68	58.82	60	75.87	71.87	60.73	1	0.33	0	0.33	87.42
8/30/2020	11:36:00 PM	0	70.68	62.86	60	75.87	71.87	67.05	1	0	0	0.67	91.46
8/30/2020	11:30:00 PM	0	70.68	61.01	60	75.87	71.87	68.19	1	0.83	0	0.17	79.12
8/30/2020	11:24:00 PM	0	70.68	59.7	60	75.87	71.87	60.62	1	0	0	0.5	85.18
8/30/2020	11:18:00 PM	0	70.68	64.12	60	75.87	71.87	75.24	1	0.33	0	0.83	82.38
8/30/2020	11:12:00 PM	0	70.68	58.72	60	75.87	71.87	61.16	1	0.33	0	0.33	85.42
8/30/2020	11:06:00 PM	0	70.68	62.06	60	75.87	71.87	63.78	1	0	0	0.67	89.62
8/30/2020	11:00:00 PM	0	70.68	61.67	60	75.87	71.87	71.53	1	0.83	0	0.33	78.85
8/30/2020	10:54:00 PM	0	70.68	59.02	60	75.87	71.87	59.74	1	0	0	0.33	86.17
8/30/2020	10:48:00 PM	0	70.68	63.77	60	75.87	71.87	73	1	0.33	0	0.83	84.13
8/30/2020	10:42:00 PM	0	70.68	59	60	75.87	71.87	61.42	1	0.33	0	0.17	83.84
8/30/2020	10:36:00 PM	0	70.68	61.59	60	75.87	71.87	63.19	1	0	0	0.67	86.66
8/30/2020	10:30:00 PM	0	70.68	61.44	60	75.87	71.87	73.44	1	0.83	0	0.33	81.55
8/30/2020	10:24:00 PM	0	70.68	58.83	60	75.87	71.87	59.51	1	0.17	0	0.33	90.55
8/30/2020	10:18:00 PM	0	70.68	63.07	60	75.87	71.87	69.43	1	0.33	0	1	85.61
8/30/2020	10:12:00 PM	0	70.68	59.07	60	75.87	71.87	60.81	1	0.33	0	0	82.45
8/30/2020	10:06:00 PM	0	70.68	60.75	60	75.87	71.87	62.71	1	0	0	0.67	85.95
8/30/2020	10:00:00 PM	0	70.68	62.6	60	75.87	71.87	75.72	1	0.67	0	0.5	79.04
8/30/2020	9:54:00 PM	0	70.68	58.65	60	75.87	71.87	59.73	1	0.17	0	0.33	86.88
8/30/2020	9:48:00 PM	0	70.68	62.8	60	75.87	71.87	70.72	1	0	0	0.83	88.73
8/30/2020	9:42:00 PM	0	70.68	59.67	60	75.87	71.87	65.13	1	0.67	0	0.17	81.18
8/30/2020	9:36:00 PM	0	70.68	59.62	60	75.87	71.87	60.79	1	0	0	0.5	89.07

8/30/2020	9:30:00 PM	0	70.68	63.47	60	75.87	71.87	74.4	1	0.5	0	0.83	83.56
8/30/2020	9:24:00 PM	0	70.68	58.66	60	75.87	71.87	60.4	1	0.33	0	0.17	86.32
8/30/2020	9:18:00 PM	0	70.68	61.6	60	75.87	71.87	64.91	1	0	0	0.67	91.21
8/30/2020	9:12:00 PM	0	70.68	61.28	60	75.87	71.87	70.92	1	0.67	0	0.33	77.96
8/30/2020	9:06:00 PM	0	70.68	58.91	60	75.87	71.87	60.35	1	0	0	0.33	89.8
8/30/2020	9:00:00 PM	0	70.68	63.41	60	75.87	71.87	73.28	1	0.17	0	1	85.27
8/30/2020	8:54:00 PM	0	70.68	59.11	60	75.87	71.87	61.97	1	0.5	0	0	83.4
8/30/2020	8:48:00 PM	0	70.68	60.35	60	75.87	71.87	61.94	1	0	0	0.67	88.84
8/30/2020	8:42:00 PM	0	70.68	62.9	60	75.87	71.87	75.86	1	0.67	0	0.67	84.43
8/30/2020	8:36:00 PM	0	70.68	59.5	60	75.87	71.87	60.09	1	0.33	0	0.5	88.5
8/30/2020	8:30:00 PM	0	70.68	59.63	60	75.87	71.87	60.79	1	0	0	0.17	85.82
8/30/2020	8:24:00 PM	0	70.27	63.16	60	75.87	71.87	75.08	1	0.33	0	0.83	83.57
8/30/2020	8:18:00 PM	0	70.19	58.74	60	75.87	71.87	61.44	1	0.33	0	0.17	85.96
8/30/2020	8:12:00 PM	0	70.19	61.17	60	75.87	71.87	63.59	1	0	0	0.67	88.33
8/30/2020	8:06:00 PM	0	70.19	61.3	60	75.87	71.87	71.52	1	0.67	0	0.33	77.03
8/30/2020	8:00:00 PM	0	70.19	58.56	60	75.87	71.87	60.1	1	0	0	0.17	86.93
8/30/2020	7:54:00 PM	0	70.19	62.8	60	75.87	71.87	71.55	1	0.17	0	1	85.23
8/30/2020	7:48:00 PM	0	70.19	59.05	60	75.87	71.87	61.24	1	0.33	0	0	83.24
8/30/2020	7:42:00 PM	0	70.19	60.41	60	75.87	71.87	62.63	1	0	0	0.67	91.16
8/30/2020	7:36:00 PM	0	70.19	61.94	60	75.87	71.87	73.45	1	0.67	0	0.5	82.47
8/30/2020	7:30:00 PM	0	70.19	58.65	60	75.87	71.87	60.18	1	0	0	0.33	88.39
8/30/2020	7:24:00 PM	0	70.19	62.25	60	75.87	71.87	69.41	1	0	0	0.67	87.88
8/30/2020	7:18:00 PM	0	70.19	59.95	60	75.87	71.87	68.87	1	0.83	0	0.17	84.33
8/30/2020	7:12:00 PM	0	70.19	60.37	60	75.87	71.87	60.7	1	0	0	0.67	91.17
8/30/2020	7:06:00 PM	0	70.19	61.51	60	75.87	71.87	64.53	1	0.33	0	0.5	79.52
8/30/2020	7:00:00 PM	0	70.19	58.46	60	75.87	71.87	60.8	1	0	0	0.17	87.14
8/30/2020	6:54:00 PM	0	70.19	62.29	60	75.87	71.87	72.42	1	0.17	0	0.83	88.69
8/30/2020	6:48:00 PM	0	70.36	59.2	60	75.87	71.87	66.31	1	0.83	0	0	86.47
8/30/2020	6:42:00 PM	0	71.21	60.59	60	75.87	71.87	61.32	1	0	0	0.5	81.85
8/30/2020	6:36:00 PM	0	71.21	58.58	60	75.87	71.87	60.62	1	0	0	0.33	84.63
8/30/2020	6:30:00 PM	0	71.21	61.64	60	75.87	71.87	70.88	1	0	0	0.67	87.75
8/30/2020	6:24:00 PM	0	71.21	59.46	60	75.87	71.87	68.94	1	0.83	0	0.17	86.8
8/30/2020	6:18:00 PM	0	71.21	60.49	60	75.87	71.87	61.23	1	0	0	0.67	84.23
8/30/2020	6:12:00 PM	0	71.21	58.75	60	75.87	71.87	61.41	1	0	0	0.33	86.06
8/30/2020	6:06:00 PM	0	71.21	61.29	60	75.87	71.87	70.94	1	0	0	0.67	89.92
8/30/2020	6:00:00 PM	0	71.21	59.81	60	75.87	71.87	66.48	1	0.5	0	0.17	83.08
8/30/2020	5:54:00 PM	0	71.21	60.03	60	75.87	71.87	61.49	1	0	0	0.67	88.51
8/30/2020	5:48:00 PM	0	71.21	58.56	60	75.87	71.87	61.32	1	0	0	0	84.21
8/30/2020	5:42:00 PM	0	71.21	60.46	60	75.87	71.87	67.24	1	0	0	0.67	87.39
8/30/2020	5:36:00 PM	0	70.53	59.98	60	75.87	71.87	75.53	1	0.83	0	0.33	80.55
8/30/2020	5:30:00 PM	0	70.19	59.78	60	75.87	71.87	60.72	1	0	0	0.33	85.92
8/30/2020	5:24:00 PM	0	70.19	58.28	60	75.87	71.87	60.03	1	0	0	0	88.37
8/30/2020	5:18:00 PM	0	70.19	60.43	60	75.87	71.87	61.75	1	0	0	0.5	82.79
8/30/2020	5:12:00 PM	0	70.19	58.62	60	75.87	71.87	60.71	1	0	0	0.17	85.87
8/30/2020	5:06:00 PM	0	70.19	61.19	60	75.87	71.87	71.3	1	0	0	0.67	85.18
8/30/2020	5:00:00 PM	0	70.19	59.42	60	75.87	71.87	68.24	1	0.83	0	0.17	85.37
8/30/2020	4:54:00 PM	0	70.19	60.4	60	75.87	71.87	61.75	1	0	0	0.5	81.58

8/30/2020	4:48:00 PM	0	70.19	58.55	60	75.87	71.87	61.58	1	0	0	0.17	86.71
8/30/2020	4:42:00 PM	0	70.19	61.47	60	75.87	71.87	75.42	1	0.17	0	0.67	87.77
8/30/2020	4:36:00 PM	0	70.19	59.21	60	75.87	71.87	65.85	1	0.67	0	0.17	90.09
8/30/2020	4:30:00 PM	0	70.19	60.35	60	75.87	71.87	61.84	1	0	0	0.33	81.5
8/30/2020	4:24:00 PM	0	70.19	58.4	60	75.87	71.87	61.84	1	0	0	0.33	87.29
8/30/2020	4:18:00 PM	0	70.19	61.68	60	75.87	71.87	76.96	1	0.33	0	0.67	85.95
8/30/2020	4:12:00 PM	0	70.19	58.96	60	75.87	71.87	63.45	1	0.5	0	0.17	86.8
8/30/2020	4:06:00 PM	0	70.19	60.68	60	75.87	71.87	65.69	1	0	0	0.67	88.68
8/30/2020	4:00:00 PM	0	70.19	59.98	60	75.87	71.87	64.04	1	0.33	0	0.17	77.46
8/30/2020	3:54:00 PM	0	70.19	58.45	60	75.87	71.87	61.23	1	0	0	0.33	84.28
8/30/2020	3:48:00 PM	0	70.19	61.71	60	75.87	71.87	77.08	1	0.33	0	0.67	84.51
8/30/2020	3:42:00 PM	0	70.19	58.99	60	75.87	71.87	62.65	1	0.5	0	0.33	87.61
8/30/2020	3:36:00 PM	0	70.19	60.85	60	75.87	71.87	64.62	1	0	0	0.67	81.07
8/30/2020	3:30:00 PM	0	70.19	59.65	60	75.87	71.87	61.67	1	0.17	0	0.17	76.12
8/30/2020	3:24:00 PM	0	70.19	58.88	60	75.87	71.87	62.19	1	0	0	0.33	85.28
8/30/2020	3:18:00 PM	0	70.19	61.47	60	75.87	71.87	78.82	1	0.5	0	0.67	84.3
8/30/2020	3:12:00 PM	0	70.19	59.22	60	75.87	71.87	61.22	1	0.33	0	0.5	88.07
8/30/2020	3:06:00 PM	0	70.19	59.24	60	75.87	71.87	61.76	1	0	0	0	80.51
8/30/2020	3:00:00 PM	0	70.19	59.67	60	75.87	71.87	63.65	1	0	0	0.5	88.44
8/30/2020	2:54:00 PM	0	70.19	60.97	60	75.87	71.87	78.14	1	0.67	0	0.5	82.03
8/30/2020	2:48:00 PM	0	70.19	59.58	60	75.87	71.87	60.87	1	0.17	0	0.5	86.8
8/30/2020	2:42:00 PM	0	70.19	58.77	60	75.87	71.87	61.41	1	0	0	0	80.8
8/30/2020	2:36:00 PM	0	70.19	59.9	60	75.87	71.87	65.59	1	0	0	0.67	88.57
8/30/2020	2:30:00 PM	0	70.19	60.3	60	75.87	71.87	76.42	1	0.83	0	0.33	81.3
8/30/2020	2:24:00 PM	0	70.19	60.33	60	75.87	71.87	65.51	1	0.17	0	0.83	85.52
8/30/2020	2:18:00 PM	0	70.19	59.29	60	75.87	71.87	61.67	1	0.17	0	0	81.06
8/30/2020	2:12:00 PM	0	70.19	59.39	60	75.87	71.87	63.39	1	0	0	0.5	86.16
8/30/2020	2:06:00 PM	0	70.19	61.2	60	75.87	71.87	78.92	1	0.67	0	0.5	80
8/30/2020	2:00:00 PM	0	70.19	58.85	60	75.87	71.87	60.53	1	0.17	0	0.33	84.6
8/30/2020	1:54:00 PM	0	70.19	61.22	60	75.87	71.87	66.33	1	0.33	0	0.67	82.14
8/30/2020	1:48:00 PM	0	70.19	58.53	60	75.87	71.87	60.88	1	0	0	0	82.27
8/30/2020	1:42:00 PM	0	70.19	60.55	60	75.87	71.87	68.13	1	0	0	0.67	86.43
8/30/2020	1:36:00 PM	0	70.19	59.9	60	75.87	71.87	74.4	1	0.83	0	0.33	82.1
8/30/2020	1:30:00 PM	0	70.19	59.55	60	75.87	71.87	61.3	1	0	0	0.5	86.74
8/30/2020	1:24:00 PM	0	70.19	60.9	60	75.87	71.87	66.08	1	0.33	0	0.5	77.74
8/30/2020	1:18:00 PM	0	70.19	58.46	60	75.87	71.87	61.23	1	0	0	0.33	84.35
8/30/2020	1:12:00 PM	0	70.19	60.94	60	75.87	71.87	73.56	1	0.17	0	0.67	83.14
8/30/2020	1:06:00 PM	0	70.19	59.58	60	75.87	71.87	65.47	1	0.5	0	0	78.89
8/30/2020	1:00:00 PM	0	70.19	59.42	60	75.87	71.87	62.3	1	0	0	0.5	84.2
8/30/2020	12:54:00 PM	0	70.19	61.07	60	75.87	71.87	73.11	1	0.67	0	0.5	75.17
8/30/2020	12:48:00 PM	0	70.19	58.46	60	75.87	71.87	60.8	1	0	0	0.17	81
8/30/2020	12:42:00 PM	0	70.19	61.45	60	75.87	71.87	74.16	1	0.17	0	0.83	84.08
8/30/2020	12:36:00 PM	0	70.19	59.25	60	75.87	71.87	63.98	1	0.67	0	0.17	85.95
8/30/2020	12:30:00 PM	0	70.19	60.76	60	75.87	71.87	65.28	1	0	0	0.67	84.29
8/30/2020	12:24:00 PM	0	70.19	59.7	60	75.87	71.87	62.56	1	0.33	0	0.17	78
8/30/2020	12:18:00 PM	0	70.19	58.68	60	75.87	71.87	61.83	1	0	0	0.33	87.59
8/30/2020	12:12:00 PM	0	70.19	61.71	60	75.87	71.87	76.43	1	0.5	0	0.67	79.15

8/30/2020	12:06:00 PM	0	70.19	58.67	60	75.87	71.87	60.79	1	0.17	0	0.17	83.81
8/30/2020	12:00:00 PM	0	70.19	60.62	60	75.87	71.87	67.13	1	0	0	0.67	84.73
8/30/2020	11:54:00 AM	0	70.19	60.21	60	75.87	71.87	67.78	1	0.67	0	0.17	77.78
8/30/2020	11:48:00 AM	0	70.19	58.72	60	75.87	71.87	61.23	1	0	0	0.33	85.17
8/30/2020	11:42:00 AM	0	70.19	61.66	60	75.87	71.87	74.8	1	0.33	0	0.83	81.5
8/30/2020	11:36:00 AM	0	70.19	58.63	60	75.87	71.87	60.79	1	0.17	0	0.17	84.5
8/30/2020	11:30:00 AM	0	70.19	60.85	60	75.87	71.87	68.09	1	0	0	0.67	87.99
8/30/2020	11:24:00 AM	0	70.19	59.93	60	75.87	71.87	69.99	1	0.83	0	0.17	82.58
8/30/2020	11:18:00 AM	0	70.52	60.38	60	75.87	71.87	62.13	1	0	0	0.67	85.96
8/30/2020	11:12:00 AM	0	70.68	60.5	60	75.87	71.87	64.62	1	0.33	0	0.33	74.08
8/30/2020	11:06:00 AM	0	70.68	58.4	60	75.87	71.87	60.88	1	0	0	0.33	83.35
8/30/2020	11:00:00 AM	0	70.68	61.81	60	75.87	71.87	76.18	1	0.33	0	0.67	81
8/30/2020	10:54:00 AM	0	70.68	58.73	60	75.87	71.87	62.38	1	0.5	0	0.17	82.39
8/30/2020	10:48:00 AM	0	70.68	60.63	60	75.87	71.87	66.32	1	0	0	0.67	84.47
8/30/2020	10:42:00 AM	0	70.68	60.15	60	75.87	71.87	66.82	1	0.5	0	0.17	75.29
8/30/2020	10:36:00 AM	0	70.68	58.59	60	75.87	71.87	60.62	1	0	0	0.17	83.71
8/30/2020	10:30:00 AM	0	70.68	61.96	60	75.87	71.87	76.41	1	0.33	0	0.83	81.4
8/30/2020	10:24:00 AM	0	70.68	58.9	60	75.87	71.87	61.26	1	0.33	0	0.17	81.08
8/30/2020	10:18:00 AM	0	70.68	60.79	60	75.87	71.87	67.3	1	0	0	0.67	83.06
8/30/2020	10:12:00 AM	0	70.68	60	60	75.87	71.87	66.95	1	0.67	0	0.17	76.29
8/30/2020	10:06:00 AM	0	70.68	58.87	60	75.87	71.87	60.97	1	0	0	0.33	86.43
8/30/2020	10:00:00 AM	0	70.68	62.04	60	75.87	71.87	76.64	1	0.33	0	0.83	81.99
8/30/2020	9:54:00 AM	0	70.68	58.64	60	75.87	71.87	60.9	1	0.33	0	0.17	82.57
8/30/2020	9:48:00 AM	0	70.68	60.71	60	75.87	71.87	66.19	1	0	0	0.67	88.2
8/30/2020	9:42:00 AM	0	70.68	60.1	60	75.87	71.87	67.54	1	0.67	0	0.33	75.55
8/30/2020	9:36:00 AM	0	70.68	58.78	60	75.87	71.87	61.06	1	0	0	0.33	86.69
8/30/2020	9:30:00 AM	0	70.68	61.93	60	75.87	71.87	75.99	1	0.33	0	0.83	82.21
8/30/2020	9:24:00 AM	0	70.68	58.74	60	75.87	71.87	60.99	1	0.33	0	0	85.2
8/30/2020	9:18:00 AM	0	70.68	60.68	60	75.87	71.87	65.72	1	0	0	0.67	86.26
8/30/2020	9:12:00 AM	0	70.68	60.28	60	75.87	71.87	69.31	1	0.5	0	0.33	74.97
8/30/2020	9:06:00 AM	0	70.68	58.59	60	75.87	71.87	60.88	1	0	0	0.17	82.25
8/30/2020	9:00:00 AM	0	70.68	61.92	60	75.87	71.87	75.72	1	0.33	0	0.83	81.92
8/30/2020	8:54:00 AM	0	70.68	58.64	60	75.87	71.87	61.25	1	0.33	0	0	82.46
8/30/2020	8:48:00 AM	0	70.68	60.64	60	75.87	71.87	64.78	1	0	0	0.67	83.68
8/30/2020	8:42:00 AM	0	70.68	60.45	60	75.87	71.87	70.92	1	0.67	0	0.33	73.11
8/30/2020	8:36:00 AM	0	70.68	58.64	60	75.87	71.87	60.71	1	0	0	0.17	81.04
8/30/2020	8:30:00 AM	0	70.68	62.11	60	75.87	71.87	76.06	1	0.33	0	0.83	81.81
8/30/2020	8:24:00 AM	0	70.68	58.66	60	75.87	71.87	61.13	1	0.33	0	0.17	82.03
8/30/2020	8:18:00 AM	0	70.68	60.78	60	75.87	71.87	66.87	1	0	0	0.67	83.81
8/30/2020	8:12:00 AM	0	70.68	59.92	60	75.87	71.87	66.76	1	0.67	0	0.17	74.32
8/30/2020	8:06:00 AM	0	70.68	58.93	60	75.87	71.87	61.14	1	0	0	0.33	83.98
8/30/2020	8:00:00 AM	0	70.68	61.81	60	75.87	71.87	76.3	1	0.5	0	0.67	78.65
8/30/2020	7:54:00 AM	0	70.68	58.67	60	75.87	71.87	60.41	1	0.17	0	0.17	81.51
8/30/2020	7:48:00 AM	0	70.68	61.22	60	75.87	71.87	68.72	1	0	0	0.67	83.97
8/30/2020	7:42:00 AM	0	70.68	59.46	60	75.87	71.87	63.89	1	0.5	0	0.17	77.3
8/30/2020	7:36:00 AM	0	70.68	59.63	60	75.87	71.87	61.94	1	0	0	0.5	83.85
8/30/2020	7:30:00 AM	0	70.68	61.74	60	75.87	71.87	75.89	1	0.67	0	0.67	76.31

8/30/2020	7:24:00 AM	0	70.68	58.37	60	75.87	71.87	59.83	1	0.17	0	0.33	81.12
8/30/2020	7:18:00 AM	0	70.68	61.55	60	75.87	71.87	71.65	1	0.17	0	0.67	81.93
8/30/2020	7:12:00 AM	0	70.68	59.33	60	75.87	71.87	64.31	1	0.5	0	0	77.46
8/30/2020	7:06:00 AM	0	70.68	60.43	60	75.87	71.87	62.46	1	0	0	0.5	86.54
8/30/2020	7:00:00 AM	0	70.68	60.97	60	75.87	71.87	72.65	1	0.5	0	0.5	76.06
8/30/2020	6:54:00 AM	0	70.68	58.45	60	75.87	71.87	59.99	1	0	0	0.17	84.26
8/30/2020	6:48:00 AM	0	70.68	62.1	60	75.87	71.87	73.06	1	0.17	0	0.83	82.7
8/30/2020	6:42:00 AM	0	70.68	59.09	60	75.87	71.87	64.27	1	0.5	0	0	76.98
8/30/2020	6:36:00 AM	0	70.68	60.18	60	75.87	71.87	61.76	1	0	0	0.5	86.31
8/30/2020	6:30:00 AM	0	70.68	61.6	60	75.87	71.87	74.68	1	0.67	0	0.5	77.43
8/30/2020	6:24:00 AM	0	70.68	58.42	60	75.87	71.87	59.82	1	0	0	0.17	85.55
8/30/2020	6:18:00 AM	0	70.68	62.22	60	75.87	71.87	71.5	1	0.17	0	0.83	84.2
8/30/2020	6:12:00 AM	0	70.68	59.07	60	75.87	71.87	63.73	1	0.5	0	0	81.07
8/30/2020	6:06:00 AM	0	70.68	60.46	60	75.87	71.87	61.76	1	0	0	0.5	85.73
8/30/2020	6:00:00 AM	0	70.68	61.67	60	75.87	71.87	74.53	1	0.67	0	0.5	78.48
8/30/2020	5:54:00 AM	0	70.68	58.49	60	75.87	71.87	59.82	1	0	0	0.17	87.43
8/30/2020	5:48:00 AM	0	70.68	62.56	60	75.87	71.87	71.71	1	0.17	0	0.83	83.71
8/30/2020	5:42:00 AM	0	70.68	58.93	60	75.87	71.87	63.81	1	0.5	0	0	80.59
8/30/2020	5:36:00 AM	0	70.68	60.84	60	75.87	71.87	62.01	1	0	0	0.67	89.09
8/30/2020	5:30:00 AM	0	70.68	61.46	60	75.87	71.87	72.31	1	0.67	0	0.5	75.72
8/30/2020	5:24:00 AM	0	70.68	58.58	60	75.87	71.87	59.51	1	0	0	0.33	83.07
8/30/2020	5:18:00 AM	0	70.68	62.82	60	75.87	71.87	71.71	1	0.17	0	0.83	83.45
8/30/2020	5:12:00 AM	0	70.68	59.05	60	75.87	71.87	64.28	1	0.5	0	0	80.17
8/30/2020	5:06:00 AM	0	70.68	60.55	60	75.87	71.87	61.23	1	0	0	0.5	87.25
8/30/2020	5:00:00 AM	0	70.68	62.36	60	75.87	71.87	74.52	1	0.67	0	0.67	78.59
8/30/2020	4:54:00 AM	0	70.68	58.68	60	75.87	71.87	59.73	1	0.17	0	0.33	85.27
8/30/2020	4:48:00 AM	0	70.68	62.95	60	75.87	71.87	70.49	1	0.17	0	0.83	84.86
8/30/2020	4:42:00 AM	0	70.68	59.12	60	75.87	71.87	64.09	1	0.67	0	0	83.3
8/30/2020	4:36:00 AM	0	70.68	60.76	60	75.87	71.87	61.05	1	0	0	0.67	88.28
8/30/2020	4:30:00 AM	0	70.68	62	60	75.87	71.87	73.59	1	0.67	0	0.5	77.82
8/30/2020	4:24:00 AM	0	70.68	58.55	60	75.87	71.87	59.47	1	0	0	0.33	85.95
8/30/2020	4:18:00 AM	0	70.68	63.1	60	75.87	71.87	69.17	1	0	0	0.83	86.19
8/30/2020	4:12:00 AM	0	70.68	59.69	60	75.87	71.87	65.89	1	0.67	0	0.17	79.18
8/30/2020	4:06:00 AM	0	70.68	60.1	60	75.87	71.87	60.19	1	0	0	0.5	88.96
8/30/2020	4:00:00 AM	0	70.68	63.25	60	75.87	71.87	74.15	1	0.5	0	0.67	79.83
8/30/2020	3:54:00 AM	0	70.68	58.63	60	75.87	71.87	60.21	1	0.17	0	0.17	84.49
8/30/2020	3:48:00 AM	0	70.68	61.97	60	75.87	71.87	63.89	1	0	0	0.67	88.48
8/30/2020	3:42:00 AM	0	70.68	61.01	60	75.87	71.87	73.18	1	0.83	0	0.33	75.8
8/30/2020	3:36:00 AM	0	70.68	59.01	60	75.87	71.87	59.65	1	0	0	0.33	88.17
8/30/2020	3:30:00 AM	0	70.68	63.63	60	75.87	71.87	72.24	1	0.17	0	1	83.9
8/30/2020	3:24:00 AM	0	70.68	58.95	60	75.87	71.87	61.84	1	0.5	0	0	80.67
8/30/2020	3:18:00 AM	0	70.68	60.92	60	75.87	71.87	60.96	1	0	0	0.67	86.5
8/30/2020	3:12:00 AM	0	70.68	62.57	60	75.87	71.87	74.44	1	0.67	0	0.67	78.97
8/30/2020	3:06:00 AM	0	70.68	58.61	60	75.87	71.87	59.51	1	0.17	0	0.33	87.29
8/30/2020	3:00:00 AM	0	70.68	63.17	60	75.87	71.87	68.49	1	0	0	0.83	86.8
8/30/2020	2:54:00 AM	0	70.68	59.74	60	75.87	71.87	66.66	1	0.67	0	0.17	77
8/30/2020	2:48:00 AM	0	70.68	59.74	60	75.87	71.87	60.09	1	0	0	0.5	91.01

8/30/2020	2:42:00 AM	0	70.68	63.56	60	75.87	71.87	73.54	1	0.33	0	0.83	83.61
8/30/2020	2:36:00 AM	0	70.68	58.72	60	75.87	71.87	60.78	1	0.33	0	0.17	86.5
8/30/2020	2:30:00 AM	0	70.68	62.17	60	75.87	71.87	63.01	1	0	0	0.67	90.98
8/30/2020	2:24:00 AM	0	70.68	61.38	60	75.87	71.87	70.59	1	0.67	0	0.33	75.99
8/30/2020	2:18:00 AM	0	70.68	58.84	60	75.87	71.87	59.64	1	0	0	0.17	89.1
8/30/2020	2:12:00 AM	0	70.35	63.98	60	75.87	71.87	71.36	1	0.17	0	1	89.14
8/30/2020	2:06:00 AM	0	70.19	59.54	60	75.87	71.87	63.86	1	0.5	0	0	81.51
8/30/2020	2:00:00 AM	0	70.19	59.93	60	75.87	71.87	60.52	1	0	0	0.67	89.27
8/30/2020	1:54:00 AM	0	70.19	63.83	60	75.87	71.87	74.39	1	0.5	0	0.67	83.59
8/30/2020	1:48:00 AM	0	70.19	58.67	60	75.87	71.87	60.28	1	0.33	0	0.33	86.86
8/30/2020	1:42:00 AM	0	70.19	62.73	60	75.87	71.87	66.27	1	0	0	0.83	93.52
8/30/2020	1:36:00 AM	0	70.19	60.26	60	75.87	71.87	63.67	1	0.5	0	0.17	79.19
8/30/2020	1:30:00 AM	0	70.19	59.37	60	75.87	71.87	60.18	1	0	0	0.5	89.51
8/30/2020	1:24:00 AM	0	70.19	63.97	60	75.87	71.87	73.68	1	0.33	0	0.83	83.62
8/30/2020	1:18:00 AM	0	70.19	58.7	60	75.87	71.87	61.25	1	0.33	0	0.17	85.15
8/30/2020	1:12:00 AM	0	70.19	61.08	60	75.87	71.87	61.93	1	0	0	0.67	91.37
8/30/2020	1:06:00 AM	0	70.19	62.96	60	75.87	71.87	74.11	1	0.67	0	0.5	81.84
8/30/2020	1:00:00 AM	0	70.19	58.63	60	75.87	71.87	59.51	1	0.17	0	0.33	87.85
8/30/2020	12:54:00 AM	0	70.19	63.07	60	75.87	71.87	67.36	1	0	0	0.83	91.78
8/30/2020	12:48:00 AM	0	70.19	60.58	60	75.87	71.87	65.06	1	0.67	0	0.17	78.5
8/30/2020	12:42:00 AM	0	70.19	59.37	60	75.87	71.87	59.65	1	0	0	0.5	89.31
8/30/2020	12:36:00 AM	0	70.19	64.3	60	75.87	71.87	72.77	1	0.33	0	0.83	86.45
8/30/2020	12:30:00 AM	0	70.19	58.88	60	75.87	71.87	61.59	1	0.33	0	0.17	85.22
8/30/2020	12:24:00 AM	0	70.19	61.02	60	75.87	71.87	61.05	1	0	0	0.67	91.98
8/30/2020	12:18:00 AM	0	70.19	63.5	60	75.87	71.87	73.23	1	0.67	0	0.5	81.55
8/30/2020	12:12:00 AM	0	70.19	58.57	60	75.87	71.87	59.29	1	0.17	0	0.33	87.6
8/30/2020	12:06:00 AM	0	70.19	63.35	60	75.87	71.87	66.53	1	0	0	0.83	93.12
8/30/2020	12:00:00 AM	0	70.19	60.7	60	75.87	71.87	65.44	1	0.67	0	0.17	77.72
8/29/2020	11:54:00 PM	0	70.19	58.89	60	75.87	71.87	59.67	1	0	0	0.33	91.61
8/29/2020	11:48:00 PM	0	70.19	64.32	60	75.87	71.87	71.67	1	0.17	0	1	85.75
8/29/2020	11:42:00 PM	0	70.19	59.31	60	75.87	71.87	62.02	1	0.5	0	0	83.47
8/29/2020	11:36:00 PM	0	70.19	59.91	60	75.87	71.87	60.19	1	0	0	0.5	93.23
8/29/2020	11:30:00 PM	0	70.19	64.37	60	75.87	71.87	73.23	1	0.33	0	0.83	83.68
8/29/2020	11:24:00 PM	0	70.19	58.63	60	75.87	71.87	60.81	1	0.33	0	0	85.65
8/29/2020	11:18:00 PM	0	70.19	60.58	60	75.87	71.87	60.97	1	0	0	0.67	90
8/29/2020	11:12:00 PM	0	70.19	63.84	60	75.87	71.87	74.15	1	0.5	0	0.67	85.81
8/29/2020	11:06:00 PM	0	70.19	58.67	60	75.87	71.87	60.34	1	0.33	0	0.33	91.8
8/29/2020	11:00:00 PM	0	70.19	62.35	60	75.87	71.87	63.51	1	0	0	0.67	95.88
8/29/2020	10:54:00 PM	0	70.19	60.83	60	75.87	71.87	64.56	1	0.5	0	0.33	79.66
8/29/2020	10:48:00 PM	0	70.19	59.02	60	75.87	71.87	59.67	1	0	0	0.33	91.34
8/29/2020	10:42:00 PM	0	70.19	64.3	60	75.87	71.87	70.46	1	0.17	0	1	88.64
8/29/2020	10:36:00 PM	0	70.19	59.62	60	75.87	71.87	63.34	1	0.5	0	0	82.61
8/29/2020	10:30:00 PM	0	70.19	59.73	60	75.87	71.87	59.82	1	0	0	0.5	92.2
8/29/2020	10:24:00 PM	0	70.19	64.61	60	75.87	71.87	71.29	1	0.33	0	0.83	85.88
8/29/2020	10:18:00 PM	0	70.19	58.83	60	75.87	71.87	60.75	1	0.33	0	0	84.76
8/29/2020	10:12:00 PM	0	70.19	60.85	60	75.87	71.87	60.52	1	0	0	0.67	90.83
8/29/2020	10:06:00 PM	0	70.19	64.04	60	75.87	71.87	74.02	1	0.5	0	0.67	82.83

8/29/2020	10:00:00 PM	0	70.19	58.59	60	75.87	71.87	59.63	1	0.33	0	0.33	88.86
8/29/2020	9:54:00 PM	0	70.19	62.58	60	75.87	71.87	62.09	1	0	0	0.83	92.55
8/29/2020	9:48:00 PM	0	70.19	59.89	60	75.87	71.87	60.9	1	0.17	0	0.17	82.33
8/29/2020	9:42:00 PM	0	70.19	58.95	60	75.87	71.87	60.19	1	0	0	0.17	95.92
8/29/2020	9:36:00 PM	0	70.19	64.84	60	75.87	71.87	71.71	1	0.17	0	1	90.15
8/29/2020	9:30:00 PM	0	70.53	59.49	60	75.87	71.87	65.24	1	0.67	0	0	89.04
8/29/2020	9:24:00 PM	0	71.21	60.38	60	75.87	71.87	60.53	1	0	0	0.67	89.49
8/29/2020	9:18:00 PM	0	71.21	59.23	60	75.87	71.87	60.18	1	0	0	0	84.78
8/29/2020	9:12:00 PM	0	71.21	60.05	60	75.87	71.87	60.71	1	0	0	0.5	92.19
8/29/2020	9:06:00 PM	0	71.21	64.57	60	75.87	71.87	73.19	1	0.33	0	0.83	85.84
8/29/2020	9:00:00 PM	0	71.21	58.71	60	75.87	71.87	61.31	1	0.33	0	0.17	91.48
8/29/2020	8:54:00 PM	0	71.21	60.44	60	75.87	71.87	60.62	1	0	0	0.33	87.03
8/29/2020	8:48:00 PM	0	71.21	62.2	60	75.87	71.87	62.19	1	0	0	0.67	94.9
8/29/2020	8:42:00 PM	0	71.21	62.77	60	75.87	71.87	72.75	1	0.67	0	0.5	80.61
8/29/2020	8:36:00 PM	0	71.21	58.79	60	75.87	71.87	59.54	1	0	0	0.5	91.03
8/29/2020	8:30:00 PM	0	71.21	60.58	60	75.87	71.87	60.8	1	0	0	0.33	85.38
8/29/2020	8:24:00 PM	0	71.21	58.65	60	75.87	71.87	60.1	1	0	0	0.17	90.61
8/29/2020	8:18:00 PM	0	71.21	61.87	60	75.87	71.87	61.85	1	0	0	0.67	93.99
8/29/2020	8:12:00 PM	0	71.21	63.42	60	75.87	71.87	74.64	1	0.67	0	0.67	85.97
8/29/2020	8:06:00 PM	0	71.21	59.13	60	75.87	71.87	60.75	1	0.33	0	0.5	93.95
8/29/2020	8:00:00 PM	0	71.21	59.21	60	75.87	71.87	60.88	1	0	0	0	84.82
8/29/2020	7:54:00 PM	0	71.21	59.33	60	75.87	71.87	60.01	1	0	0	0.5	92.75
8/29/2020	7:48:00 PM	0	71.21	60.36	60	75.87	71.87	61.24	1	0	0	0.33	85.41
8/29/2020	7:42:00 PM	0	71.21	58.88	60	75.87	71.87	61.06	1	0	0	0.33	96.22
8/29/2020	7:36:00 PM	0	71.21	64.82	60	75.87	71.87	69.29	1	0	0	1	94.19
8/29/2020	7:30:00 PM	0	71.21	59.69	60	75.87	71.87	68.16	1	0.83	0	0.17	87.89
8/29/2020	7:24:00 PM	0	71.21	60.38	60	75.87	71.87	61.58	1	0	0	0.5	86.52
8/29/2020	7:18:00 PM	0	71.55	58.92	60	75.87	71.87	60.71	1	0	0	0.33	92.91
8/29/2020	7:12:00 PM	0	72.24	59.89	60	75.87	71.87	62.1	1	0	0	0.17	82.22
8/29/2020	7:06:00 PM	0	72.24	59.17	60	75.87	71.87	61.05	1	0	0	0.5	90.54
8/29/2020	7:00:00 PM	0	72.24	58.83	60	75.87	71.87	61.4	1	0	0	0	86.01
8/29/2020	6:54:00 PM	0	72.24	60.3	60	75.87	71.87	61.92	1	0	0	0.5	86.19
8/29/2020	6:48:00 PM	0	72.24	58.2	60	75.87	71.87	60.88	1	0	0	0	89.96
8/29/2020	6:42:00 PM	0	72.24	60.5	60	75.87	71.87	62.27	1	0	0	0.5	84.9
8/29/2020	6:36:00 PM	0	72.24	58.95	60	75.87	71.87	61.24	1	0	0	0.33	92.83
8/29/2020	6:30:00 PM	0	72.24	59.69	60	75.87	71.87	62.1	1	0	0	0.17	82.92
8/29/2020	6:24:00 PM	0	72.24	59.45	60	75.87	71.87	61.93	1	0	0	0.67	93.06
8/29/2020	6:18:00 PM	0	72.24	58.8	60	75.87	71.87	61.58	1	0	0	0	88.82
8/29/2020	6:12:00 PM	0	72.24	60.18	60	75.87	71.87	61.93	1	0	0	0.67	91.78
8/29/2020	6:06:00 PM	0	72.24	59.32	60	75.87	71.87	61.41	1	0	0	0.17	85
8/29/2020	6:00:00 PM	0	72.24	59.53	60	75.87	71.87	61.24	1	0	0	0.5	92.04
8/29/2020	5:54:00 PM	0	72.24	59.95	60	75.87	71.87	61.76	1	0	0	0.33	84.65
8/29/2020	5:48:00 PM	0	73.08	59.3	60	75.87	71.87	61.4	1	0	0	0.5	91.84
8/29/2020	5:42:00 PM	0	73.25	58.73	60	75.87	71.87	61.93	1	0	0	0	87.36
8/29/2020	5:36:00 PM	0	73.25	60.19	60	75.87	71.87	63.12	1	0	0	0.67	89.71
8/29/2020	5:30:00 PM	0	73.25	58.36	60	75.87	71.87	63.13	1	0	0	0	80.33
8/29/2020	5:24:00 PM	0	73.25	59.21	60	75.87	71.87	67.52	1	0	0	0.5	78.77

8/29/2020	5:18:00 PM	0	73.25	59.31	60	75.87	71.87	72.56	0	0	0	0	69.21
8/29/2020	5:12:00 PM	0	73.25	59.63	60	75.87	71.87	72.56	0	0	0	0	69.21
8/29/2020	5:06:00 PM	0	72.81	59.86	60	75.87	71.87	72.16	0	0	0	0	69.18
8/29/2020	5:00:00 PM	0	72.59	59.96	60	75.87	71.87	71.96	0	0	0	0	69.18
8/29/2020	4:54:00 PM	0	72.59	60.01	60	75.87	71.87	71.96	0	0	0	0	69.16
8/29/2020	4:48:00 PM	0	72.59	60.08	60	75.87	71.87	71.96	0	0	0	0	69.16
8/29/2020	4:42:00 PM	0	72.59	60.1	60	75.87	71.87	71.96	0	0	0	0	69.16
8/29/2020	4:36:00 PM	0	72.59	60.14	60	75.87	71.87	71.96	0	0	0	0	69.14
8/29/2020	4:30:00 PM	0	72.59	60.17	60	75.87	71.87	71.96	0	0	0	0	69.14
8/29/2020	4:24:00 PM	0	72.59	60.23	60	75.87	71.87	71.96	0	0	0	0	69.12
8/29/2020	4:18:00 PM	0	72.59	60.26	60	75.87	71.87	71.96	0	0	0	0	69.11
8/29/2020	4:12:00 PM	0	72.59	60.26	60	75.87	71.87	71.96	0	0	0	0	69.1
8/29/2020	4:06:00 PM	0	72.59	60.25	60	75.87	71.87	71.96	0	0	0	0	69.06
8/29/2020	4:00:00 PM	0	72.59	60.26	60	75.87	71.87	71.96	0	0	0	0	69.03
8/29/2020	3:54:00 PM	0	72.59	60.34	60	75.87	71.87	71.96	0	0	0	0	68.98
8/29/2020	3:48:00 PM	0	72.59	60.43	60	75.87	71.87	71.96	0	0	0	0	68.93
8/29/2020	3:42:00 PM	0	72.59	60.52	60	75.87	71.87	71.96	0	0	0	0	68.87
8/29/2020	3:36:00 PM	0	72.59	60.57	60	75.87	71.87	71.96	0	0	0	0	68.88
8/29/2020	3:30:00 PM	0	72.59	60.6	60	75.87	71.87	71.96	0	0	0	0	68.87
8/29/2020	3:24:00 PM	0	72.59	60.64	60	75.87	71.87	71.96	0	0	0	0	68.89
8/29/2020	3:18:00 PM	0	72.59	60.68	60	75.87	71.87	71.96	0	0	0	0	68.89
8/29/2020	3:12:00 PM	0	72.59	60.7	60	75.87	71.87	71.96	0	0	0	0	68.92
8/29/2020	3:06:00 PM	0	72.59	60.72	60	75.87	71.87	71.96	0	0	0	0	68.91
8/29/2020	3:00:00 PM	0	72.59	60.74	60	75.87	71.87	71.96	0	0	0	0	68.89
8/29/2020	2:54:00 PM	0	72.59	60.77	60	75.87	71.87	71.96	0	0	0	0	68.93
8/29/2020	2:48:00 PM	0	72.59	60.8	60	75.87	71.87	71.96	0	0	0	0	68.87
8/29/2020	2:42:00 PM	0	72.59	60.83	60	75.87	71.87	71.96	0	0	0	0	68.82
8/29/2020	2:36:00 PM	0	72.59	60.85	60	75.87	71.87	71.96	0	0	0	0	68.78
8/29/2020	2:30:00 PM	0	72.59	60.88	60	75.87	71.87	71.96	0	0	0	0	68.74
8/29/2020	2:24:00 PM	0	72.59	60.91	60	75.87	71.87	71.96	0	0	0	0	68.71
8/29/2020	2:18:00 PM	0	72.59	60.93	60	75.87	71.87	71.96	0	0	0	0	68.74
8/29/2020	2:12:00 PM	0	72.59	60.92	60	75.87	71.87	71.96	0	0	0	0	68.71
8/29/2020	2:06:00 PM	0	72.59	60.94	60	75.87	71.87	71.96	0	0	0	0	68.69
8/29/2020	2:00:00 PM	0	72.59	60.97	60	75.87	71.87	71.96	0	0	0	0	68.67
8/29/2020	1:54:00 PM	0	72.59	60.97	60	75.87	71.87	71.96	0	0	0	0	68.64
8/29/2020	1:48:00 PM	0	72.59	60.98	60	75.87	71.87	71.96	0	0	0	0	68.65
8/29/2020	1:42:00 PM	0	72.59	61.01	60	75.87	71.87	71.96	0	0	0	0	68.65
8/29/2020	1:36:00 PM	0	72.59	61.07	60	75.87	71.87	71.96	0	0	0	0	68.65
8/29/2020	1:30:00 PM	0	72.59	61.12	60	75.87	71.87	71.96	0	0	0	0	68.65
8/29/2020	1:24:00 PM	0	72.59	61.14	60	75.87	71.87	71.96	0	0	0	0	68.6
8/29/2020	1:18:00 PM	0	72.59	61.14	60	75.87	71.87	71.96	0	0	0	0	68.57
8/29/2020	1:12:00 PM	0	72.59	61.15	60	75.87	71.87	71.96	0	0	0	0	68.62
8/29/2020	1:06:00 PM	0	72.59	61.16	60	75.87	71.87	71.96	0	0	0	0	68.61
8/29/2020	1:00:00 PM	0	72.59	61.15	60	75.87	71.87	71.96	0	0	0	0	68.62
8/29/2020	12:54:00 PM	0	72.59	61.13	60	75.87	71.87	71.96	0	0	0	0	68.66
8/29/2020	12:48:00 PM	0	72.59	61.14	60	75.87	71.87	71.96	0	0	0	0	68.71
8/29/2020	12:42:00 PM	0	72.59	61.14	60	75.87	71.87	71.96	0	0	0	0	68.73

8/29/2020 12:36:00 PM	0	72.59	61.09	60	75.87	71.87	71.96	0	0	0	0	68.73
8/29/2020 12:30:00 PM	0	72.59	61.08	60	75.87	71.87	71.96	0	0	0	0	68.76
8/29/2020 12:24:00 PM	0	72.59	61.25	60	75.87	71.87	71.96	0	0	0	0	68.79
8/29/2020 12:18:00 PM	0	72.59	61.37	60	75.87	71.87	71.96	0	0	0	0	68.79
8/29/2020 12:12:00 PM	0	72.59	61.39	60	75.87	71.87	71.96	0	0	0	0	68.82
8/29/2020 12:06:00 PM	0	72.59	61.39	60	75.87	71.87	71.96	0	0	0	0	68.8
8/29/2020 12:00:00 PM	0	72.59	61.36	60	75.87	71.87	71.96	0	0	0	0	68.79
8/29/2020 11:54:00 AM	0	72.59	61.35	60	75.87	71.87	71.96	0	0	0	0	68.74
8/29/2020 11:48:00 AM	0	72.59	61.34	60	75.87	71.87	71.96	0	0	0	0	68.71
8/29/2020 11:42:00 AM	0	72.59	61.35	60	75.87	71.87	71.96	0	0	0	0	68.67
8/29/2020 11:36:00 AM	0	72.59	61.36	60	75.87	71.87	71.96	0	0	0	0	68.61
8/29/2020 11:30:00 AM	0	72.59	61.32	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 11:24:00 AM	0	72.59	61.3	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 11:18:00 AM	0	72.59	61.3	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 11:12:00 AM	0	72.59	61.3	60	75.87	71.87	71.96	0	0	0	0	68.57
8/29/2020 11:06:00 AM	0	72.59	61.29	60	75.87	71.87	71.96	0	0	0	0	68.62
8/29/2020 11:00:00 AM	0	72.59	61.31	60	75.87	71.87	71.96	0	0	0	0	68.64
8/29/2020 10:54:00 AM	0	72.59	61.26	60	75.87	71.87	71.96	0	0	0	0	68.64
8/29/2020 10:48:00 AM	0	72.59	61.23	60	75.87	71.87	71.96	0	0	0	0	68.64
8/29/2020 10:42:00 AM	0	72.59	61.22	60	75.87	71.87	71.96	0	0	0	0	68.64
8/29/2020 10:36:00 AM	0	72.59	61.2	60	75.87	71.87	71.96	0	0	0	0	68.64
8/29/2020 10:30:00 AM	0	72.59	61.21	60	75.87	71.87	71.96	0	0	0	0	68.62
8/29/2020 10:24:00 AM	0	72.59	61.22	60	75.87	71.87	71.96	0	0	0	0	68.58
8/29/2020 10:18:00 AM	0	72.59	61.22	60	75.87	71.87	71.96	0	0	0	0	68.57
8/29/2020 10:12:00 AM	0	72.59	61.22	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 10:06:00 AM	0	72.59	61.2	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 10:00:00 AM	0	72.59	61.2	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 9:54:00 AM	0	72.59	61.19	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 9:48:00 AM	0	72.59	61.18	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 9:42:00 AM	0	72.59	61.16	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 9:36:00 AM	0	72.59	61.12	60	75.87	71.87	71.96	0	0	0	0	68.57
8/29/2020 9:30:00 AM	0	72.59	61.13	60	75.87	71.87	71.96	0	0	0	0	68.57
8/29/2020 9:24:00 AM	0	72.59	61.19	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 9:18:00 AM	0	72.59	61.17	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 9:12:00 AM	0	72.59	61.2	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 9:06:00 AM	0	72.59	61.19	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 9:00:00 AM	0	72.59	61.16	60	75.87	71.87	71.96	0	0	0	0	68.57
8/29/2020 8:54:00 AM	0	72.59	61.14	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 8:48:00 AM	0	72.59	61.18	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 8:42:00 AM	0	72.59	61.17	60	75.87	71.87	71.96	0	0	0	0	68.57
8/29/2020 8:36:00 AM	0	72.59	61.17	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 8:30:00 AM	0	72.59	61.15	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 8:24:00 AM	0	72.59	61.1	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 8:18:00 AM	0	72.59	61.1	60	75.87	71.87	71.96	0	0	0	0	68.56
8/29/2020 8:12:00 AM	0	72.59	61.05	60	75.87	71.87	71.96	0	0	0	0	68.57
8/29/2020 8:06:00 AM	0	72.59	61.13	60	75.87	71.87	71.96	0	0	0	0	68.62
8/29/2020 8:00:00 AM	0	72.86	61.25	60	75.87	71.87	71.96	0	0	0	0	68.64

8/29/2020	7:54:00 AM	0	72.99	61.29	60	75.87	71.87	71.96	0	0	0	0	68.65
8/29/2020	7:48:00 AM	0	72.99	61.22	60	75.87	71.87	71.45	0	0	0	0	68.66
8/29/2020	7:42:00 AM	0	72.99	61.14	60	75.87	71.87	70.93	0	0	0	0	68.67
8/29/2020	7:36:00 AM	0	72.99	61.06	60	75.87	71.87	70.93	0	0	0	0	68.66
8/29/2020	7:30:00 AM	0	72.99	61.1	60	75.87	71.87	70.93	0	0	0	0	68.64
8/29/2020	7:24:00 AM	0	72.99	61.16	60	75.87	71.87	70.93	0	0	0	0	68.62
8/29/2020	7:18:00 AM	0	72.99	61.07	60	75.87	71.87	70.93	0	0	0	0	68.64
8/29/2020	7:12:00 AM	0	72.99	61.06	60	75.87	71.87	70.93	0	0	0	0	68.64
8/29/2020	7:06:00 AM	0	72.99	61.01	60	75.87	71.87	70.93	0	0	0	0	68.62
8/29/2020	7:00:00 AM	0	72.99	60.92	60	75.87	71.87	70.93	0	0	0	0	68.64
8/29/2020	6:54:00 AM	0	72.99	60.85	60	75.87	71.87	70.93	0	0	0	0	68.6
8/29/2020	6:48:00 AM	0	72.99	60.81	60	75.87	71.87	70.93	0	0	0	0	68.58
8/29/2020	6:42:00 AM	0	72.99	60.9	60	75.87	71.87	70.93	0	0	0	0	68.56
8/29/2020	6:36:00 AM	0	72.99	60.98	60	75.87	71.87	70.93	0	0	0	0	68.56
8/29/2020	6:30:00 AM	0	72.99	60.87	60	75.87	71.87	70.93	0	0	0	0	68.53
8/29/2020	6:24:00 AM	0	72.99	60.91	60	75.87	71.87	70.93	0	0	0	0	68.56
8/29/2020	6:18:00 AM	0	72.99	60.83	60	75.87	71.87	70.93	0	0	0	0	68.56
8/29/2020	6:12:00 AM	0	72.99	60.78	60	75.87	71.87	70.57	0	0	0	0	68.61
8/29/2020	6:06:00 AM	0	72.99	60.76	60	75.87	71.87	69.86	0	0	0	0	68.64
8/29/2020	6:00:00 AM	0	72.99	60.72	60	75.87	71.87	69.86	0	0	0	0	68.64
8/29/2020	5:54:00 AM	0	72.99	60.64	60	75.87	71.87	69.86	0	0	0	0	68.69
8/29/2020	5:48:00 AM	0	72.99	60.61	60	75.87	71.87	69.86	0	0	0	0	68.71
8/29/2020	5:42:00 AM	0	72.99	60.5	60	75.87	71.87	69.86	0	0	0	0	68.78
8/29/2020	5:36:00 AM	0	72.99	60.41	60	75.87	71.87	69.15	0	0	0	0	68.86
8/29/2020	5:30:00 AM	0	72.99	60.37	60	75.87	71.87	68.79	0	0	0	0	68.97
8/29/2020	5:24:00 AM	0	72.99	60.37	60	75.87	71.87	68.79	0	0	0	0	69.15
8/29/2020	5:18:00 AM	0	72.99	60.34	60	75.87	71.87	68.28	0	0	0	0	69.45
8/29/2020	5:12:00 AM	0	72.99	60.27	60	75.87	71.87	67.77	0	0	0	0	70
8/29/2020	5:06:00 AM	0	72.99	60.15	60	75.87	71.87	67.26	0	0	0	0	70.93
8/29/2020	5:00:00 AM	0	72.99	60.13	60	75.87	71.87	66.57	0	0	0	0	72.48
8/29/2020	4:54:00 AM	0	72.99	60.05	60	75.87	71.87	65.52	0	0	0	0	75.37
8/29/2020	4:48:00 AM	0	72.99	59.67	60	75.87	71.87	64.09	0	0	0	0	81.12
8/29/2020	4:42:00 AM	0	72.99	60.09	60	75.87	71.87	64.09	0.33	0	0	0.33	92.29
8/29/2020	4:36:00 AM	0	72.99	62.44	60	75.87	71.87	70.91	0.5	0	0	0.17	72.83
8/29/2020	4:30:00 AM	0	72.99	61.9	60	75.87	71.87	71.96	0	0	0	0	70.03
8/29/2020	4:24:00 AM	0	72.99	61.84	60	75.87	71.87	71.96	0	0	0	0	70.07
8/29/2020	4:18:00 AM	0	72.99	61.76	60	75.87	71.87	71.96	0	0	0	0	70.09
8/29/2020	4:12:00 AM	0	72.99	61.68	60	75.87	71.87	71.96	0	0	0	0	70.09
8/29/2020	4:06:00 AM	0	72.99	61.6	60	75.87	71.87	71.96	0	0	0	0	70.1
8/29/2020	4:00:00 AM	0	72.99	61.56	60	75.87	71.87	71.96	0	0	0	0	70.1
8/29/2020	3:54:00 AM	0	72.99	61.48	60	75.87	71.87	71.96	0	0	0	0	70.12
8/29/2020	3:48:00 AM	0	72.99	61.49	60	75.87	71.87	71.96	0	0	0	0	70.14
8/29/2020	3:42:00 AM	0	72.99	61.42	60	75.87	71.87	71.96	0	0	0	0	70.15
8/29/2020	3:36:00 AM	0	72.99	61.37	60	75.87	71.87	71.96	0	0	0	0	70.16
8/29/2020	3:30:00 AM	0	72.99	61.29	60	75.87	71.87	71.96	0	0	0	0	70.2
8/29/2020	3:24:00 AM	0	72.99	61.3	60	75.87	71.87	71.96	0	0	0	0	70.24
8/29/2020	3:18:00 AM	0	72.99	61.19	60	75.87	71.87	71.96	0	0	0	0	70.28

8/29/2020	3:12:00 AM	0	72.99	61.16	60	75.87	71.87	71.96	0	0	0	0	70.32
8/29/2020	3:06:00 AM	0	72.99	61.08	60	75.87	71.87	71.96	0	0	0	0	70.33
8/29/2020	3:00:00 AM	0	72.99	61.06	60	75.87	71.87	71.96	0	0	0	0	70.39
8/29/2020	2:54:00 AM	0	72.99	61.05	60	75.87	71.87	71.96	0	0	0	0	70.42
8/29/2020	2:48:00 AM	0	72.99	61.01	60	75.87	71.87	71.96	0	0	0	0	70.47
8/29/2020	2:42:00 AM	0	72.99	60.98	60	75.87	71.87	71.96	0	0	0	0	70.47
8/29/2020	2:36:00 AM	0	72.99	60.94	60	75.87	71.87	71.96	0	0	0	0	70.46
8/29/2020	2:30:00 AM	0	72.99	60.93	60	75.87	71.87	71.96	0	0	0	0	70.46
8/29/2020	2:24:00 AM	0	72.99	60.91	60	75.87	71.87	71.96	0	0	0	0	70.43
8/29/2020	2:18:00 AM	0	72.99	60.89	60	75.87	71.87	71.96	0	0	0	0	70.43
8/29/2020	2:12:00 AM	0	72.99	60.88	60	75.87	71.87	71.96	0	0	0	0	70.44
8/29/2020	2:06:00 AM	0	72.99	60.87	60	75.87	71.87	71.79	0	0	0	0	70.44
8/29/2020	2:00:00 AM	0	72.99	60.84	60	75.87	71.87	70.93	0	0	0	0	70.42
8/29/2020	1:54:00 AM	0	72.99	60.79	60	75.87	71.87	70.93	0	0	0	0	70.46
8/29/2020	1:48:00 AM	0	72.99	60.78	60	75.87	71.87	70.93	0	0	0	0	70.47
8/29/2020	1:42:00 AM	0	72.99	60.78	60	75.87	71.87	70.93	0	0	0	0	70.49
8/29/2020	1:36:00 AM	0	72.99	60.74	60	75.87	71.87	70.93	0	0	0	0	70.54
8/29/2020	1:30:00 AM	0	72.99	60.73	60	75.87	71.87	70.21	0	0	0	0	70.61
8/29/2020	1:24:00 AM	0	72.99	60.71	60	75.87	71.87	69.86	0	0	0	0	70.75
8/29/2020	1:18:00 AM	0	72.99	60.69	60	75.87	71.87	69.86	0	0	0	0	70.94
8/29/2020	1:12:00 AM	0	72.99	60.73	60	75.87	71.87	69.5	0	0	0	0	71.26
8/29/2020	1:06:00 AM	0	72.99	60.68	60	75.87	71.87	68.79	0	0	0	0	71.79
8/29/2020	1:00:00 AM	0	72.99	60.68	60	75.87	71.87	68.45	0	0	0	0	72.64
8/29/2020	12:54:00 AM	0	72.99	60.66	60	75.87	71.87	67.77	0	0	0	0	74.09
8/29/2020	12:48:00 AM	0	72.99	60.68	60	75.87	71.87	66.75	0	0	0	0	76.7
8/29/2020	12:42:00 AM	0	72.99	60.1	60	75.87	71.87	65.7	0	0	0	0	81.65
8/29/2020	12:36:00 AM	0	72.99	59.4	60	75.87	71.87	64.63	0	0	0	0	93.44
8/29/2020	12:30:00 AM	0	72.99	62.49	60	75.87	71.87	68.47	1	0	0	0.67	85.67
8/29/2020	12:24:00 AM	0	72.99	61.86	60	75.87	71.87	72.99	0	0	0	0	72.04
8/29/2020	12:18:00 AM	0	72.99	61.8	60	75.87	71.87	72.99	0	0	0	0	72.07
8/29/2020	12:12:00 AM	0	72.99	61.8	60	75.87	71.87	72.14	0	0	0	0	72.07
8/29/2020	12:06:00 AM	0	72.99	61.72	60	75.87	71.87	71.96	0	0	0	0	72.11
8/29/2020	12:00:00 AM	0	72.99	61.59	60	75.87	71.87	71.96	0	0	0	0	72.11
8/28/2020	11:54:00 PM	0	72.99	61.5	60	75.87	71.87	71.96	0	0	0	0	72.16
8/28/2020	11:48:00 PM	0	72.99	61.47	60	75.87	71.87	71.96	0	0	0	0	72.23
8/28/2020	11:42:00 PM	0	72.99	61.29	60	75.87	71.87	71.96	0	0	0	0	72.3
8/28/2020	11:36:00 PM	0	72.99	61.22	60	75.87	71.87	71.1	0	0	0	0	72.41
8/28/2020	11:30:00 PM	0	72.99	61.06	60	75.87	71.87	70.93	0	0	0	0	72.65
8/28/2020	11:24:00 PM	0	72.99	61.02	60	75.87	71.87	70.93	0	0	0	0	72.89
8/28/2020	11:18:00 PM	0	72.99	61.1	60	75.87	71.87	70.57	0	0	0	0	73.32
8/28/2020	11:12:00 PM	0	72.99	61.04	60	75.87	71.87	69.86	0	0	0	0	74.09
8/28/2020	11:06:00 PM	0	72.99	60.93	60	75.87	71.87	69.15	0	0	0	0	75.34
8/28/2020	11:00:00 PM	0	72.99	60.87	60	75.87	71.87	68.28	0	0	0	0	77.59
8/28/2020	10:54:00 PM	0	72.9	60.29	60	75.87	71.87	67.14	0	0	0	0	81.93
8/28/2020	10:48:00 PM	0	72.86	59.44	60	75.87	71.87	65.95	0	0	0	0	91.86
8/28/2020	10:42:00 PM	0	72.86	62	60	75.87	71.87	67.68	0.83	0	0	0.67	96.47
8/28/2020	10:36:00 PM	0	72.86	61.94	60	75.87	71.87	73.06	0.17	0	0	0	72.46

8/28/2020	10:30:00 PM	0	72.86	61.82	60	75.87	71.87	73.06	0	0	0	0	72.41
8/28/2020	10:24:00 PM	0	72.86	61.65	60	75.87	71.87	73.06	0	0	0	0	72.41
8/28/2020	10:18:00 PM	0	72.86	61.56	60	75.87	71.87	73.06	0	0	0	0	72.46
8/28/2020	10:12:00 PM	0	72.86	61.49	60	75.87	71.87	73.06	0	0	0	0	72.48
8/28/2020	10:06:00 PM	0	72.86	61.36	60	75.87	71.87	73.06	0	0	0	0	72.51
8/28/2020	10:00:00 PM	0	72.86	61.25	60	75.87	71.87	73.06	0	0	0	0	72.55
8/28/2020	9:54:00 PM	0	72.86	61.24	60	75.87	71.87	73.06	0	0	0	0	72.56
8/28/2020	9:48:00 PM	0	72.86	61.19	60	75.87	71.87	73.06	0	0	0	0	72.62
8/28/2020	9:42:00 PM	0	72.86	61.15	60	75.87	71.87	73.06	0	0	0	0	72.68
8/28/2020	9:36:00 PM	0	72.86	61.21	60	75.87	71.87	73.06	0	0	0	0	72.68
8/28/2020	9:30:00 PM	0	72.86	61.16	60	75.87	71.87	72.04	0	0	0	0	72.68
8/28/2020	9:24:00 PM	0	72.86	61.03	60	75.87	71.87	72.04	0	0	0	0	72.66
8/28/2020	9:18:00 PM	0	72.86	60.97	60	75.87	71.87	72.04	0	0	0	0	72.67
8/28/2020	9:12:00 PM	0	72.86	60.82	60	75.87	71.87	71.69	0	0	0	0	72.74
8/28/2020	9:06:00 PM	0	72.86	60.82	60	75.87	71.87	71	0	0	0	0	72.85
8/28/2020	9:00:00 PM	0	72.86	60.74	60	75.87	71.87	71	0	0	0	0	73.09
8/28/2020	8:54:00 PM	0	72.86	60.63	60	75.87	71.87	70.29	0	0	0	0	73.52
8/28/2020	8:48:00 PM	0	72.86	60.55	60	75.87	71.87	69.94	0	0	0	0	74.32
8/28/2020	8:42:00 PM	0	72.86	60.58	60	75.87	71.87	68.87	0	0	0	0	75.73
8/28/2020	8:36:00 PM	0	72.86	60.55	60	75.87	71.87	68.02	0	0	0	0	78.32
8/28/2020	8:30:00 PM	0	72.86	60.11	60	75.87	71.87	67	0	0	0	0	83.33
8/28/2020	8:24:00 PM	0	72.86	59.3	60	75.87	71.87	65.78	0	0	0	0	94.75
8/28/2020	8:18:00 PM	0	72.86	62.22	60	75.87	71.87	69.59	1	0	0	0.67	91.24
8/28/2020	8:12:00 PM	0	72.86	61.79	60	75.87	71.87	74.08	0	0	0	0	73.48
8/28/2020	8:06:00 PM	0	72.86	61.7	60	75.87	71.87	74.08	0	0	0	0	73.48
8/28/2020	8:00:00 PM	0	72.86	61.6	60	75.87	71.87	74.08	0	0	0	0	73.52
8/28/2020	7:54:00 PM	0	72.86	61.58	60	75.87	71.87	74.08	0	0	0	0	73.56
8/28/2020	7:48:00 PM	0	72.86	61.44	60	75.87	71.87	74.08	0	0	0	0	73.6
8/28/2020	7:42:00 PM	0	72.86	61.34	60	75.87	71.87	74.08	0	0	0	0	73.66
8/28/2020	7:36:00 PM	0	72.86	61.17	60	75.87	71.87	74.08	0	0	0	0	73.72
8/28/2020	7:30:00 PM	0	72.86	61.09	60	75.87	71.87	74.08	0	0	0	0	73.78
8/28/2020	7:24:00 PM	0	72.86	60.98	60	75.87	71.87	74.08	0	0	0	0	73.86
8/28/2020	7:18:00 PM	0	72.86	60.89	60	75.87	71.87	74.08	0	0	0	0	73.92
8/28/2020	7:12:00 PM	0	72.86	60.84	60	75.87	71.87	74.08	0	0	0	0	74.03
8/28/2020	7:06:00 PM	0	72.86	60.76	60	75.87	71.87	74.08	0	0	0	0	74.15
8/28/2020	7:00:00 PM	0	72.86	60.72	60	75.87	71.87	73.23	0	0	0	0	74.31
8/28/2020	6:54:00 PM	0	72.86	60.7	60	75.87	71.87	73.06	0	0	0	0	74.46
8/28/2020	6:48:00 PM	0	72.86	60.61	60	75.87	71.87	73.06	0	0	0	0	74.64
8/28/2020	6:42:00 PM	0	72.86	60.51	60	75.87	71.87	73.06	0	0	0	0	74.83
8/28/2020	6:36:00 PM	0	72.86	60.42	60	75.87	71.87	72.21	0	0	0	0	75.06
8/28/2020	6:30:00 PM	0	72.86	60.33	60	75.87	71.87	72.04	0	0	0	0	75.39
8/28/2020	6:24:00 PM	0	72.86	60.39	60	75.87	71.87	72.04	0	0	0	0	75.91
8/28/2020	6:18:00 PM	0	72.86	60.5	60	75.87	71.87	71.17	0	0	0	0	76.87
8/28/2020	6:12:00 PM	0	72.86	60.69	60	75.87	71.87	70.65	0	0	0	0	78.6
8/28/2020	6:06:00 PM	0	72.86	60.97	60	75.87	71.87	69.76	0	0	0	0	81.95
8/28/2020	6:00:00 PM	0	72.86	61.22	60	75.87	71.87	68.53	0	0	0	0	88.52
8/28/2020	5:54:00 PM	0	72.86	61.41	60	75.87	71.87	67.17	0.17	0	0	0.17	102.92

8/28/2020	5:48:00 PM	0	72.86	59.79	60	75.87	71.87	66.83	1	0	0	0.17	102.28
8/28/2020	5:42:00 PM	0	73.54	61.03	60	75.87	71.87	66.83	1	0	0	1	114.93
8/28/2020	5:36:00 PM	0.67	73.88	58.98	60	75.87	71.87	66.83	1	0	0	0.17	102.21
8/28/2020	5:30:00 PM	1	73.88	61.28	60	75.87	71.87	66.83	1	0	0	1	109.1
8/28/2020	5:24:00 PM	1	73.88	59.16	60	75.87	71.87	67.17	1	0	0	0.17	101.09
8/28/2020	5:18:00 PM	1	73.88	61.07	60	75.87	71.87	69.76	1	0	0	0.83	98.22
8/28/2020	5:12:00 PM	0.17	73.2	60.25	60	75.87	71.87	73.06	0.17	0	0	0	73.91
8/28/2020	5:06:00 PM	0	72.86	60.25	60	75.87	71.87	73.06	0	0	0	0	73.89
8/28/2020	5:00:00 PM	0	72.86	60.17	60	75.87	71.87	73.06	0	0	0	0	73.89
8/28/2020	4:54:00 PM	0	72.86	60.05	60	75.87	71.87	73.06	0	0	0	0	73.9
8/28/2020	4:48:00 PM	0	72.86	60	60	75.87	71.87	73.06	0	0	0	0	73.92
8/28/2020	4:42:00 PM	0	72.86	59.96	60	75.87	71.87	73.06	0	0	0	0	73.9
8/28/2020	4:36:00 PM	0	72.86	59.93	60	75.87	71.87	73.06	0	0	0	0	73.88
8/28/2020	4:30:00 PM	0	72.86	59.87	60	75.87	71.87	73.06	0	0	0	0	73.86
8/28/2020	4:24:00 PM	0	72.86	59.83	60	75.87	71.87	73.06	0	0	0	0	73.91
8/28/2020	4:18:00 PM	0	72.86	59.78	60	75.87	71.87	72.89	0	0	0	0	73.95
8/28/2020	4:12:00 PM	0	72.86	59.72	60	75.87	71.87	72.04	0	0	0	0	74.02
8/28/2020	4:06:00 PM	0	72.86	59.71	60	75.87	71.87	72.04	0	0	0	0	74.14
8/28/2020	4:00:00 PM	0	72.86	59.72	60	75.87	71.87	72.04	0	0	0	0	74.27
8/28/2020	3:54:00 PM	0	72	59.75	60	75.87	71.87	72.04	0	0	0	0	74.55
8/28/2020	3:48:00 PM	0	71.83	59.74	60	75.87	71.87	72.04	0	0	0	0	74.91
8/28/2020	3:42:00 PM	0	71.83	59.75	60	75.87	71.87	71	0	0	0	0	75.52
8/28/2020	3:36:00 PM	0	71.83	59.9	60	75.87	71.87	71	0	0	0	0	76.45
8/28/2020	3:30:00 PM	0	71.83	60.15	60	75.87	71.87	70.29	0	0	0	0	78.04
8/28/2020	3:24:00 PM	0	71.83	60.41	60	75.87	71.87	69.76	0	0	0	0	80.88
8/28/2020	3:18:00 PM	0	71.83	60.51	60	75.87	71.87	68.53	0	0	0	0	86.27
8/28/2020	3:12:00 PM	0	71.83	60.46	60	75.87	71.87	67.17	0	0	0	0	98.67
8/28/2020	3:06:00 PM	0	71.83	61.38	60	75.87	71.87	66.13	0.83	0	0	0.5	103.33
8/28/2020	3:00:00 PM	0	71.83	59.57	60	75.87	71.87	65.78	1	0	0	0.67	116
8/28/2020	2:54:00 PM	0.5	71.83	60.83	60	75.87	71.87	65.78	1	0	0	0.33	102.06
8/28/2020	2:48:00 PM	1	71.83	60.21	60	75.87	71.87	65.78	1	0	0	0.83	117.97
8/28/2020	2:42:00 PM	1	71.83	59.96	60	75.87	71.87	65.78	1	0	0	0.17	101.77
8/28/2020	2:36:00 PM	1	71.83	60.87	60	75.87	71.87	65.78	1	0	0	1	113.43
8/28/2020	2:30:00 PM	1	71.83	59.15	60	75.87	71.87	65.78	1	0	0	0.17	107.56
8/28/2020	2:24:00 PM	1	71.83	61.51	60	75.87	71.87	65.78	1	0	0	0.83	108.27
8/28/2020	2:18:00 PM	1	71.83	58.99	60	75.87	71.87	65.78	1	0	0	0.33	110.88
8/28/2020	2:12:00 PM	1	71.83	61.98	60	75.87	71.87	65.78	1	0	0	0.67	106.19
8/28/2020	2:06:00 PM	1	71.83	58.89	60	75.87	71.87	65.78	1	0	0	0.33	111.84
8/28/2020	2:00:00 PM	1	71.83	62.22	60	75.87	71.87	65.78	1	0	0	0.67	104.58
8/28/2020	1:54:00 PM	1	71.83	58.7	60	75.87	71.87	65.78	1	0	0	0.5	110.36
8/28/2020	1:48:00 PM	1	71.83	61.14	60	75.87	71.87	65.78	1	0	0	1	115.18
8/28/2020	1:42:00 PM	1	71.97	59.09	60	75.87	71.87	65.54	1	0	0	0.6	115.01
8/28/2020	1:36:00 PM	1	71.97	61.52	60	75.87	71.87	65.54	1	0	0	0.5	100.22
8/28/2020	1:30:00 PM	1	71.97	59.49	60	75.87	71.87	65.54	1	0	0	0.67	113.47
8/28/2020	1:24:00 PM	1	71.97	61.37	60	75.87	71.87	65.54	1	0	0	0.5	100.88
8/28/2020	1:18:00 PM	1	71.97	60.01	60	75.87	71.87	65.54	1	0	0	0.83	113.88
8/28/2020	1:12:00 PM	1	71.97	60.18	60	75.87	71.87	65.54	1	0	0	0.17	101.47

8/28/2020	1:06:00 PM	1	71.97	61.39	60	75.87	71.87	66.24	1	0	0	1	117.94
8/28/2020	1:00:00 PM	1	71.97	70.26	60	75.87	71.87	68.66	1	0	0	1	110.58
8/28/2020	12:54:00 PM	1	71.97	62.79	60	75.87	71.87	72	1	0.83	0	0.33	97.18
8/28/2020	12:48:00 PM	1	71.97	60.5	60	75.87	71.87	65.46	1	0	0	0.83	112.88
8/28/2020	12:42:00 PM	1	71.97	60.18	60	75.87	71.87	65.46	1	0	0	0.17	100.84
8/28/2020	12:36:00 PM	1	71.97	61.2	60	75.87	71.87	65.46	1	0	0	1	107.8
8/28/2020	12:30:00 PM	1	71.97	59.14	60	75.87	71.87	65.46	1	0	0	0.17	106.81
8/28/2020	12:24:00 PM	1	71.97	61.87	60	75.87	71.87	65.46	1	0	0	0.83	105.56
8/28/2020	12:18:00 PM	1	72.06	59.34	60	75.87	71.87	65.14	1	0	0	0.33	111.47
8/28/2020	12:12:00 PM	1	72.06	64.77	60	75.87	71.87	66.54	1	0	0	1	116.01
8/28/2020	12:06:00 PM	0.83	72.06	70.08	60	75.87	71.87	70.71	1	0.17	0	1	101.14
8/28/2020	12:00:00 PM	0	72.06	60.38	60	75.87	71.87	68.32	1	0.67	0	0.17	106.15
8/28/2020	11:54:00 AM	0	72.06	61.84	60	75.87	71.87	64.96	1	0	0	0.83	102.74
8/28/2020	11:48:00 AM	0.83	72.06	59.12	60	75.87	71.87	64.96	1	0	0	0.33	109.11
8/28/2020	11:42:00 AM	1	72.06	61.7	60	75.87	71.87	64.96	1	0	0	0.67	100.45
8/28/2020	11:36:00 AM	1	72.06	59.15	60	75.87	71.87	64.96	1	0	0	0.5	112.59
8/28/2020	11:30:00 AM	1	72.06	61.53	60	75.87	71.87	64.96	1	0	0	0.5	101.01
8/28/2020	11:24:00 AM	1	72.06	59.47	60	75.87	71.87	65.32	1	0	0	0.67	116.47
8/28/2020	11:18:00 AM	1	72.06	67.17	60	75.87	71.87	66.71	1	0	0	1	113.53
8/28/2020	11:12:00 AM	1	72.06	67.89	60	75.87	71.87	72.27	1	0.5	0	0.83	96.76
8/28/2020	11:06:00 AM	1	72.06	59.14	60	75.87	71.87	66.09	1	0.33	0	0.5	111.55
8/28/2020	11:00:00 AM	1	72.06	61.85	60	75.87	71.87	65.05	1	0	0	0.67	100.7
8/28/2020	10:54:00 AM	1	72.06	59.46	60	75.87	71.87	65.05	1	0	0	0.5	113.04
8/28/2020	10:48:00 AM	1	72.06	61.35	60	75.87	71.87	65.05	1	0	0	0.5	100.84
8/28/2020	10:42:00 AM	1	72.06	59.82	60	75.87	71.87	65.05	1	0	0	0.67	116.3
8/28/2020	10:36:00 AM	1	72.06	67.14	60	75.87	71.87	66.79	1	0	0	1	113.55
8/28/2020	10:30:00 AM	1	72.06	68.63	60	75.87	71.87	71.97	1	0.5	0	0.83	96.81
8/28/2020	10:24:00 AM	1	72.06	59.14	60	75.87	71.87	66.03	1	0.33	0	0.5	111.7
8/28/2020	10:18:00 AM	1	72.06	62.03	60	75.87	71.87	65.13	1	0	0	0.67	100.46
8/28/2020	10:12:00 AM	1	72.06	59.31	60	75.87	71.87	65.13	1	0	0	0.5	112.79
8/28/2020	10:06:00 AM	1	72.06	61.69	60	75.87	71.87	65.13	1	0	0	0.5	100.65
8/28/2020	10:00:00 AM	1	72.06	59.65	60	75.87	71.87	65.48	1	0	0	0.67	117.31
8/28/2020	9:54:00 AM	1	72.06	67.48	60	75.87	71.87	66.87	1	0	0	1	114.62
8/28/2020	9:48:00 AM	1	72.06	67.75	60	75.87	71.87	72.39	1	0.5	0	0.67	97.54
8/28/2020	9:42:00 AM	1	72.06	59.12	60	75.87	71.87	66.08	1	0.33	0	0.5	113.01
8/28/2020	9:36:00 AM	1	72.06	61.83	60	75.87	71.87	65.38	1	0	0	0.67	102.55
8/28/2020	9:30:00 AM	1	72.06	59.29	60	75.87	71.87	65.38	1	0	0	0.67	115.44
8/28/2020	9:24:00 AM	1	72.06	66.93	60	75.87	71.87	66.25	1	0	0	1	113.42
8/28/2020	9:18:00 AM	1	72.06	68.56	60	75.87	71.87	71.57	1	0.33	0	0.83	97.22
8/28/2020	9:12:00 AM	1	72.06	59.47	60	75.87	71.87	65.56	1	0.33	0	0.5	109.45
8/28/2020	9:06:00 AM	1	72.06	61.83	60	75.87	71.87	64.3	1	0	0	0.67	101.4
8/28/2020	9:00:00 AM	1	72.06	59.63	60	75.87	71.87	64.66	1	0	0	0.67	113.84
8/28/2020	8:54:00 AM	1	72.06	66.77	60	75.87	71.87	66.07	1	0	0	1	112.5
8/28/2020	8:48:00 AM	1	71.21	68.07	60	75.87	71.87	71.23	1	0.5	0	0.67	96.75
8/28/2020	8:42:00 AM	1	71.04	59.29	60	75.87	71.87	65.17	1	0.33	0	0.5	112.31
8/28/2020	8:36:00 AM	1	71.04	66.6	60	75.87	71.87	65.89	1	0	0	1	111.2
8/28/2020	8:30:00 AM	1	71.04	66.15	60	75.87	71.87	70.43	1	0.5	0	0.67	94.49

8/28/2020	8:24:00 AM	1	71.04	59.08	60	75.87	71.87	64.63	1	0	0	0.5	112.72
8/28/2020	8:18:00 AM	1	71.04	66.58	60	75.87	71.87	65.87	1	0	0	1	110.07
8/28/2020	8:12:00 AM	1	71.04	64.54	60	75.87	71.87	68.73	1	0.5	0	0.5	93.52
8/28/2020	8:06:00 AM	1	71.04	59.82	60	75.87	71.87	63.55	1	0	0	0.67	111.51
8/28/2020	8:00:00 AM	1	72.06	60.67	60	75.87	71.87	63.21	1	0	0	0.33	96.87
8/28/2020	7:54:00 AM	1	72.06	60.14	60	75.87	71.87	63.38	1	0	0	0.83	110.32
8/28/2020	7:48:00 AM	1	72.06	60.13	60	75.87	71.87	63.04	1	0	0	0.17	98.25
8/28/2020	7:42:00 AM	1	72.06	61.16	60	75.87	71.87	63.55	1	0	0	1	103.78
8/28/2020	7:36:00 AM	1	72.06	59.12	60	75.87	71.87	63.55	1	0	0	0.17	99.77
8/28/2020	7:30:00 AM	1	72.06	60.65	60	75.87	71.87	64.45	1	0	0	0.67	87.43
8/28/2020	7:24:00 AM	0	72.06	59.63	60	75.87	71.87	64.27	0	0	0	0	84.74
8/28/2020	7:18:00 AM	0	72.06	59.8	60	75.87	71.87	63.55	0.17	0	0	0.17	101.18
8/28/2020	7:12:00 AM	0	72.06	61.67	60	75.87	71.87	63.55	1	0	0	0.5	97.59
8/28/2020	7:06:00 AM	0	72.06	60.17	60	75.87	71.87	63.55	1	0	0	0.67	107.27
8/28/2020	7:00:00 AM	0.67	72.06	60.2	60	75.87	71.87	63.55	1	0	0	0.17	95.94
8/28/2020	6:54:00 AM	1	72.4	61.05	60	75.87	71.87	64.09	1	0	0	1	100.22
8/28/2020	6:48:00 AM	1	73.08	59.35	60	75.87	71.87	63.55	1	0	0	0.17	97.66
8/28/2020	6:42:00 AM	1	73.08	62.43	60	75.87	71.87	67.61	1	0	0	0.67	86.34
8/28/2020	6:36:00 AM	0.17	73.08	61.75	60	75.87	71.87	72.99	0.17	0	0	0	69.12
8/28/2020	6:30:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.18
8/28/2020	6:24:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.18
8/28/2020	6:18:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.18
8/28/2020	6:12:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.25
8/28/2020	6:06:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.25
8/28/2020	6:00:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.25
8/28/2020	5:54:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.25
8/28/2020	5:48:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.25
8/28/2020	5:42:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.25
8/28/2020	5:36:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.25
8/28/2020	5:30:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.25
8/28/2020	5:24:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.25
8/28/2020	5:18:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.25
8/28/2020	5:12:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.33
8/28/2020	5:06:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.34
8/28/2020	5:00:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.4
8/28/2020	4:54:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.4
8/28/2020	4:48:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.48
8/28/2020	4:42:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.48
8/28/2020	4:36:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.5
8/28/2020	4:30:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.55
8/28/2020	4:24:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.55
8/28/2020	4:18:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.55
8/28/2020	4:12:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.55
8/28/2020	4:06:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.58
8/28/2020	4:00:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.62
8/28/2020	3:54:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.65
8/28/2020	3:48:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.7

8/28/2020	3:42:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.75
8/28/2020	3:36:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.78
8/28/2020	3:30:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.78
8/28/2020	3:24:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.76
8/28/2020	3:18:00 AM	0	73.08	61.75	60	75.87	71.87	72.99	0	0	0	0	69.78
8/28/2020	3:12:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	69.79
8/28/2020	3:06:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	69.82
8/28/2020	3:00:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	69.85
8/28/2020	2:54:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	69.87
8/28/2020	2:48:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	69.92
8/28/2020	2:42:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	69.93
8/28/2020	2:36:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	69.97
8/28/2020	2:30:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	69.94
8/28/2020	2:24:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	69.97
8/28/2020	2:18:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.01
8/28/2020	2:12:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.03
8/28/2020	2:06:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.07
8/28/2020	2:00:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.09
8/28/2020	1:54:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.09
8/28/2020	1:48:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.09
8/28/2020	1:42:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.09
8/28/2020	1:36:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.14
8/28/2020	1:30:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.16
8/28/2020	1:24:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.16
8/28/2020	1:18:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.18
8/28/2020	1:12:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.18
8/28/2020	1:06:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.23
8/28/2020	1:00:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.21
8/28/2020	12:54:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.24
8/28/2020	12:48:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.27
8/28/2020	12:42:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.32
8/28/2020	12:36:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.35
8/28/2020	12:30:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.39
8/28/2020	12:24:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.44
8/28/2020	12:18:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.49
8/28/2020	12:12:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.54
8/28/2020	12:06:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.6
8/28/2020	12:00:00 AM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.66
8/27/2020	11:54:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.7
8/27/2020	11:48:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.7
8/27/2020	11:42:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.72
8/27/2020	11:36:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.77
8/27/2020	11:30:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.8
8/27/2020	11:24:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.86
8/27/2020	11:18:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.92
8/27/2020	11:12:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.96
8/27/2020	11:06:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	70.98

8/27/2020	11:00:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	71.01
8/27/2020	10:54:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	71.06
8/27/2020	10:48:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	71.08
8/27/2020	10:42:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	71.13
8/27/2020	10:36:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	71.17
8/27/2020	10:30:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	71.19
8/27/2020	10:24:00 PM	0	73.79	61.14	60	75.87	71.87	73.49	0	0	0	0	71.22
8/27/2020	10:18:00 PM	0	73.79	60.63	60	75.87	71.87	73.49	0	0	0	0	71.28
8/27/2020	10:12:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.31
8/27/2020	10:06:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.37
8/27/2020	10:00:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.4
8/27/2020	9:54:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.46
8/27/2020	9:48:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.51
8/27/2020	9:42:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.51
8/27/2020	9:36:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.54
8/27/2020	9:30:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.58
8/27/2020	9:24:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.62
8/27/2020	9:18:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.64
8/27/2020	9:12:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.67
8/27/2020	9:06:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.67
8/27/2020	9:00:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.71
8/27/2020	8:54:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.73
8/27/2020	8:48:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.74
8/27/2020	8:42:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.77
8/27/2020	8:36:00 PM	0	73.79	60.12	60	75.87	71.87	73.49	0	0	0	0	71.84
8/27/2020	8:30:00 PM	0	73.79	60	60	75.87	71.87	73.49	0	0	0	0	71.88
8/27/2020	8:24:00 PM	0	73.79	59.88	60	75.87	71.87	73.49	0	0	0	0	71.94
8/27/2020	8:18:00 PM	0	73.79	59.88	60	75.87	71.87	73.49	0	0	0	0	71.97
8/27/2020	8:12:00 PM	0	73.79	59.88	60	75.87	71.87	73.49	0	0	0	0	72.02
8/27/2020	8:06:00 PM	0	73.79	58.86	60	75.87	71.87	73.49	0	0	0	0	72.06
8/27/2020	8:00:00 PM	0	73.79	58.86	60	75.87	71.87	73.49	0	0	0	0	72.11
8/27/2020	7:54:00 PM	0	73.79	58.86	60	75.87	71.87	73.49	0	0	0	0	72.13
8/27/2020	7:48:00 PM	0	73.79	58.86	60	75.87	71.87	73.49	0	0	0	0	72.19
8/27/2020	7:42:00 PM	0	73.79	58.86	60	75.87	71.87	73.49	0	0	0	0	72.23
8/27/2020	7:36:00 PM	0	73.79	58.86	60	75.87	71.87	73.49	0	0	0	0	72.29
8/27/2020	7:30:00 PM	0	73.79	58.86	60	75.87	71.87	72.82	0	0	0	0	72.35
8/27/2020	7:24:00 PM	0	73.79	58.86	60	75.87	71.87	72.48	0	0	0	0	72.4
8/27/2020	7:18:00 PM	0	73.79	58.86	60	75.87	71.87	72.48	0	0	0	0	72.44
8/27/2020	7:12:00 PM	0	73.79	58.86	60	75.87	71.87	72.48	0	0	0	0	72.48
8/27/2020	7:06:00 PM	0	73.79	58.86	60	75.87	71.87	72.48	0	0	0	0	72.48
8/27/2020	7:00:00 PM	0	73.79	58.86	60	75.87	71.87	71.96	0	0	0	0	72.49
8/27/2020	6:54:00 PM	0	73.79	58.86	60	75.87	71.87	71.44	0	0	0	0	72.51
8/27/2020	6:48:00 PM	0	73.28	58.86	60	75.87	71.87	71.44	0	0	0	0	72.57
8/27/2020	6:42:00 PM	0	72.77	58.86	60	75.87	71.87	70.75	0	0	0	0	72.67
8/27/2020	6:36:00 PM	0	72.77	58.86	60	75.87	71.87	70.4	0	0	0	0	72.86
8/27/2020	6:30:00 PM	0	72.77	58.86	60	75.87	71.87	69.86	0	0	0	0	73.16
8/27/2020	6:24:00 PM	0	72.77	58.86	60	75.87	71.87	69.33	0	0	0	0	73.68

8/27/2020	6:18:00 PM	0	72.77	58.86	60	75.87	71.87	68.83	0	0	0	0	74.63
8/27/2020	6:12:00 PM	0	72.77	58.86	60	75.87	71.87	68.32	0	0	0	0	76.2
8/27/2020	6:06:00 PM	0	72.5	59.39	60	75.87	71.87	67.49	0	0	0	0	78.49
8/27/2020	6:00:00 PM	0	72.5	59.25	60	75.87	71.87	66.46	0	0	0	0	83.57
8/27/2020	5:54:00 PM	0	72.5	59.1	60	75.87	71.87	65.23	0	0	0	0	95.15
8/27/2020	5:48:00 PM	0	72.5	60.97	60	75.87	71.87	65.59	0.67	0	0	0.5	104.43
8/27/2020	5:42:00 PM	0	72.5	59.28	60	75.87	71.87	66.46	1	0	0	0.5	110.74
8/27/2020	5:36:00 PM	0	72.5	61.67	60	75.87	71.87	66.46	1	0	0	0.67	102.43
8/27/2020	5:30:00 PM	0.67	72.5	59.95	60	75.87	71.87	66.99	1	0	0	0.67	112.88
8/27/2020	5:24:00 PM	1	72.5	61.31	60	75.87	71.87	66.99	1	0	0	0.5	99.74
8/27/2020	5:18:00 PM	1	72.5	60.63	60	75.87	71.87	67.33	1	0	0	0.83	110.42
8/27/2020	5:12:00 PM	0.67	72.5	61.81	60	75.87	71.87	71.65	0.67	0	0	0.33	78.89
8/27/2020	5:06:00 PM	0	72.5	61.14	60	75.87	71.87	73.21	0	0	0	0	73.2
8/27/2020	5:00:00 PM	0	72.5	61.14	60	75.87	71.87	73.21	0	0	0	0	73.25
8/27/2020	4:54:00 PM	0	72.5	61.14	60	75.87	71.87	72.36	0	0	0	0	73.27
8/27/2020	4:48:00 PM	0	72.5	61.14	60	75.87	71.87	72.19	0	0	0	0	73.3
8/27/2020	4:42:00 PM	0	72.5	61.14	60	75.87	71.87	72.19	0	0	0	0	73.34
8/27/2020	4:36:00 PM	0	72.5	61.14	60	75.87	71.87	71.5	0	0	0	0	73.39
8/27/2020	4:30:00 PM	0	72.5	61.14	60	75.87	71.87	71.15	0	0	0	0	73.5
8/27/2020	4:24:00 PM	0	72.5	61.14	60	75.87	71.87	70.44	0	0	0	0	73.77
8/27/2020	4:18:00 PM	0	71.99	61.14	60	75.87	71.87	69.91	0	0	0	0	74.31
8/27/2020	4:12:00 PM	0	71.47	61.14	60	75.87	71.87	69.02	0	0	0	0	75.38
8/27/2020	4:06:00 PM	0	71.47	61.14	60	75.87	71.87	68.85	0	0	0	0	77.4
8/27/2020	4:00:00 PM	0	71.47	61.14	60	75.87	71.87	68	0	0	0	0	81.09
8/27/2020	3:54:00 PM	0	71.47	61.14	60	75.87	71.87	66.98	0	0	0	0	88.84
8/27/2020	3:48:00 PM	0	71.47	61.81	60	75.87	71.87	65.23	0.33	0	0	0.17	102.35
8/27/2020	3:42:00 PM	0	71.47	59.78	60	75.87	71.87	64.88	1	0	0	0.17	104.17
8/27/2020	3:36:00 PM	0	71.99	61.34	60	75.87	71.87	65.94	1	0	0	1	105.46
8/27/2020	3:30:00 PM	0.67	72.5	59.27	60	75.87	71.87	65.94	1	0	0	0.17	109.85
8/27/2020	3:24:00 PM	1	72.5	61.98	60	75.87	71.87	65.94	1	0	0	0.83	106.14
8/27/2020	3:18:00 PM	1	72.5	58.93	60	75.87	71.87	65.94	1	0	0	0.33	108.09
8/27/2020	3:12:00 PM	1	72.5	61.81	60	75.87	71.87	65.94	1	0	0	0.83	105.58
8/27/2020	3:06:00 PM	0.33	72.5	59.08	60	75.87	71.87	65.94	1	0	0	0.5	112.12
8/27/2020	3:00:00 PM	0.17	72.5	62.15	60	75.87	71.87	65.94	1	0	0	0.67	103.29
8/27/2020	2:54:00 PM	1	72.5	59.25	60	75.87	71.87	65.94	1	0	0	0.5	111.09
8/27/2020	2:48:00 PM	1	72.5	61.3	60	75.87	71.87	65.94	1	0	0	0.5	100.41
8/27/2020	2:42:00 PM	1	72.5	59.74	60	75.87	71.87	65.94	1	0	0	0.67	113.97
8/27/2020	2:36:00 PM	1	72.5	61.43	60	75.87	71.87	65.94	1	0	0	0.5	100.06
8/27/2020	2:30:00 PM	1	72.5	59.89	60	75.87	71.87	65.94	1	0	0	0.67	116.26
8/27/2020	2:24:00 PM	1	72.5	61.11	60	75.87	71.87	65.94	1	0	0	0.33	101.49
8/27/2020	2:18:00 PM	1	72.5	60.43	60	75.87	71.87	66.46	1	0	0	0.83	119.63
8/27/2020	2:12:00 PM	1	72.16	68.3	60	75.87	71.87	68.69	1	0	0	1	114.44
8/27/2020	2:06:00 PM	1	71.47	66.17	60	75.87	71.87	73.57	1	0.5	0	0.67	96.5
8/27/2020	2:00:00 PM	1	71.47	59.59	60	75.87	71.87	65.86	1	0.17	0	0.67	114.13
8/27/2020	1:54:00 PM	1	71.47	61.12	60	75.87	71.87	65.15	1	0	0	0.5	98.61
8/27/2020	1:48:00 PM	1	71.47	59.93	60	75.87	71.87	65.51	1	0	0	0.67	113.04
8/27/2020	1:42:00 PM	1	71.47	60.95	60	75.87	71.87	65.86	1	0	0	0.33	100.47

8/27/2020	1:36:00 PM	1	71.47	60.44	60	75.87	71.87	65.86	1	0	0	0.83	113.59
8/27/2020	1:30:00 PM	1	71.47	60.27	60	75.87	71.87	65.86	1	0	0	0.17	102.87
8/27/2020	1:24:00 PM	1	71.47	61.29	60	75.87	71.87	65.86	1	0	0	1	110.06
8/27/2020	1:18:00 PM	1	71.47	59.91	60	75.87	71.87	65.86	1	0	0	0.33	106.7
8/27/2020	1:12:00 PM	1	71.47	61.62	60	75.87	71.87	65.86	1	0	0	1	106.53
8/27/2020	1:06:00 PM	1	71.47	59.37	60	75.87	71.87	65.86	1	0	0	0.33	107.68
8/27/2020	1:00:00 PM	1	71.47	62.08	60	75.87	71.87	65.86	1	0	0	0.67	104.38
8/27/2020	12:54:00 PM	1	71.47	59.2	60	75.87	71.87	65.86	1	0	0	0.5	112.04
8/27/2020	12:48:00 PM	1	71.47	61.74	60	75.87	71.87	65.86	1	0	0	0.67	102.59
8/27/2020	12:42:00 PM	1	71.47	59.2	60	75.87	71.87	65.86	1	0	0	0.5	114.64
8/27/2020	12:36:00 PM	1	71.47	62.08	60	75.87	71.87	65.86	1	0	0	0.67	104.22
8/27/2020	12:30:00 PM	1	71.47	59.55	60	75.87	71.87	65.86	1	0	0	0.5	112.98
8/27/2020	12:24:00 PM	1	71.47	61.94	60	75.87	71.87	65.86	1	0	0	0.67	102.81
8/27/2020	12:18:00 PM	1	71.47	59.39	60	75.87	71.87	65.86	1	0	0	0.67	116.14
8/27/2020	12:12:00 PM	1	71.47	66.2	60	75.87	71.87	67.25	1	0	0	1	116.05
8/27/2020	12:06:00 PM	1	71.47	69.3	60	75.87	71.87	72.3	1	0.33	0	0.83	100.17
8/27/2020	12:00:00 PM	1	71.47	59.22	60	75.87	71.87	67.12	1	0.5	0	0.33	109.71
8/27/2020	11:54:00 AM	1	71.47	61.93	60	75.87	71.87	65.7	1	0	0	0.67	102.09
8/27/2020	11:48:00 AM	1	71.47	59.21	60	75.87	71.87	65.7	1	0	0	0.5	114.47
8/27/2020	11:42:00 AM	1	71.47	61.58	60	75.87	71.87	65.7	1	0	0	0.67	103.23
8/27/2020	11:36:00 AM	1	71.47	59.83	60	75.87	71.87	65.7	1	0	0	0.67	118.06
8/27/2020	11:30:00 AM	1	71.47	66.82	60	75.87	71.87	66.92	1	0	0	1	113.56
8/27/2020	11:24:00 AM	1	71.47	68.1	60	75.87	71.87	72.36	1	0.33	0	0.83	95.71
8/27/2020	11:18:00 AM	1	71.47	59.35	60	75.87	71.87	65.64	1	0.17	0	0.5	108.73
8/27/2020	11:12:00 AM	1	71.47	62.06	60	75.87	71.87	65.46	1	0	0	0.67	102.81
8/27/2020	11:06:00 AM	1	71.47	59.86	60	75.87	71.87	65.1	1	0	0	0.5	112.12
8/27/2020	11:00:00 AM	1	71.47	62.04	60	75.87	71.87	65.46	1	0	0	0.67	101.54
8/27/2020	10:54:00 AM	1	71.47	59.82	60	75.87	71.87	65.46	1	0	0	0.67	116.09
8/27/2020	10:48:00 AM	1	71.47	66.55	60	75.87	71.87	66.67	1	0	0	1	114.1
8/27/2020	10:42:00 AM	1	71.47	68.74	60	75.87	71.87	72.38	1	0.33	0	0.83	98.8
8/27/2020	10:36:00 AM	1	71.47	59.6	60	75.87	71.87	65.79	1	0.33	0	0.5	114.76
8/27/2020	10:30:00 AM	1	71.47	65.22	60	75.87	71.87	66.31	1	0	0	1	115.54
8/27/2020	10:24:00 AM	1	71.47	70.57	60	75.87	71.87	71.35	1	0.17	0	1	101.03
8/27/2020	10:18:00 AM	1	71.47	59.71	60	75.87	71.87	67.94	1	0.5	0	0.33	112.27
8/27/2020	10:12:00 AM	1	71.47	63.11	60	75.87	71.87	65.81	1	0	0	1	117.78
8/27/2020	10:06:00 AM	1	71.47	71.61	60	75.87	71.87	68.58	1	0	0	1	110.59
8/27/2020	10:00:00 AM	1	71.47	61.93	60	75.87	71.87	70.9	1	0.67	0	0.33	98.87
8/27/2020	9:54:00 AM	1	71.47	60.85	60	75.87	71.87	64.67	1	0	0	1	116.96
8/27/2020	9:48:00 AM	1	71.47	69.36	60	75.87	71.87	66.94	1	0	0	1	112.18
8/27/2020	9:42:00 AM	1	71.47	65.91	60	75.87	71.87	72.45	1	0.67	0	0.67	97.61
8/27/2020	9:36:00 AM	1	71.47	59.73	60	75.87	71.87	64.85	1	0.17	0	0.67	116.14
8/27/2020	9:30:00 AM	1	71.47	66.89	60	75.87	71.87	66.61	1	0	0	1	113.81
8/27/2020	9:24:00 AM	1	71.47	67.91	60	75.87	71.87	71.83	1	0.33	0	0.83	97.4
8/27/2020	9:18:00 AM	1	71.47	59.41	60	75.87	71.87	65.47	1	0.33	0	0.5	113.87
8/27/2020	9:12:00 AM	1	71.47	64.87	60	75.87	71.87	65.23	1	0	0	1	114.09
8/27/2020	9:06:00 AM	1	71.47	69.76	60	75.87	71.87	70.47	1	0.17	0	1	101.73
8/27/2020	9:00:00 AM	1	71.74	59.98	60	75.87	71.87	66.75	1	0.5	0	0.33	107.93

8/27/2020	8:54:00 AM	1	71.74	63.76	60	75.87	71.87	65.15	1	0	0	1	114.52
8/27/2020	8:48:00 AM	1	71.23	70.26	60	75.87	71.87	68.85	1	0	0	1	101.91
8/27/2020	8:42:00 AM	1	70.73	60.53	60	75.87	71.87	68.13	1	0.67	0	0.33	102.82
8/27/2020	8:36:00 AM	1	70.73	62.89	60	75.87	71.87	64.52	1	0	0	1	112.23

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Contractor Warranty Letter



EMCOR Services Team Mechanical
431 Lexington Dr.
Buffalo Grove, IL 60089
847-229-7600 • Fax: 847.229.7699
www.emcortmi.com

Project Warranty Letter

Date: 9/2/2020

Attention: Brian S. Rominski, CPS Director of Buildings & Grounds

Project: 2020 HVAC Retrofits for Anna Sullivan and Betsy Ross Elementary Schools

Warranty Period: 8/18/2020-8/18/2021

Mr. Rominski,

EMCOR Services Team Mechanical, Inc. has completed the upgrade and installation of dehumidification retrofit kits for thirty-four (34) Bard Heat Pumps serving the Betsy Ross and Anne Sullivan classrooms. All materials furnished on this project are in ordinance with the Occupational Safety and Health Act. No products containing asbestos were used during this project. All punch list items and commissioning is complete. ESTM warranty period is for a period of one (1) year from the date for substantial completion.

EMCOR Workmanship Warranty Period: 8/18/2020 – 8/18/2021

Workmanship will be covered under a **one (1) year warranty** from the factory start-up date to include on-site labor, travel time and travel costs. This warranty does not include re-commissioning, evaluating, balancing, adjusting, or reprogramming. Additionally, any power shortages, existing conditions, electrical power abnormalities, improper control signals that may permanently damage new equipment, Compressors, Electrical Service Disconnect or electrical components will not be covered under warranty.

We have completed the installation of the HVAC system for the above-mentioned project. According to our records, the start-up date of the equipment is 8-18-2020 and the materials that we provided, and our workmanship is covered for a period of one year from the substantial completion date which is 8-18-2021. The equipment is covered by the manufacturer's standard one-year warranty on parts replacement. We are including the labor for warranty. This warranty covers the repair/replacement of defective components only. It does not cover, nor does it include re-commissioning, evaluating, balancing, adjusting, and reprogramming and operator instruction. These items have already been performed or will be included in the installation project.

Please contact EMCOR Services Team Mechanical's service department at **(847) 229-7600** if you have any services issues.

If you have any questions regarding service or maintenance, please call:

Kameron Koehlhoeffer
Office: (847)-229-7600
Cell Phone # (224) 477-7193
Email: kkoehlhoeffer@emcor.net

Thank you for this opportunity to be of service.

Sincerely,

Kameron Koehlhoeffer
EMCOR Services Team Mechanical

Additional Location: 431 Lexington Drive • Buffalo Grove, IL 60089

Commissioning Warranty Review

CHECKLIST

#9 2020 HVAC Retrofits - Cx Warranty Review

E Cube | 1017.2 - Dist 23 Schools Phase 2



Type Warranty Review
Asset +++ 2020 HVAC Retrofits

Lines 35

DESCRIPTION

1 This Cx warranty review checklist is intended to be reviewed by the owner or facilities engineer. E Cube, Inc. will review with owner via a phone call or site visit based on the owner's needs. The schedule to complete this checklist is June 2021.

BUILDING OPERATING CONDITIONS:

2 OAT:

3 OAH:

4 % of occupancy (number of people during occupied mode):

5 Weather/Season:

GENERAL

6 In general are the classroom heat pumps operating properly?

7 Are there any rooms or areas with hot or cold complaints?

8 Are space temperature levels being maintained at setpoint during occupied and unoccupied modes?

9 Are space humidity levels being maintained at setpoint during occupied and unoccupied modes?

10 Do the occupancy sensors in classrooms operate properly?

11 Equipment shuts down during unoccupied modes if not needed for temperature or humidity control?

12 Is building comfortable at all times?

13 Any particular times of high/low temperatures?

CX ALLOY ISSUES

14 Have any issues noted during construction reoccurred since project completion?

15 Are there any new issues with heat pumps?

CONTROLS

16 Is control system functioning as expected?

17 Do the controls and graphics workstation operate properly?

18 Are trends being collected and reviewed??

19 Are BAS alarms at an acceptable level? No excessive or annoying alarms?

20 Have there been any sequence changes?

Checklist | Printed on 09/03/2020 | Page 1 of 2



#9 2020 HVAC Retrofits - Cx Warranty Review | E Cube | 1017.2 - Dist 23 Schools Phase 2

- ✓ X ¼ 21 Does equipment respond properly to setpoint changes?
- ✓ X ¼ 22 Is building CO2 level monitoring working ok?
- ✓ X ¼ 23 If alarm emails or texts are programmed, do they function properly?
- ✓ X ¼ 24 Is remote access to BAS functional?

MECHANICAL

- ✓ X ¼ 25 Have any issues been noted with the new reheat coils or refrigeration equipment
- ✓ X ¼ 26 Are the OA dampers operating properly
- ✓ X ¼ 27 Have any alarms been noted within the classroom heat pumps
- ✓ X ¼ 28 Does the geothermal field, pumps, etc. operate properly?
- ✓ X ¼ 29 Any leaks, air, water, glycol, condensate?