

# Evaluating Thermal Regime of Cold Region Roads for Climate Change Adaptation

by

Michelle Charlotte Liu

A thesis  
presented to the University of Waterloo  
in fulfillment of the  
thesis requirement for the degree of  
Master of Applied Science  
in  
Civil Engineering

Waterloo, Ontario, Canada, 2020

© Michelle Charlotte Liu 2020

## Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

## Abstract

Nearly a quarter of the Northern Hemisphere is underlain with permafrost, of which discontinuous permafrost is most sensitive to the temperature of its surrounding. Climate change and the implementation of infrastructure have combined effects on the thermal regime of permafrost, leading to thaw settlement that can be detrimental to structures. In Northern Canada and Alaska, permafrost degradation is leading to unprecedented spending on maintenance and rehabilitation of linear infrastructure. Although a number of permafrost protection techniques for road structures have emerged in recent decades, their costs remain high and rate of implementation remains low. This predicament can be attributed to the lack of studies that compare the feasibility and performance of these techniques. There is also only a low number of field studies that examine the in situ thermal regime of permafrost influenced by both climate change and infrastructure, which further contributes to the uncertainty surrounding many of the permafrost protection techniques. In light of these gaps, this study conducted a literature scan for qualitative feasibility comparison of existing permafrost protection techniques, simulated the performance of select techniques in TEMPS for comparison, and examined the in situ thermal regime through a field study along the Ingraham Trail (NWT Highway 4) in Yellowknife, Northwest Territories.

Based on existing literature, reflective surfaces, shading, ventilation pipes, thermosyphons, air convection, geosynthetics, pre-thawing, and heat-dissipating structures and materials are deemed suitable for high-temperature (discontinuous) permafrost, while embankment insulation was deemed suitable for low-temperature (continuous) permafrost. Most heat-dissipating pavement structures, like unilateral heat transfer pavement, may be suitable for both high- and low-temperature permafrost, though further studies are required. It was concluded from this review that most permafrost protection techniques available at the moment are designed for high-temperature, discontinuous permafrost. This is as expected since discontinuous permafrost has the highest risk of degradation in light of climate change and anthropogenic effects.

In order to simulate the performance of alternative thermosyphon fluids (lithium, potassium, and sodium) and insulative materials (XPS, FGA, and LWCA), a baseline pavement design was adapted from previous literature and verified using PAVEXpress against traffic loading. The structure was then transferred to TEMPS with each thermosyphon fluid of interest inserted into the pavement 80 mm below the driving surface and each insulative material just above the subgrade. Temperatures at specified depths with permafrost protection techniques were calculated by TEMPS and compared to control. A chi-squared test was performed to verify that the difference in results is statistically significant. It was found that the three alkali metals did not make a statistically significant difference to the subgrade temperature compared to control. However, in terms of embankment insulation material, extruded polystyrene (XPS) was found to have the best quantitative performance throughout the year except for about a 1.5-month period during spring thaw when foam-glass aggregates (FGA) have slightly better performance. This indicates that XPS, of the three materials, should be selected for general application, while FGA can be used in areas especially sensitive to spring thaw.

The installation of 10 thermistor strings along the Ingraham Trail allowed for 8.5 months of road temperature data in asphalt, chipseal, and gravel surfaces to be collected down to a depth of 0.3 m. Each thermistor string is made up of one GeoPrecision data logger and two GeoPrecision temperature sensors. This model of thermistor strings was selected due to its popularity, reliability, and relatively reasonable cost. Prior to being installed, each string was tethered to a hardwood dowel using 4 to 5 nylon cable ties to provide rigidity to the assembly. Installation took place in January 2019 over 5 days. Data collected from January 21<sup>st</sup>, 2019 to October 3<sup>rd</sup>, 2019 were used in this study.

In examining average road and air temperatures, asphalt was found to be warmest in temperature, as expected, from March to October (with no data available for November and December). It was however surpassed by gravel between January and February, likely due to the combined effects of climate warming and thermal regime disturbance by the road itself. Chipseal has the highest positive heat balance by surface material type along the Ingraham Trail, meaning it absorbed the most amount of heat, which is different from the expectation

that asphalt would be the most heat-absorbent. This indicates the importance of field investigations and is a sign that combined effects of climate change and manmade structures are at play. Chipseal displayed the most positive heat index by month in April and May. It is however slightly surpassed by control in June, July and August. Again, this unusual finding indicates the importance of field investigations and is a sign that combined effects of climate change and manmade structures on permafrost cannot easily be studied otherwise.

When examined by time of day, there is nearly no change in heat balance when heat is being extracted (i.e. during winter months) compared to when heat is being induced (i.e. during summer months). When heat is being induced, the greatest fluctuation in heat balance is observed in asphalt. This indicates an increased thermal disturbance to the pavement and subgrade when exterior temperature is high, which will become increasingly frequent with climate change. Examining heat balance against thermal gradient allowed regression equations to be developed for each of the three surface material types, each with a coefficient of determination greater than 0.999. This can be used to predicting extent of thermal disturbance to permafrost subgrade beneath the road embankment when temperatures at two depths are known. Overall, these data demonstrate the importance of field investigations and are a sign that the combined effects of climate change and manmade structures on permafrost cannot easily be studied otherwise.

Recommendations for future work include a systemic literature review to qualitatively identify, compare, and contrast the functions, efficiency, constructability, design requirements, and precedents (if any) of existing permafrost protection techniques. With this, a more accurate quantitative performance evaluation of existing permafrost protection techniques can be conducted so that costs can be more easily justified by jurisdictions wishing to implement a technique. Data along the Ingraham Trail should continue to be collected and downloaded for longitudinal analysis of road and air temperatures as well as heat balance; and the same analyses conducted in this study should be repeated when one full year of data becomes available to verify trends discussed.

## Acknowledgements

*The University of Waterloo is situated on the Haldimand Tract, land that was promised to the Haudenosaunee of the Six Nations of the Grand River, and is within the territory of the Neutral, Anishinaabe, and Haudenosaunee peoples.*

I wish to thank Prof. Susan Tighe for the opportunity to complete my MASc under her supervision and for her mentorship over the past 5 years, starting in undergrad. I also want to thank Prof. Hassan Baaj for his day-to-day mentorship, dedication as an instructor, and practical guidance. The ongoing support of both Susan and Hassan contributed significantly to my personal development and led to unparalleled growth in my career. I am especially grateful to them for exemplifying the importance of being kind to all no matter status and achievements. I would also like to extend my gratitude to Prof. William Quinton and his Cold Regions Research Centre team, notably John Coughlin, at Wilfrid Laurier University for their guidance and resources.

I would next like to thank Katie Graziano, Taylor Penna, and Allie Kennington for being my family and for their love and support through the myriad of endeavours I have embarked on in the last two years. I would like to acknowledge Camille Barré, Victoria Speller, Bogdan Cristescu, Cindy Lu, Emily Vader, Erinne Vargas, Colin Van Niejenhuis, and Kimia Shaban for their ongoing friendship; as well as colleagues Beverly Seibel, Rob Aurilio, Dahlia Malek, Donghui Lu, Eskedil Melese, Pezhouhan Tavassoti-Kheiry, Dandi Zhao, Dan Pickel, and Luke Zhao.

Finally, in addition to Susan Tighe, I want to acknowledge the following women in STEM for their contribution to my self-efficacy and confidence: Kerry Farrell, Valerie Davidson, Nadine Ibrahim, Monica Emelko, Andrea Atkins, Erica Lee Garcia, Helen Wojcinski, and Mireya Hidalgo.

This project and its associated publications, presentations, and reports were made possible by the Northern Transportation Adaptation Initiative (Transport Canada), Northern Scientific Training Program (Polar Knowledge Canada), Government of the Northwest Territories (Binay Yadav, Steve Kokelj, Kamran Ata, Muhammad Abu Bakar, Rob Thom, and Ziaur Rahman), Cold Regions Research Centre, Transportation Association Canada, and the Deep Foundations Institute.

## Dedication

To Camille Barré — civil engineer, researcher, and lifelong friend

## Table of Contents

<b>Author’s Declaration .....</b>	<b>ii</b>
<b>Acknowledgements.....</b>	<b>vi</b>
<b>Dedication.....</b>	<b>vii</b>
<b>List of Figures.....</b>	<b>xi</b>
<b>List of Tables .....</b>	<b>xiv</b>
<b>Chapter 1 Introduction.....</b>	<b>1</b>
1.1 Rationale .....	1
1.2 Objectives.....	1
1.3 Scope .....	1
1.4 Thesis Organization .....	2
<b>Chapter 2 Background.....</b>	<b>4</b>
2.1 Permafrost Degradation .....	4
2.1.1 Climate Change.....	7
2.1.2 Anthropogenic Effects .....	7
2.2 Study Site: Ingraham Trail .....	8
2.3 Precedents.....	9
2.3.1 Qinghai-Tibet Highway.....	9
2.3.2 Thompson Drive .....	13
2.3.3 Tlicho All-Season Road.....	15
2.4 Chapter 2 Summary .....	17
<b>Chapter 3 Research Methodology .....</b>	<b>18</b>
3.1 Summary of Research Methodology.....	18
3.2 Literature Review .....	19
3.3 TEMPS Simulation.....	19
3.4 Field Study .....	20
3.4.1 Variables and Parameters.....	20



3.4.2 Experimental Design and Field Work .....	22
3.4.3 Other Temperature Data .....	29
3.5 Chapter 3 Summary .....	29
<b>Chapter 4 Review of Permafrost Protection Technologies .....</b>	<b>30</b>
4.1 Literature Review .....	30
4.1.1 Embankment Insulation.....	30
4.1.2 Reflective Surfaces.....	31
4.1.3 Shading.....	32
4.1.4 Ventilation Pipes.....	33
4.1.5 Thermosyphon.....	35
4.1.6 Air Convection Embankment.....	38
4.1.7 Geosynthetics.....	40
4.1.8 Pre-thawing .....	41
4.1.9 Heat-Dissipating Structures and Materials .....	42
4.2 Chapter 4 Summary .....	42
<b>Chapter 5 TEMPS Simulation.....</b>	<b>44</b>
5.1 Selection of Existing Technologies for Simulation .....	44
5.2 Issues and Challenges .....	44
5.3 Alternative Solutions .....	45
5.4 Materials.....	46
5.5 Pavement Design in PAVEXpress.....	47
5.6 Thermal Modelling in TEMPS .....	51
5.7 Simulation Results.....	54
5.8 Chapter 5 Summary .....	57
<b>Chapter 6 Field Study Results and Discussions .....</b>	<b>59</b>
6.1 Sources of Error and Statistical Significance.....	59
6.2 Average Road and Air Temperatures.....	59
6.3 Heat Balance.....	63

6.3.1 By Surface Type .....	63
6.3.2 By Month .....	64
6.3.3 By Time of Day .....	66
6.3.4 Vs. Thermal Gradient.....	66
6.4 Road vs. Air Temperatures.....	69
6.5 Chapter 6 Summary .....	71
<b>Chapter 7 Conclusions and Recommendations.....</b>	<b>73</b>
<b>References.....</b>	<b>77</b>
<b>Appendices.....</b>	<b>A1</b>

## List of Figures

Figure 2.1. Geosystem framework of discontinuous permafrost proposed by Stephani, Fortier, Shur, Fortier, & Doré, (2014). .....	5
Figure 2.2. Schematic comparison of Continuous vs. discontinuous permafrost (Schöngaßner & Hagemann, 2013). .....	6
Figure 2.3. Natural permafrost regime (left) and degraded permafrost regime (right) (Fontaine, 2016). .....	8
Figure 2.4. Alignment of Ingraham Trail (Hwy 4) relative to Yellowknife. ....	9
Figure 2.5. Permafrost map of Canada (Government of the Northwest Territories, 2014). .....	10
Figure 2.6. Differential settlement observed along the Ingraham Trail. ....	11
Figure 2.7. Permafrost map of the Qinghai-Tibet Plateau with the approximate alignment of both the QTH and QTR in yellow (adapted from meltdownintibet.com). ....	12
Figure 2.8. Permafrost map of Alaska (adapted from Alaska Geological & Geophysical Surveys). .....	14
Figure 2.9. Permafrost map of the Taiga Plains in the Northwest Territories (Liu, Hubert, Tharmabala, & Humphrey, 2018). .....	15
Figure 2.10. TASR surface design for the mitigation of permafrost-related thaw settlement proposed by Liu <i>et al.</i> (2019). .....	16
Figure 3.1. Flowchart summarizing overarching methodology employed. ....	18
Figure 3.2. Factors affecting road surface temperature (Doré & Zubeck, 2009). ....	20
Figure 3.3. Thermistor string assembly. ....	23
Figure 3.4. Drilling (top left, top right, and bottom left) during field installation and insertion of thermistor assembly (bottom right). ....	25
Figure 3.5. Locations of thermistor strings along Highway 4 (Ingraham Trail), Yellowknife, Northwest Territories. ....	26
Figure 3.6. Locations of thermistor strings 1, 2, 3, and 4 (area A). ....	27
Figure 3.7. Locations of thermistor strings 5 and 6 (area B). ....	27
Figure 3.8. Locations of thermistor strings 7, 8, and 9 (area C). ....	28

Figure 3.9. Locations of thermistor string 10 (area D). .....	28
Figure 4.1. Mechanism of an embankment insulation layer (Doré & Zubeck, 2009). .....	30
Figure 4.2. Polystyrene sheets being layered on the road subgrade during construction (M-Lepage <i>et al.</i> , 2012). .....	31
Figure 4.3. Asphalt samples with coating materials at 0.9 km/m <sup>2</sup> (Chen <i>et al.</i> , 2019). .....	32
Figure 4.4. Mechanism of sunshed and snowshed (Doré & Zubeck, 2009). .....	32
Figure 4.5. Shading panels installed along the Qinghai-Tibet Highway in China (Doré & Zubeck, 2009). .....	33
Figure 4.6. Two types of air ducts (Doré & Zubeck, 2009). .....	33
Figure 4.7. Mechanism of heat drain (Doré & Zubeck, 2009). .....	34
Figure 4.8. Schematic an ACE with heat drains (Jørgensen <i>et al.</i> , 2008). .....	35
Figure 4.9. Mechanism of a common unit of thermosyphon (Doré & Zubeck, 2009). .....	36
Figure 4.10. Schematic of a typical hairpin thermosyphon unit. ....	36
Figure 4.11. Hairpin thermosyphon condensers installed during Thompson Drive Construction (Xu & Goering, 2008). .....	37
Figure 4.12. Mechanism of an air convection embankment (Doré & Zubeck, 2009). .....	38
Figure 4.13. Schematic of integrated heat-dissipating system (Du <i>et al.</i> , 2016). .....	39
Figure 4.14. Air convection embankment installed along Thompson Drive in Fairbanks, Alaska (Xu & Goering, 2008). .....	39
Figure 4.15. ACE installation along the QTH (Luo, Niu, Liu, Lin, & Yin, 2018). .....	40
Figure 4.16. Geotextile being installed on side slope in Nunavik, Québec (Jørgensen & Doré, 2009). .....	41
Figure 4.17. Geotextile being installed in the subgrade of QTH (Li, Zhi, Fang, & Zhang, 2013). ..	41
Figure 4.18. Schematic of unilateral heat transfer pavement (Zhu <i>et al.</i> , 2012). .....	42
Figure 5.1. Case study inputs. ....	46
Figure 5.2. LWCA (left) and FGA (right) aggregates. ....	48
Figure 5.3. PAVExpress Step 1/6 - Scenario Information. ....	49
Figure 5.4. PAVExpress Step 2/6 - Design Parameters. ....	49

Figure 5.5. PAVExpress Step 3/6 - Traffic & Loading. ....	49
Figure 5.6. PAVExpress Step 4/6 - Pavement Structure.....	50
Figure 5.7. PAVExpress Step 5/6 - Pavement Sub-Structure (Note: “Other” represents sand).....	50
Figure 5.8. PAVExpress Step 6/6 - Baseline pavement design, its SN of 6.42 and the required minimum design SN of 3.00 (Note: “Other” represents sand). ....	51
Figure 5.9. TEMPS Input Step 1/5 - Materials. ....	52
Figure 5.10. TEMPS Input Step 2/5 - Climatic Data.....	53
Figure 5.11. TEMPS Input Step 3/5 - Surface Characteristics. ....	53
Figure 5.12. TEMPS Input Step 4/5 - Pavement Structure.....	54
Figure 5.13. TEMPS Input Step 5/5 - Mesh Generator. ....	54
Figure 5.14. Schematic of design thickness for the three insulation materials used (adapted from Øiseth <i>et al.</i> , 2006).....	55
Figure 5.15. Degrees Celsius cooler of designs with lithium, sodium, and potassium thermosyphon fluids compared to control. ....	56
Figure 5.16. Degrees Celsius cooler of designs with LWCA, FGA, and XPS compared to control. ....	57
Figure 6.1. Average monthly temperature at 0.3 m below ground (* = months with incomplete data).....	60
Figure 6.2. Average monthly air and road surface temperatures of Chan Lake Road.....	62
Figure 6.3. Temperature of air, three surface types, and control by month.....	62
Figure 6.4. Heat balance, induction, and extraction by surface material type.....	63
Figure 6.5. Heat balance by month (* = months with incomplete data). ....	65
Figure 6.6. Average extracted heat by time of day.....	67
Figure 6.7. Average induced heat by time of day. ....	68
Figure 6.8. Heat balance vs. thermal gradient with trendlines, from -2°C/m to 2°C/m.....	68
Figure 6.9. Heat balance vs. thermal gradient with trendlines from -1.5°C/m to 02°C/m.....	69
Figure 6.10. Average monthly surface vs air temperatures, Ingraham Trail. ....	70
Figure 6.11. Average monthly surface vs air temperatures, Chan Lake Road. ....	70

## List of Tables

Table 1.1. Thesis rationale, objectives (solution and approach), and scope. ....	2
Table 2.1. Permafrost classification according to the Taiga Plains Research Network.....	6
Table 2.2. Summary of permafrost sensitivity findings along QTH.....	13
Table 3.1. Dimensions of thermistor string components. ....	22
Table 3.2. Locations of thermistor strings. ....	24
Table 4.1. Summary of relative cost and feasibility of permafrost protection techniques (adapted from Doré & Zubeck, 2009).....	43
Table 5.1. Specific heat capacity, conductivity, and density of materials of interest. ....	47
Table 6.1. Minimum and maximum temperatures recorded along the Ingraham Trail.....	61
Table 6.2. Regression equations describing the relationship between thermal balance and heat gradient.....	69
Table 6.3. Regression equations for surface vs. air temperatures.....	71

# Chapter 1 Introduction

## 1.1 Rationale

The thawing and degradation of naturally frozen elements are among the inevitable effects of climate change and infrastructure implementation. Permafrost, or permanently frozen soil, can initially present as a stable subgrade but is subject to disturbance by increasing global temperatures and constructions that alter ground thermal regime. The effects of climate change and those of construction on permafrost have each been extensively studied, but rarely are the two causes examined in combination. Moreover, relative to the modern progress on thermal insulation, few permafrost protection techniques have been proposed. Of the ones proposed, even fewer have been sufficiently verified (either in field or through modelling) or compared. In light of these gaps, it is of interest to better understand the combined effects of climate change and construction and to compare the feasibility and performance of the main proposed techniques for permafrost protection, and to conduct a performance simulation.

## 1.2 Objectives

Considering the rationale above, the objectives of this study are to provide a feasibility and performance summary on existing permafrost protection techniques following a literature review; simulate and compare the performance of select permafrost protection techniques; and discuss the combined effects of climate change and construction through examining the thermal regime of an existing Northern road. These objectives are summarized in Table 1.1.

## 1.3 Scope

The scope of the literature review for permafrost protection techniques was limited to the 9 techniques deemed to be most prominent (i.e. discussed in the greatest number of literatures). The scope of the TEMPS simulation was limited to a total of six materials belonging to two of the discussed techniques. The field study, due to time constraints, will consist of six analyses using data from nine sites along the Ingraham Trail collected over only eight months. Existing data from another site was presented to corroborate conclusions drawn from the small dataset.

**Table 1.1. Thesis rationale, objectives (solution and approach), and scope.**

<b>Known gap</b>	<b>Solution</b>	<b>Approach</b>	<b>Scope</b>
Feasibility of existing permafrost protection techniques	Summarize known techniques for qualitative comparison	Literature review	9 protection techniques (qualitative comparison only)
Performance of existing permafrost protection techniques	Simulate select known techniques for quantitative comparison	Modelling in TEMPS	2 protection techniques; 3 materials examined for each technique
Combined effects of climate change and construction	Examine in situ thermal regime of a surface influenced by both factors	Field study along the Ingraham Trail in Yellowknife, NWT	Results from 9 sites over 8 months subjected to 6 analyses

## 1.4 Thesis Organization

The thesis follows a relatively conventional structure and contains 8 chapters. The chapters are summarized in this section.

Chapter 1 (this Chapter) consists of an introduction divided into rationale, objectives, scope and an outline of the thesis. An outline of the three main components of this thesis is provided in this section, which is particularly important for the understanding of the connection between Chapters 4 through 6.

Chapter 2 provides background information on permafrost degradation, the field study site of Ingraham Trail, as well as an overview of three notable cold region roads. Climatic and anthropogenic effects, the two factors motivating the field study, are briefly discussed. The three notable cold region roads presented are the Qinghai-Tibet Highway in China, Thompson Drive in Alaska, and the Tlicho All-Season Road in the Northwest Territories.



Chapter 3 presents the methodology for each of the three study components of this thesis. The literature review was conventional in nature and the methodology employed was only briefly discussed. The THERM simulation methodology is also only briefly discussed here as it is woven into the various sections in Chapter 5.

Chapter 4 contains a summary of existing literature on permafrost protection techniques and a comparison of their feasibility. The techniques presented are embankment insulation, reflective surfaces, shading, ventilation pipes, thermosyphons, air convection, geosynthetics, pre-thawing, and heat-dissipating structures and materials.

Chapter 5 presents the TEMPS simulation conducted. It begins by discussing the selection process of two permafrost protection techniques for simulation, followed by highlighting the known issues and challenges they face. Alternative solutions were then presented, including the specific innovative materials. It then discusses the pavement design and modelling procedure, results, and associated conclusions.

Chapter 6 is the most analysis-heavy part of the thesis. It presents the findings of the field study along Ingraham Trail, including the two main sources of error. Field data collected along Ingraham trail were subjected to six analyses: average surface and air temperatures, heat balance by surface type, heat balance by month, heat balance by time of day, heat balance vs. thermal gradient, and surface temperature vs. air temperature.

Chapter 7 summarizes key findings from the three main components of the thesis and presents resulting conclusions. It also provides a list of recommendations for both practical applications and future research.

Chapter 8 contains the comprehensive list of references for this thesis. The citations and bibliography in this document follow APA 6<sup>th</sup> Edition guidelines.

## Chapter 2 Background

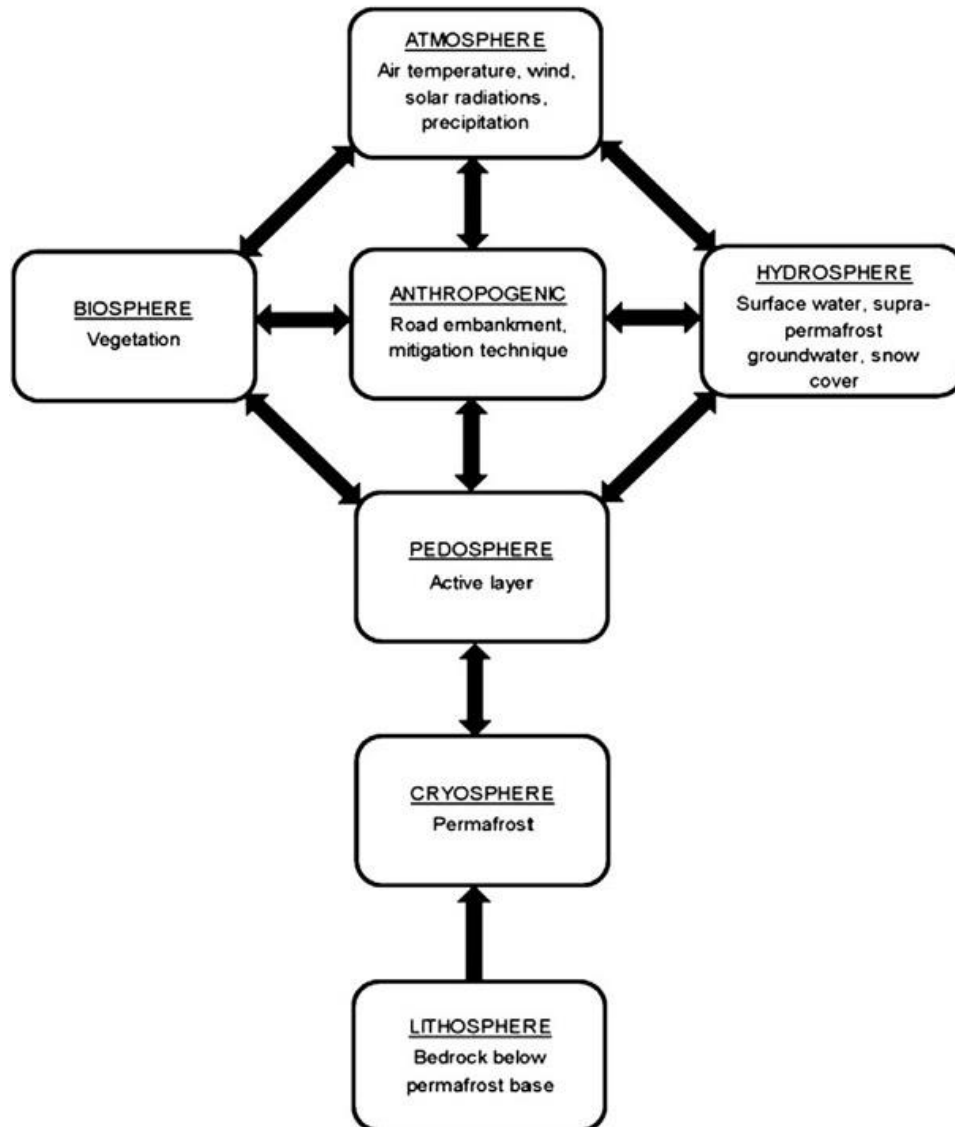
In this Chapter, an overview of permafrost and causes of its accelerated degradation, including climate change and anthropogenic effects, are presented. The field study site—the Ingraham Trail—is introduced. The Qinghai Tibet Highway, Thompson Drive, and the Tlicho All-Season Road are presented as cold region road precedents.

### 2.1 Permafrost Degradation

Permafrost is defined as rock, soil, moisture, and organic material that remain at temperatures below 0°C for two or more consecutive years. When considered from a geosystem approach, permafrost is a cryosphere component that interacts with other components of the system as seen in Figure 2.1 (Stephani, Fortier, Shur, Fortier, & Doré, 2014). Permafrost is present in nearly 24% of exposed land in the Northern Hemisphere, 17% of which is considered discontinuous (Zhang, Barry, Knowles, Heginbottom, & Brown, 2008).

The mechanical and physical properties of permafrost vary greatly with the temperature of its surrounding and are therefore highly sensitive to climate change and anthropogenic effects. Discontinuous, or high-temperature permafrost, is especially sensitive to these factors. For example, between -4°C and -1°C, the bearing capacity of permafrost can reduce by up to 30% (Nelson, Anisimov, & Shiklomanov, 2002).

Extensive evidence of permafrost-related infrastructure failure can be seen in Alaska and Northern Canada (M-Lepage, Doré, Fortier, & Murchison, 2012), leading to increase maintenance costs and low reliability. Cole, Colonell, & Esch (1999) estimated US\$12 million will be required to repair permafrost-related damages in the Alaska road network. The cost to maintain roads known to be underlain with permafrost in the Yukon will be \$22,000 per year per kilometre (Reimchen, Doré, Fortier, Stanley, & Walsh, 2009). Mueller (2007) estimated that additional maintenance costs related to permafrost degradation in the Northwest Territories will exceed \$3 million per year by 2055.



**Figure 2.1. Geosystem framework of discontinuous permafrost proposed by Stephani, Fortier, Shur, Fortier, & Doré, (2014).**

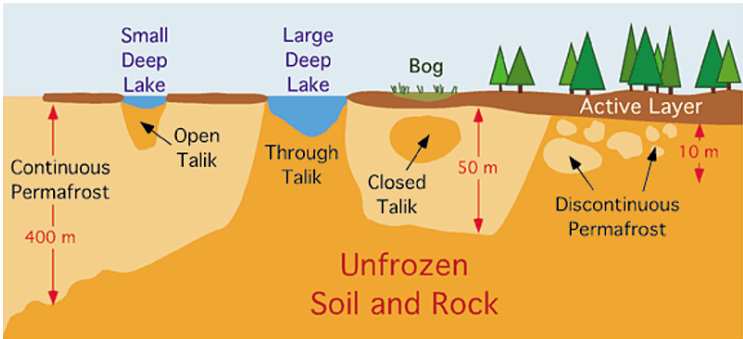
Despite the number of roads, bridges, railways, and runways that exist in cold regions, no standard design procedure or guidelines can currently be found for permafrost conditions. A method to mitigate permafrost thaw based on mean annual ground temperature (MAGT) was proposed by Goering (2001) for the design of air convection embankment (ACE). However,

permafrost degradation can still occur when a positive heat gradient exists between MAGT and the permafrost. Kong, Doré, & Calmels (2019) proposed a new approach based on heat flux between the MAGT at the embankment-subgrade interface and permafrost to analyze the heat balance at the interface. This approach is adapted for the surface-air interface in this thesis.

Permafrost can be classified in various ways, one of which is as continuous, extensive discontinuous, discontinuous, and sporadic according to the Taiga Plains Research Network. This classification is described in Table 2.1 and a schematic comparison of continuous and discontinuous permafrost can be seen in Figure 2.2. The main engineering implication of this is that continuous permafrost tends to be more stable and predictable as they are present in colder regions, while the other types of permafrost degrade more easily as a result of climate change and anthropogenic effects.

**Table 2.1. Permafrost classification according to the Taiga Plains Research Network.**

Permafrost classification	% of permafrost in given area
Continuous	> 90%
Extensive discontinuous	50% - 89%
Discontinuous	10% - 49%
Sporadic	< 10%



**Figure 2.2. Schematic comparison of Continuous vs. discontinuous permafrost (Schöngäßner & Hagemann, 2013).**

### 2.1.1 Climate Change

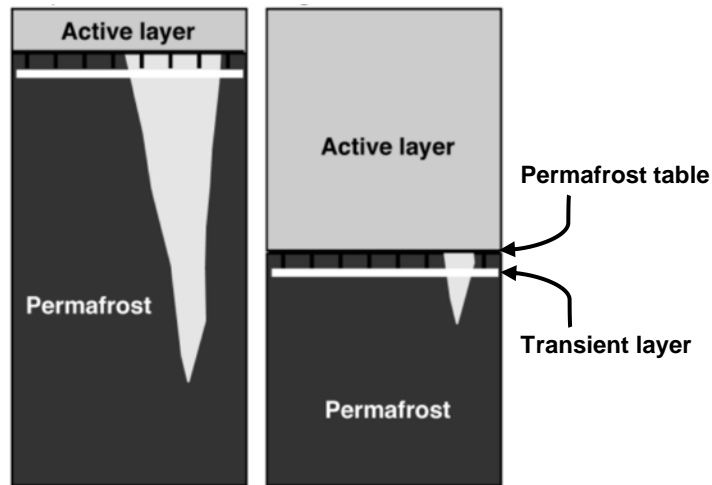
The effects of climate change are significant and widespread, notably in regions of high latitude and/or altitude. Sea level is rising due to melting glaciers, permafrost is thawing faster than ever, ice forms later in the fall and melts earlier in the spring, and extreme weather events are occurring more frequently (Jones & Wigley, 1990).

The global mean surface temperature between years 2081 and 2100 is projected to be up to 4.8°C higher than that between years 1986 and 2005 (Pachauri *et al.*, 2014). Kaplan & New projected in 2006 that temperature of the arctic and surrounding will increase by 1.5 to 2 times faster than the global temperature. Canada's National Communication to the United Nations Convention on Climate Change in 2010 states that the impacts of climate change are most severe in the Arctic region, with an increase of 8°C in average winter temperature by 2050.

From an infrastructure perspective, the increase in permafrost active layer thickness and associated ground settlement pose severe challenges. Winter/ice roads are operational for shorter seasons, and all-season roads are becoming more unreliable and difficult to construct (M-Lepage *et al.*, 2012).

### 2.1.2 Anthropogenic Effects

The construction of infrastructure inevitably modifies the thermal regime of its surrounding environment. In permafrost regions, this modification results in additional heat absorption and reduced heat dissipation, leading to permafrost thaw (Wu, Dong, Liu, & Jin, 2007). Permafrost thaw is defined as the increase in thickness of the active layer, or the layer that experiences seasonal freeze-thaw, as seen in Figure 2.3. The artificial permafrost table, defined as the maximum depth that the 0°C isotherm penetrates seasonally following engineering activities, descends deeper into the ground as thawing occurs. This in turn causes irregular freeze-thaw settlement in the soil, and premature failure of the structure in question (Wu, Shi, & Liu, 2003).



**Figure 2.3. Natural permafrost regime (left) and degraded permafrost regime (right) (Fontaine, 2016).**

## 2.2 Study Site: Ingraham Trail

Northwest Territories Highway 4, more commonly known as the Ingraham Trail, is a 70-kilometre (km) all-season road that runs eastward from Yellowknife (Highway 3) to Tibbitt Lake (Figure 2.4). Beyond Tibbitt Lake, the Ingraham Trail transitions into a privately constructed and operated winter road servicing mines.

The Ingraham Trail is designated as a northern/remote route in the Canadian National Highway System and is owned and operated by the Government of the Northwest Territories. The first 50 km of the highway consist of asphalt pavement and chipseal surfaces, and the remaining 20 km have a gravel surface treated for dust control.

The Ingraham Trail was selected for investigation due to possessing all three surface types, and because it is among the most important roads in the NWT highway network. It serves as both an industrial and recreational route with an AADT of 1360 in 2017 (Government of the Northwest Territories, 2017). Ingraham Trail connects Yellowknife to numerous communities, mines, territorial parks, and is known as the prime aurora borealis viewing location.

Like most of the Northwest Territories, the Ingraham Trail is underlain with extensive discontinuous permafrost (Figure 2.5). Due to climate change and the presence of the road itself, severe degradation can be observed. Differential settlement (Figure 2.6), shoulder rotation, and longitudinal cracks are among the most common surface failure types based on visual inspections conducted in May and October 2019.



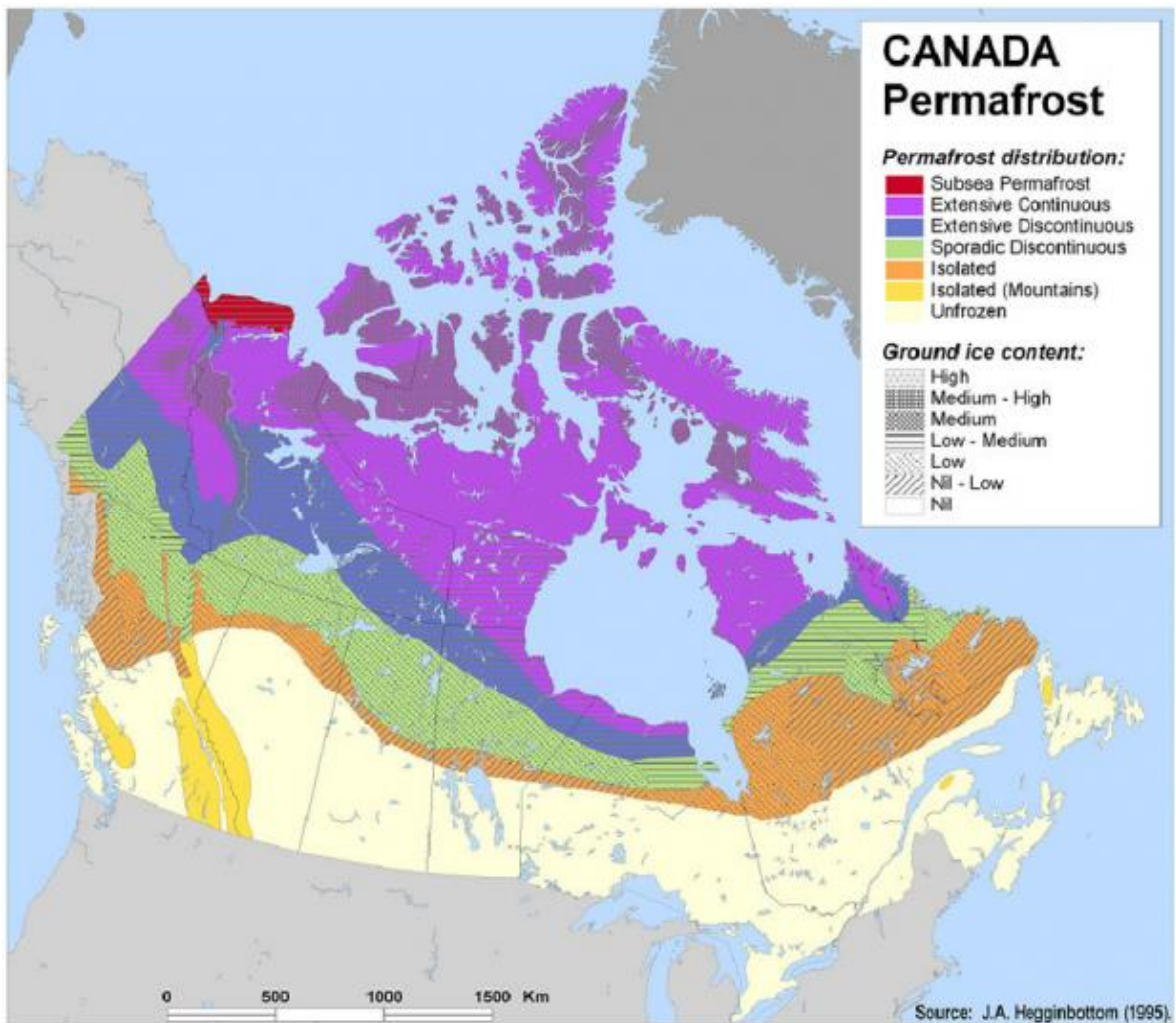
**Figure 2.4. Alignment of Ingraham Trail (Hwy 4) relative to Yellowknife.**

## 2.3 Precedents

### 2.3.1 Qinghai-Tibet Highway

Listed as a keyword in over 700 English peer-reviewed publications between 1996 and 2020, the 1,937-km Qinghai-Tibet Highway (QTH) is among the most studied permafrost engineering

sites in the world. The QTH connects Xining, Qinghai to Lhasa, Tibet, and has an average elevation of 4,000 metres above sea level (mASL). Due to its altitude and latitude, nearly its entire length is underlain with continuous and discontinuous/island permafrost (Tong & Wu, 1996), as seen in Figure 2.7. Despite rigorous maintenance, 70% of the QTH underwent major reconstruction within the first 30 years of operation due to thaw-related failures.



**Figure 2.5. Permafrost map of Canada (Government of the Northwest Territories, 2014).**

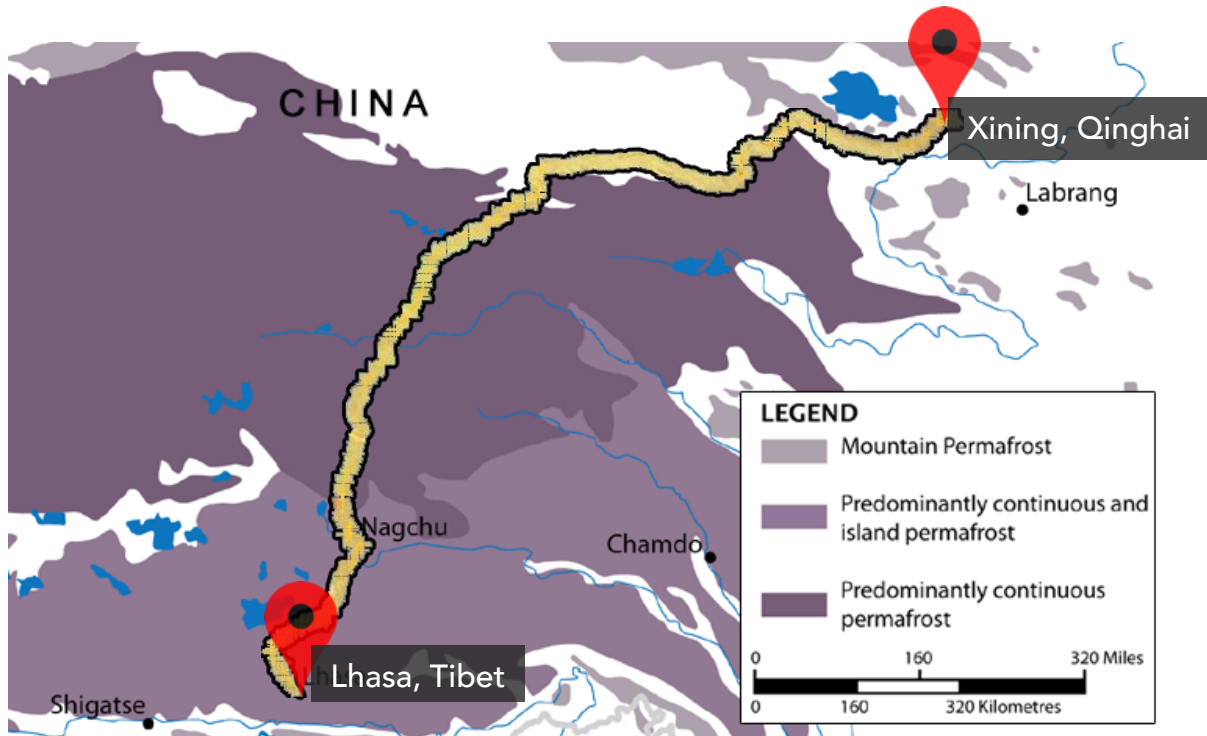


In 2007, Wu *et al.* found that low-temperature permafrost ( $T < -1.5^{\circ}\text{C}$ ) beneath the QTH is more sensitive to climate change than it is to engineering activities, whereas the opposite is the case for high-temperature permafrost ( $T \geq -1.5^{\circ}\text{C}$ ). This can be explained by the more immediate and direct impact that construction has on high-temperature permafrost, which is generally closer to the surface. The study found that at a depth of 6 m, it would take about 20 years for low-temperature permafrost to be impacted by engineering activities but would only take between 5 and 8 years for high-temperature permafrost to be affected.

According to Wu, Zhang, and Liu (2010), permafrost at 10 m below the centreline of the QTH increased in temperature by an average of  $0.39^{\circ}\text{C}$  over the 11-year study period. The depth of the artificial permafrost table descended by an average of 1.67 m. A positive correlation between permafrost thaw rate and thaw settlement was observed in this study. It was also noted that heat absorbed and accumulated by the asphalt caused more settlement than was predicted using long-term thermal models, indicating that there is an imminent need for climate change adaptation strategies.



**Figure 2.6. Differential settlement observed along the Ingraham Trail.**



**Figure 2.7. Permafrost map of the Qinghai-Tibet Plateau with the approximate alignment of both the QTH and QTR in yellow (adapted from meltdownintibet.com).**

In 2013, following a 15-year field study of five typical sections by Yu, Qi, Yao, & Liu, it was found that permafrost degradation along the QTH followed a four-stage process dependant on mean annual ground temperature (MAGT): initial degradation stage at  $MAGT \leq -2.5^{\circ}\text{C}$ ; the intensive degradation stage at  $-2.5^{\circ}\text{C} < MAGT \leq -0.5^{\circ}\text{C}$ ; the vertical talik stage at  $-0.5^{\circ}\text{C} < MAGT \leq 0^{\circ}\text{C}$ ; and the quasi-disappearance stage at  $MAGT > 0^{\circ}\text{C}$ . This clearly points to the impact that rising temperature has on permafrost.

Peng, Ma, Mu, Jin, & Yuan found in 2014 after a similar 16-year field study found that both natural and artificial permafrost tables declined consistently. They found that the active layer thickness of low-temperature permafrost beneath natural ground increased by 0.44 m, and that of high-temperature permafrost increased by 0.68 m. Beneath the asphalt pavement of QTH, it was found that the active layer thickness of low-temperature permafrost increased by 1.38 m, and that of high-temperature permafrost increased by 1.32 m. These results corroborate the

conclusion drawn by Wu *et al.* in 2007. In 2015, Peng, Ma, Mu, & Jin noted by monitoring the same sites that permafrost-related deformations can be divided into two types: longitudinal and lateral. Longitudinal deformations affect driving comfort and visibility, if severe, while lateral deformations cause longitudinal cracks in the pavement.

In 2018, Shen, Zuo, Liu, Tian, & Wang found using ground penetrating radar (GPR) that deeper and colder permafrost along the QTH was more sensitive to air and ground temperature while shallow permafrost was more sensitive to engineering disturbance. This is in line with previous findings discussed in this section, summarized in Table 2.2.

**Table 2.2. Summary of permafrost sensitivity findings along QTH.**

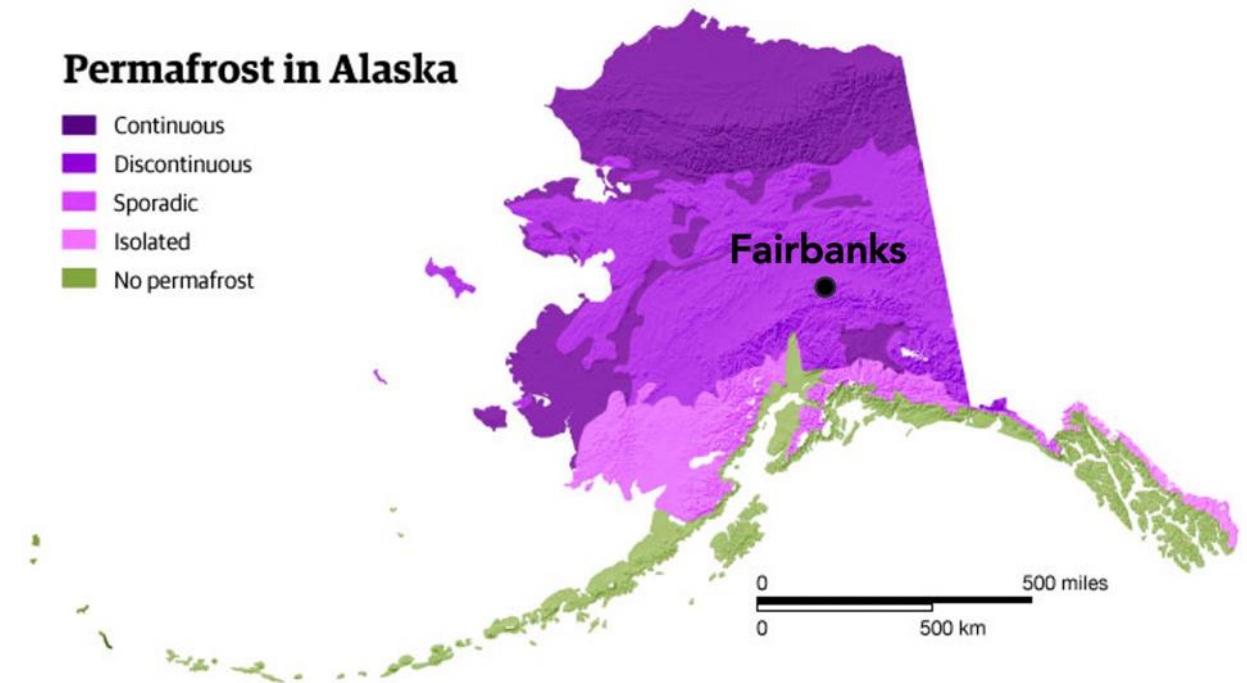
	High-temperature permafrost	Low-temperature permafrost
Characteristics	Continuous, average layer temperature of $T \geq -1.5^{\circ}\text{C}$ ; in regions where $\text{MAGT} > 1.0^{\circ}\text{C}$	Discontinuous, sporadic, or isolated; average layer temperature of $T < -1.5^{\circ}\text{C}$ ; in regions where $\text{MAGT} \leq 1.0^{\circ}\text{C}$
Climate change (air and ground temperature)	Low sensitivity	High sensitivity
Engineering disturbance (roadway and railway construction)	High sensitivity	Low sensitivity

Various techniques and technologies have been implemented along the QTH since its construction and will be discussed in Chapter 4 .

### 2.3.2 Thompson Drive

Thompson Drive is located on the University of Alaska Fairbanks (UAF) campus and is roughly 500 m in length. Fairbanks is entirely underlain with discontinuous permafrost, as seen in Figure 2.8. Prior to construction, it was determined that 20% of the project area had been

cleared of vegetation for numerous years and allowed to thaw to a depth at which no further settlement was anticipated. However, the remaining 80% was deemed at high risk of thaw settlement and premature failure of pavement, sidewalk, curbs, and gutters. The potential cost of repair justified the selection of Thompson Drive as a test site for passive cooling devices (Goering, 2001).



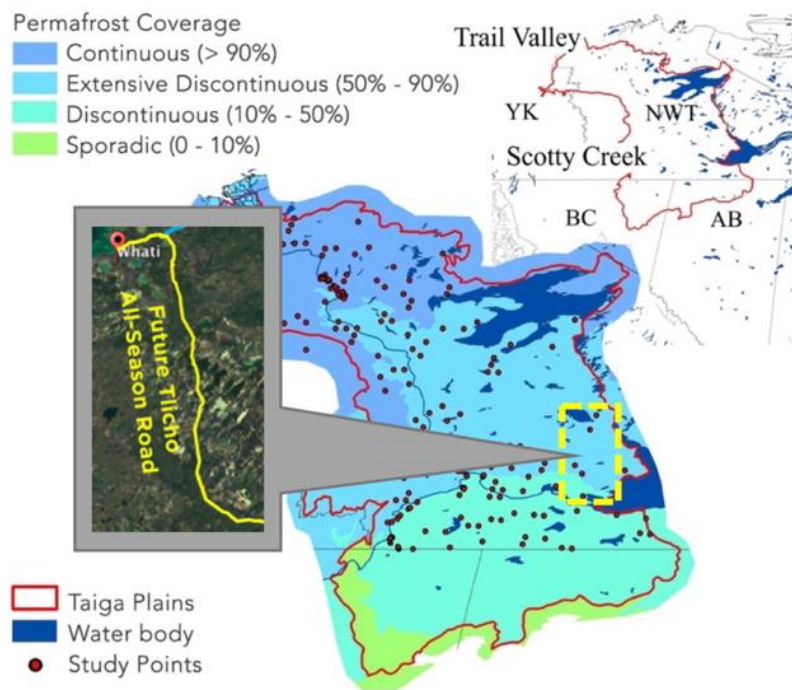
**Figure 2.8. Permafrost map of Alaska (adapted from Alaska Geological & Geophysical Surveys).**

Though the planned alignment was short, the elevation difference between the planned intersection with Geist Road at the south end and the rail crossing on the north end required varying embankment heights. Due to this, three types of passive cooling systems were proposed: insulated roadway with air convection side slopes, air convection core with air convection side slopes, and air convection side slopes with embedded thermosyphons. These will be discussed in greater detail in Chapter 4 (Goering, 2001).

### 2.3.3 Tlicho All-Season Road

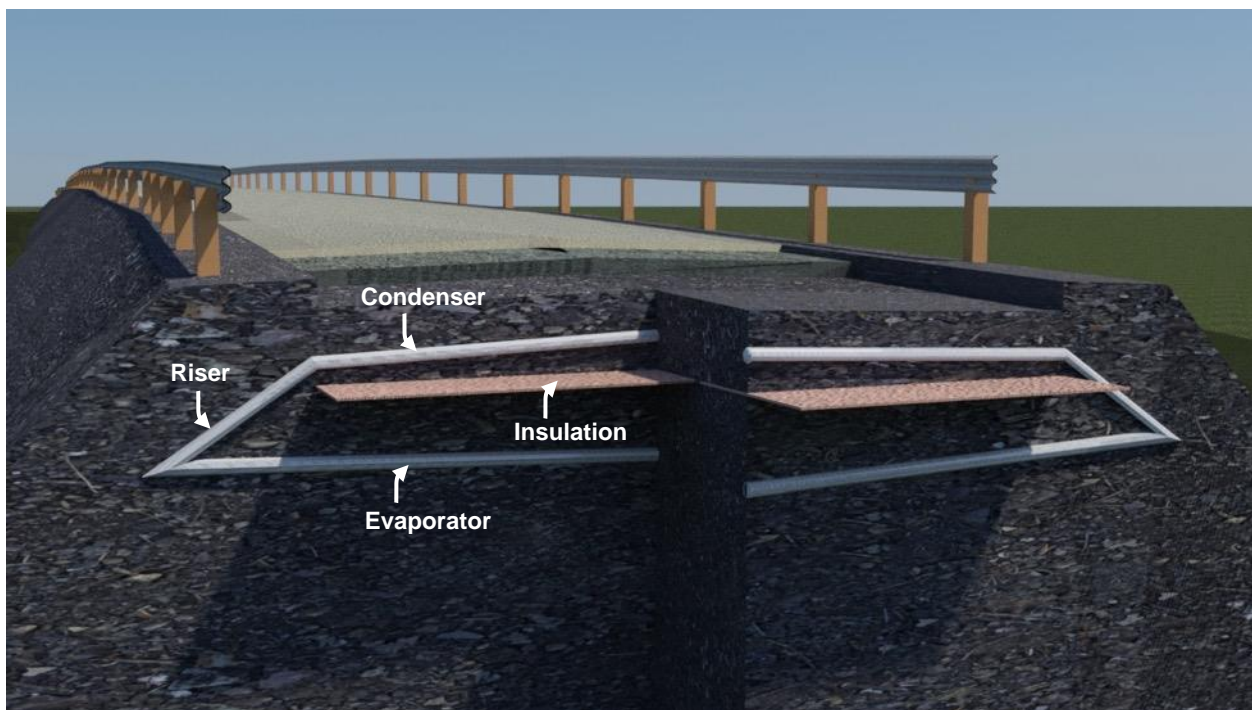
The Tlicho All-Season Road (TASR) was officially proposed by the Government of the Northwest Territories (GNWT) in 2016 to provide year-round transportation between Yellowknife and Wek'èezhìi. This road will increase the days of service for winter roads further north as well as improve access to the community of Whati (Government of the Northwest Territories, 2016).

A closer look at the permafrost coverage of the Taiga Plains in the Northwest Territories is presented in Figure 2.9 along with the approximate location of TASR. It can be seen that the alignment of TASR is located on soil of which 50% to 90% contains permafrost. Geotechnical investigation by Tetra Tech Canada Inc. (2017) confirms that numerous locations along the proposed alignment were underlain with high-temperature permafrost.



**Figure 2.9. Permafrost map of the Taiga Plains in the Northwest Territories (Liu, Hubert, Tharmabala, & Humphrey, 2018).**

In 2019, Liu, Hubert, & Tighe proposed a gravel surface for the TASR to mitigate permafrost-related failures. Using the Gravel Road Thickness Design Methods, the surface thickness of 230 mm was computed. However, since the geotechnical report indicated that quality gravel is scarce in most areas along the alignment, it was deemed worthwhile to convert part of the surface layer thickness to equivalent sub-base thickness. Replacing part of the surface layer gravel with inferior material is expected to reduce hauling cost since inferior material is more abundant along the alignment. The resulting thickness of surface gravel course (or base course) is 130 mm, and sub-base thickness is 230 mm, as seen in Figure 2.10. This surface design was deemed sufficient to support a cumulative ESAL of 17,381 over the 20-year service life on permafrost soil with the thermosyphon configuration adopted by Thompson Drive (Liu *et al.*, 2019; Liu, Hubert, Tharmabala, & Humphrey, 2018). The thermosyphon will be further discussed in Chapter 4 .



**Figure 2.10. TASR surface design for the mitigation of permafrost-related thaw settlement proposed by Liu *et al.* (2019).**

## 2.4 Chapter 2 Summary

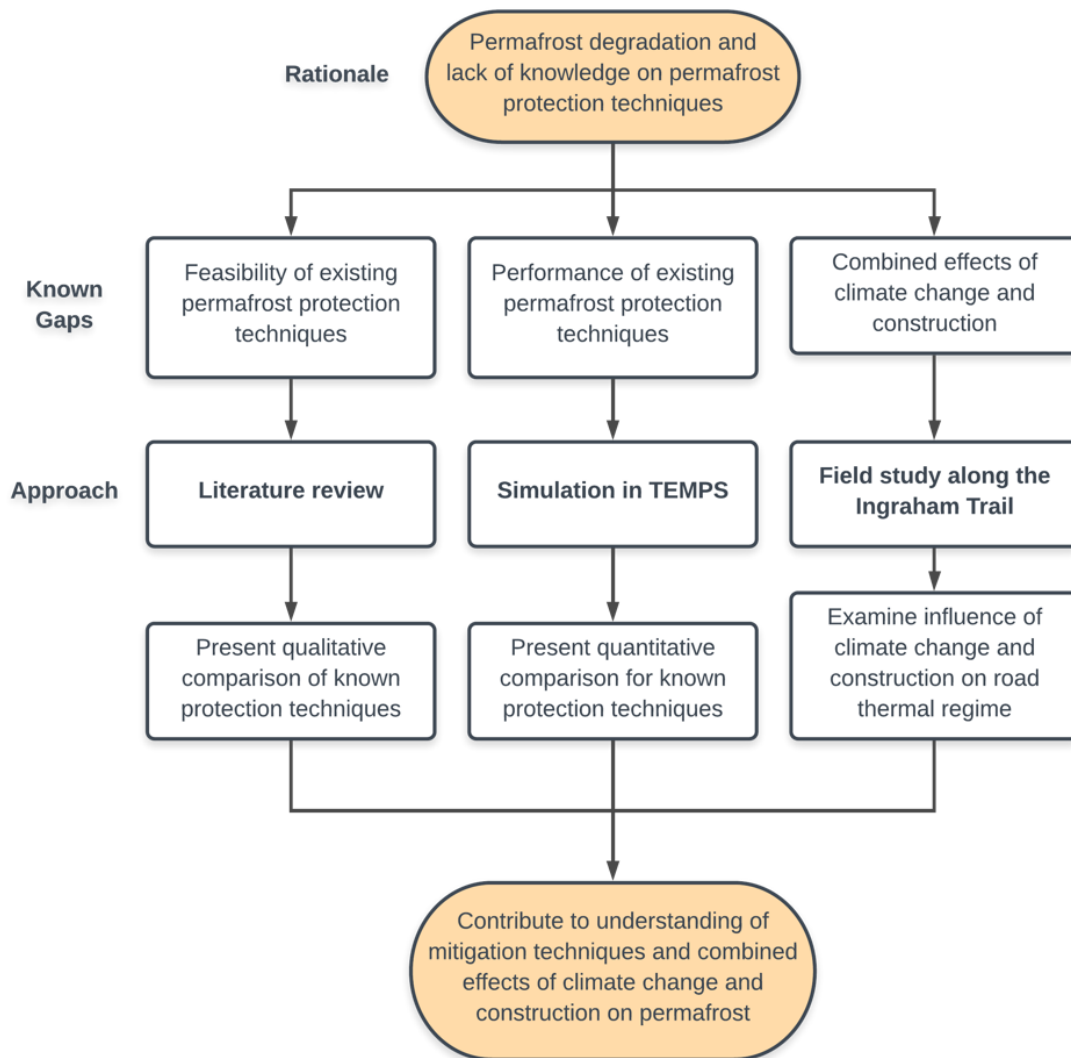
This chapter presented evidence that climate change and anthropogenic effects both contribute to permafrost degradation. Temperature in the Arctic region is increasing faster than the global mean temperature, which leads to permafrost thaw, and the construction of manmade structures further alters ground thermal regime. The classification of permafrost was also outlined along with the engineering implications of constructing on each permafrost type, with discontinuous permafrost being the most challenging and unpredictable. Information about the Ingraham Trail (where field study was conducted) was presented, including its location, alignment, and that it is underlain with discontinuous permafrost. Three other roads that share similar challenges as ones faced by Ingraham Trail were discussed as precedents: the Qinghai-Tibet Highway in China, Thompson Drive in Alaska, and the Tlicheo All-Season Road in the Northwest Territories. The main challenge faced by all four roads is related to irregular thaw-settlements caused by the degradation of discontinuous permafrost.

## Chapter 3 Research Methodology

In this Chapter, the steps followed to achieve the objectives of this thesis project are presented.

### 3.1 Summary of Research Methodology

Figure 3.1 presents summary of the research methodology used in this thesis project.



**Figure 3.1. Flowchart summarizing overarching methodology employed.**



### 3.2 Literature Review

A systemic review of techniques for the protection of permafrost, guided by Doré & Zubeck, (2009), will be conducted. The feasibility of various techniques is summarized at the end of the review. Keywords used in the retrieval of literature are permafrost protection, embankment cooling, and permafrost engineering. A total of 62 pieces of existing literature matching those keywords were examined. *Cold Regions Science and Technology*, *Applied Thermal Engineering*, and *Proceedings of the International Conference on Cold Regions Engineering* were among the most referenced journals.

### 3.3 TEMPS Simulation

To perform the simulation, a baseline pavement design was adapted from previous literature and verified using PAVEXpress against traffic loading. The structure was then transferred to TEMPS with each thermosyphon fluid of interest inserted into the pavement 80 millimetres (mm) below the driving surface and each insulative material just above the subgrade. Temperatures at specified depths with permafrost protection techniques were calculated by TEMPS and compared to control. A chi-squared test will be performed to verify that the difference in results is statistically significant.

PAVEXpress is developed by Pavia Systems Inc. and is based on formulae from the American Association of State Highway and Transportation Officials (AASHTO) Guide for Design of Pavement Structures 1993 for flexible and rigid pavements. Design recommendations generated by PAVEXpress have been verified by various organizations, including Palmer Engineering and the Kansas Department of Transportation.

TEMPS is a program that predicts hourly temperatures at any depth in a pavement structure through the Finite Control Volume Method (FCVM). It is location-specific in the sense that it uses meteorological data such as solar radiation and accounts for monthly variation in pavement surface radiation properties (albedo, emissivity, and absorption coefficients). TEMPS was created at the University of Nevada Reno and internally verified against controlled test

sites. TEMPS requires five types of input, categorized as materials, climatic data, surface characteristics, pavement structure, and mesh generator.

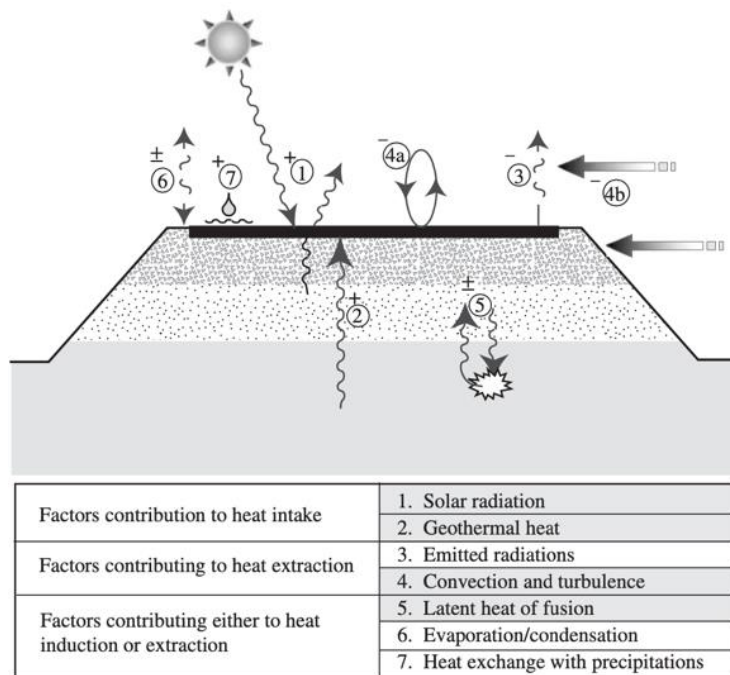
### 3.4 Field Study

#### 3.4.1 Variables and Parameters

The temperature at the surface of a road varies significantly between seasons, which can in turn impact the embankment-subgrade interface and the permafrost beneath. The thermal regime of a road surface is governed by the energy, or heat, available within its environment. Numerous factors influence this thermal regime, some removing heat, some adding heat, and some capable of both.

The balance of the factors shown in Figure 3.2 determines the temperature of the road surface, as described by the following equation ((3.1):

$$Q_{sr} + Q_g - Q_{er} - Q_{ac} \pm Q_e \pm L \pm Q_p = 0 \quad (3.1)$$



**Figure 3.2. Factors affecting road surface temperature (Doré & Zubeck, 2009).**

As seen in the equation, solar radiation,  $Q_{SR}$ , and geothermal heat,  $Q_g$ , increase the temperature of the road surface, while emitted radiation,  $Q_{er}$ , air convection/turbulence,  $Q_{ac}$ , reduce its temperature. Evaporation/condensation,  $Q_e$ , latent heat of fusion,  $L$ , and precipitations,  $Q_p$ , can either increase or decrease surface temperature (Doré & Zubeck, 2009).

Dysli (1997) and Johnson (1988) determined that  $Q_g$ ,  $Q_e$ ,  $L$ ,  $Q_p$  cause short-term thermal variations at the surface but have little contribution to the long-term, year-to-year thermal balance. As such, (3.2) can be adopted:

$$Q_{sr} - Q_{er} - Q_{ac} = 0 \quad (3.2)$$

From (3.2), two indices were proposed by M-Lepage, Doré, Fortier, & Murchison (2012) and used in this study: the extraction index ((3.3) and the induction index ((3.4). Although these indices do not distinguish between heat sources, they are practical for the quantitative comparison of heat induced and extracted by the road structure.

$$H_x = k_{frozen} \times \frac{T_1 - T_2}{\Delta Z} \times \Delta t \quad (3.3)$$

$$H_i = k_{unfrozen} \times \frac{T_1 - T_2}{\Delta Z} \times \Delta t \quad (3.4)$$

$H_x$  and  $H_i$  are the heat extraction and induction indices, respectively;  $k_{frozen}$  and  $k_{unfrozen}$  are the thermal conductivity of frozen and thawing ground.  $T_1$  and  $T_2$  are the ground temperature at depths of  $h_1$  and  $h_2$ ;  $\Delta Z$  is the absolute difference between  $h_1$  and  $h_2$ , and  $\Delta t$  is the length of time each index is to represent. Heat balance is the sum of  $H_x$  and  $H_i$ .

The  $k_{frozen}$  and  $k_{unfrozen}$  of fines (silt), 1.21 and 0.76 respectively ( $\frac{W}{mK}$ ), were selected for computation as coarse aggregates (gravel) share negligible contact area with one another compared to fines. The thermal conductivity of air cavities was also deemed negligible for the purpose of this study.

### 3.4.2 Experimental Design and Field Work

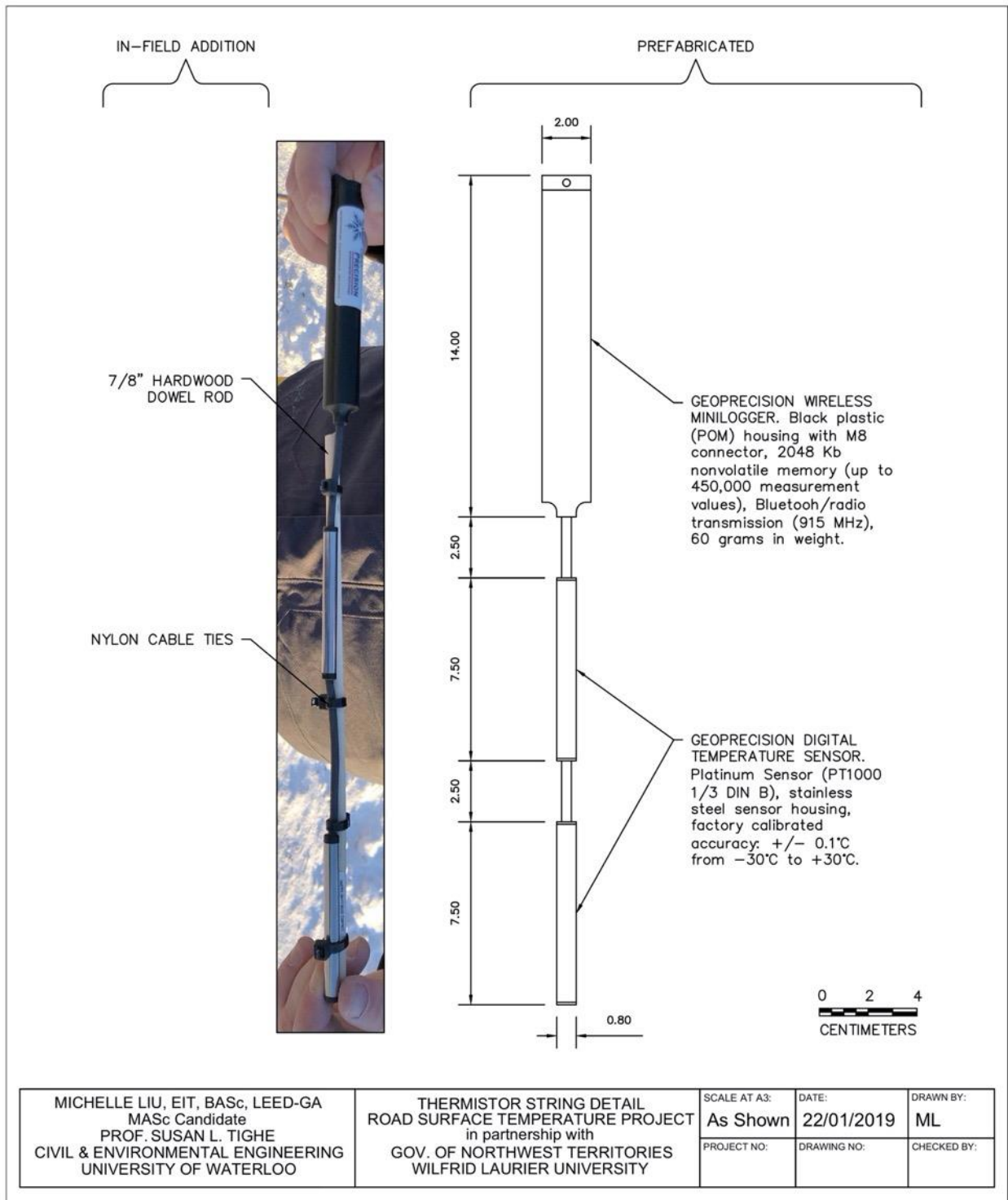
A plan was developed to collect road surface temperature data in asphalt, chipseal and gravel surfaces along Ingraham Trail, or Highway (Hwy) 4, in Yellowknife, NWT. Ingraham Trail was ideal as its surface was asphalt from kilometre (km) 0 through km 2, chipseal from km 2 through around km 50, and gravel from km 50 until the end. Ten sites were selected based on similarity in level of solar exposure, snow cover, ease of access, and safety, all of which were determined based on visual inspection.

Ten identical prefabricated thermistor strings were selected for ground temperature data collection. Each thermistor string is made up of one GeoPrecision data logger and two GeoPrecision temperature sensors. This model of thermistor strings was selected due to its popularity, reliability, and relatively reasonable cost. Prior to being installed, each string was tethered to a hardwood dowel (0.9 cm, or 7/8", in diameter) using 4 to 5 nylon cable ties to provide rigidity to the assembly. The dimensions of each component are outlined in Table 3.1 and their arrangement can be seen in Figure 3.3. The total length of the assembly, from the bottom of the lower sensor to the top of the data logger, is 34 cm.

Field installation took place between January 16<sup>th</sup> and 21<sup>st</sup>, 2019. A total of ten holes were drilled, two in asphalt, three in chipseal, three in gravel, and two in nearby soil for control. The thermistor strings were installed such that the centre of the two temperature sensors would sit at depths of 20 cm and 30 cm respectively.

**Table 3.1. Dimensions of thermistor string components.**

Component	Length (cm)	Diameter (cm)
Logger	14	2.0
Sensor	7.5	0.80
Dowel rod	20	0.80



**Figure 3.3. Thermistor string assembly.**

The loggers were programmed to record data bihourly. Bluetooth communication can be established through an antenna dongle plugged into a laptop within a 1-m radius of a logger. The software FG2-Shell is used to download data and to view and make changes to logger settings. Thermistor strings were pre-calibrated by the manufacturer, and their clocks were synchronized to a field laptop prior to installation.

Two strings were placed away from the driving surface, roughly at the bottom of the road embankment, to act as control. Location details are listed in Table 3.2. Photos were taken at all ten locations during installation, some of which can be seen in Figure 3.4 with the remainder in Appendix C. A map view can be seen in Figure 3.5 to Figure 3.9. Field work took place over 5 days due to challenges related to weather and equipment, and the sequence of installation is as follows:

- Wednesday, January 16<sup>th</sup>, 2019: site investigation and equipment (drill) testing at location for thermistor string 8
- Thursday, January 17<sup>th</sup>, 2019: installation of thermistor string 2
- Friday, January 18<sup>th</sup>, 2019: installation of thermistor strings 1, 3, 4, 5, 6, 7, 8, 9, 10
- Monday, January 21<sup>st</sup>, 2019: verification of Bluetooth communication at all ten locations

**Table 3.2. Locations of thermistor strings.**

<b>ID</b>	<b>Surface type</b>	<b>Logger Serial #</b>	<b>GPS (N')</b>	<b>GPS (W')</b>	<b>Location notes</b>
1	Asphalt	E531AD	62.47159	114.40421	Approx. 10m north of 'Right Bend Ahead' sign
2	Asphalt	E531AC	62.47168	114.40430	In line with 'Right Bend Ahead' sign
3	Control	E531AB	62.47644	114.40414	In line (across) with 'Today's Danger Level' sign
4	Chipseal	E531A6	62.47633	114.40393	In line with 'Today's Danger Level' sign
5	Chipseal	E531A7	62.52085	113.79537	Approx. 11m SE of 'Left Bend Ahead' sign
6	Chipseal	E531AA	62.52078	113.79523	In line with 'Left Bend Ahead' sign
7	Control	E531A9	62.49317	113.53456	In line with 'RCMP Emergency' sign
8	Gravel	E531A8	62.49318	113.53439	In line with 'RCMP Emergency' sign
9	Gravel	E531AE	62.49313	113.53411	Approx. 10m east of 'RCMP Emergency' sign
10	Gravel	E531A5	62.48954	113.47085	In line with 'Reid Lake/Lac Reid' sign



**Figure 3.4. Drilling (top left, top right, and bottom left) during field installation and insertion of thermistor assembly (bottom right).**

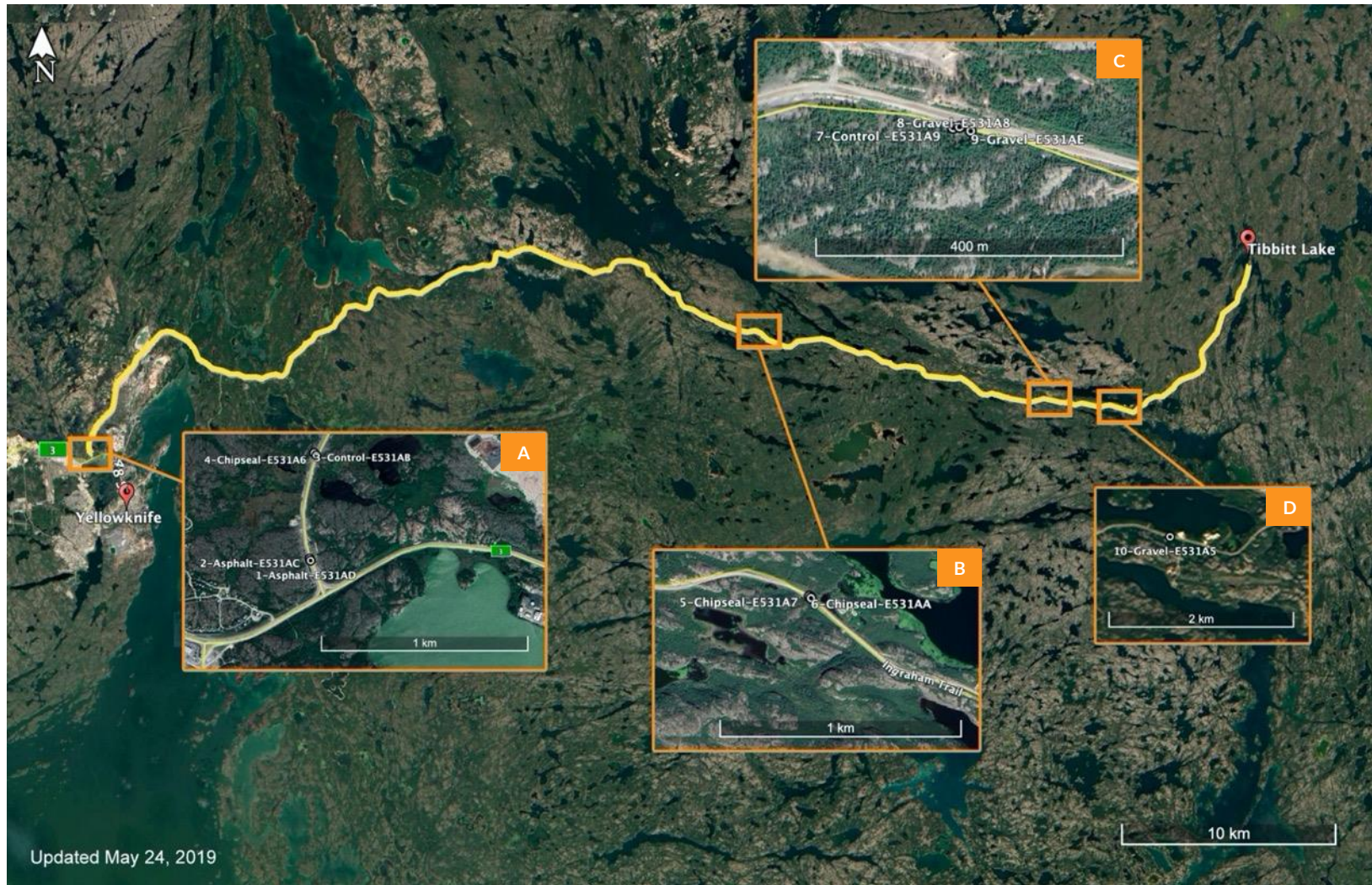


Figure 3.5. Locations of thermistor strings along Highway 4 (Ingraham Trail), Yellowknife, Northwest Territories.





Figure 3.6. Locations of thermistor strings 1, 2, 3, and 4 (area A).



Figure 3.7. Locations of thermistor strings 5 and 6 (area B).



Figure 3.8. Locations of thermistor strings 7, 8, and 9 (area C).



Figure 3.9. Locations of thermistor string 10 (area D).

### 3.4.3 Other Temperature Data

In addition to the collection of road surface temperature data, historical air temperature data collected by the Government of the Northwest Territories from 1943 to 2018 at the Yellowknife Airport were analyzed. Pavement temperature data from Chan Lake Road from 2009 to 2018, also collected by the Government of the Northwest Territories, were analyzed against air temperature. The goal of this analysis is to determine the correlation between air temperature and pavement temperature.

In future studies, historical air temperature at the Yellowknife airport can be compared to national air temperature and global air temperature from the same period. This can help deduce whether impact of climate change is in fact more significant in the North, or at least in this particular area of the Northwest Territories, than the rest of Canada.

## 3.5 Chapter 3 Summary

An overview of the research methodology employed in this thesis project was presented in this Chapter. 62 pieces of literature matching the chosen key words are used in the literature review for the qualitative comparison of permafrost protection techniques. PaveXpress and TEMPS are used to simulate the performance of select protection techniques for quantitative comparison. Finally, data collected through a field study along the Ingraham Trail outside of Yellowknife, NWT are used to better understand the combined effects of climate change and anthropogenic effects.

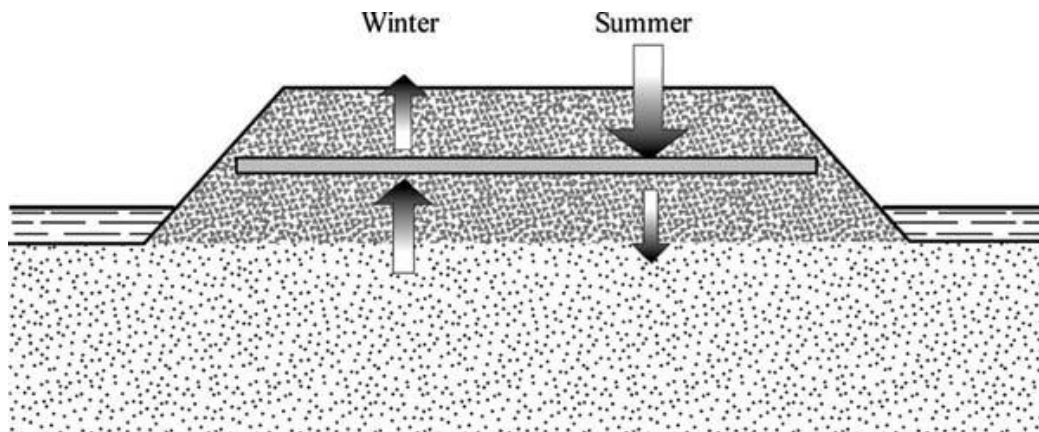
## Chapter 4 Review of Permafrost Protection Technologies

Permafrost protection is defined as the use of systems and/or materials that reduce heat transfer between surfaces and permafrost layers. Nine permafrost protection techniques will be discussed in this section.

### 4.1 Literature Review

#### 4.1.1 Embankment Insulation

Embankment insulation serves to reduce heat flow between the road surface and the permafrost subgrade (Figure 4.1). The thickness of the insulation layer varies by region and material type, which is generally polystyrene (Figure 4.2), polyurethane, or peat. Although Nidowicz & Shur (1998) stipulates that embankment insulation is ineffective in high-temperature permafrost, it has been shown to be beneficial in regions where the MAGT remains well below 0°C. Embankment insulation is most effective when installed during winter months as it will prevent the material below from being infiltrated by heat from the surface during the warmer months (Doré & Zubeck, 2009).



**Figure 4.1. Mechanism of an embankment insulation layer (Doré & Zubeck, 2009).**

#### 4.1.2 Reflective Surfaces

The construction of roads generally results in a surface with decreased albedo compared to natural ground. Albedo is defined as the amount of light that can be reflected on a surface without being absorbed. Traditionally, applying white paint to a surface has proven effective in increasing albedo and thus reducing downward heat transfer. However, paint is generally not considered ideal as it is costly and reduces the skid resistance of road surfaces, among other factors (Doré & Zubeck, 2009).



**Figure 4.2. Polystyrene sheets being layered on the road subgrade during construction (M-Lepage *et al.*, 2012).**

In 2019, Chen, Zhou, Wu, Hou, & Liu tested three innovative filler materials as surface coating to increase surface albedo (Figure 4.3): Nano-TiO<sub>2</sub>, Micro-TiO<sub>2</sub> and Nano-ZnO. Field testing indicated that Micro-TiO<sub>2</sub> has higher reflectance (i.e. has higher albedo) than the other two materials. It is also sufficiently textured such that glare is negligible compared to that caused by traditional white paint.

### 4.1.3 Shading

Shading panels (Figure 4.4) can be constructed along the side slopes to allow cold air to circulate along the embankment in the winter and heat dissipation in the summer. They are referred to as snowsheds and sunsheds respectively (Doré & Zubeck, 2009). However, these panels can be hazardous along road sections without guardrails, in which case clear zone considerations should be taken into account (Esch, 1988). Figure 4.5 shows shading panels installed along the QTH.

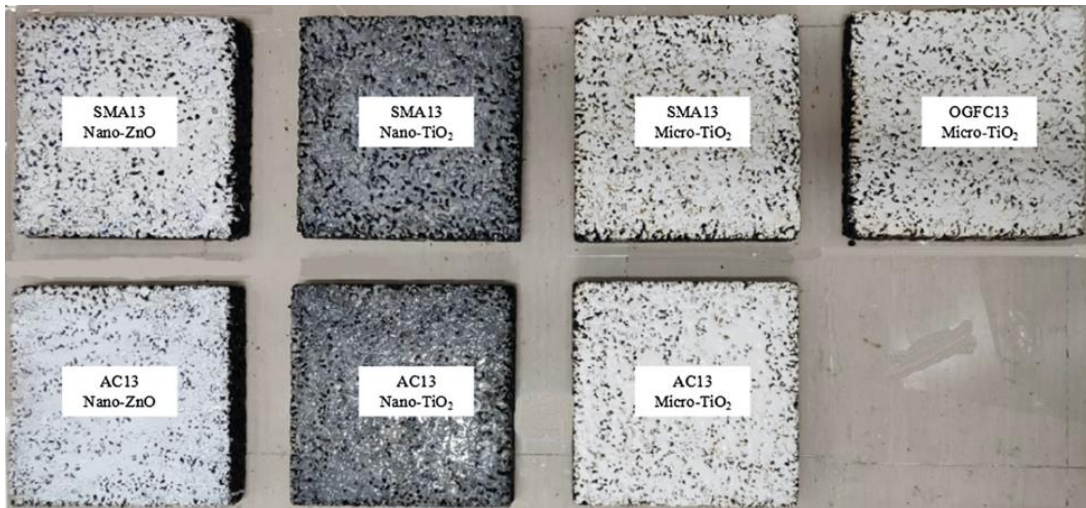


Figure 4.3. Asphalt samples with coating materials at 0.9 km/m<sup>2</sup> (Chen *et al.*, 2019).

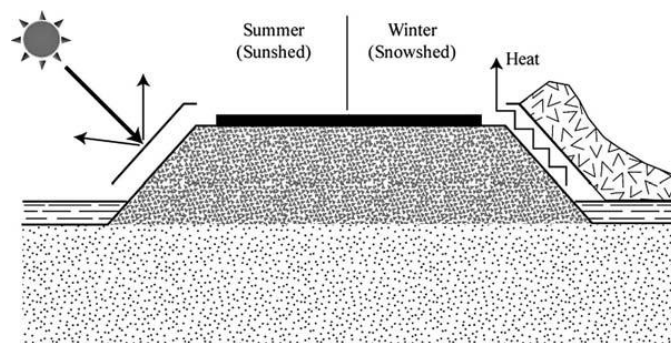


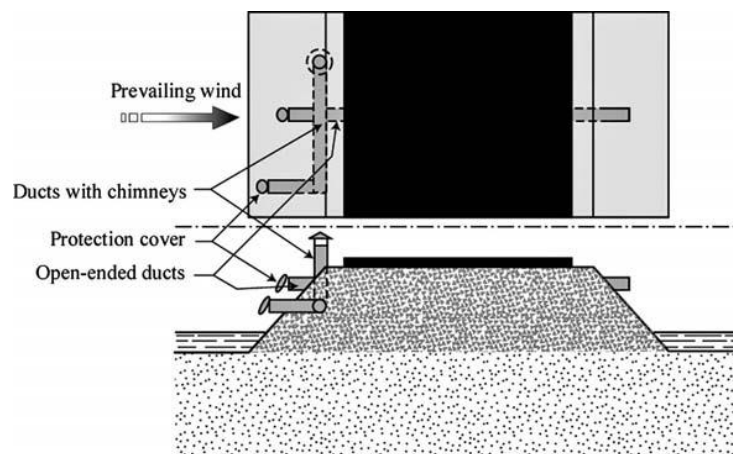
Figure 4.4. Mechanism of sunshed and snowshed (Doré & Zubeck, 2009).

#### 4.1.4 Ventilation Pipes

Ventilation pipes can be further classified as air ducts or heat drains. Air ducts use the principle of convection to extract heat from beneath the embankment. One type of air ducts is open-ended and oriented in the direction of prevailing wind. Another type moves air beneath the embankment based on the chimney effect using horizontal ducts beneath the embankment (Niu, Cheng, & Lai, 2003). The two air duct types can be seen in Figure 4.6.



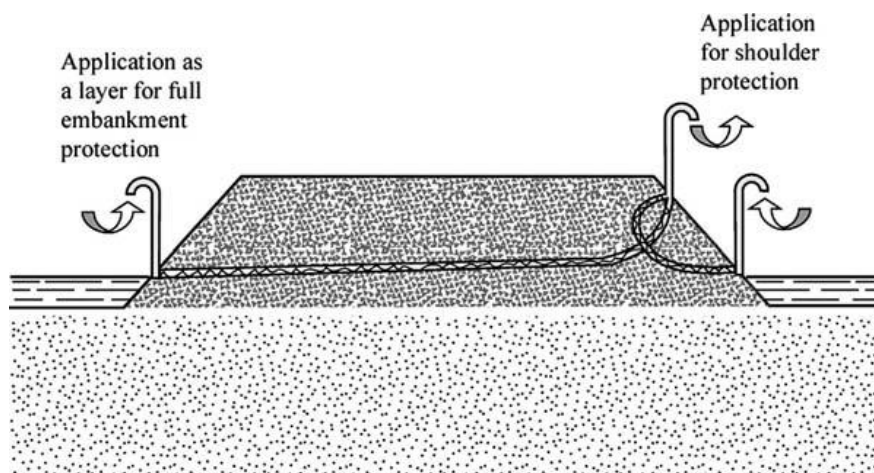
**Figure 4.5. Shading panels installed along the Qinghai-Tibet Highway in China (Doré & Zubeck, 2009)**



**Figure 4.6. Two types of air ducts (Doré & Zubeck, 2009).**

Similar to air ducts, heat drains are installed in the embankment with an outlet protruding upward to allow air to circulate into the drain during winter months. However, unlike air ducts, heat drains are designed to work in winter months because when subgrade temperature is higher than air temperature, warm air from the soil will be drawn from the soil into the drain by principle of conduction. Warm air in the drain is then equilibrated with cold air from outside (i.e. warm air leaves, cold air comes in), and the process restarts. Figure 4.7 shows the mechanism of heat drains.

Despite their verified success, both air ducts and heat drains are susceptible to blockage by water ponding and subsequently ice formation. To mitigate this, they should be installed high up in the embankment and slightly sloped (Doré & Zubeck, 2009).



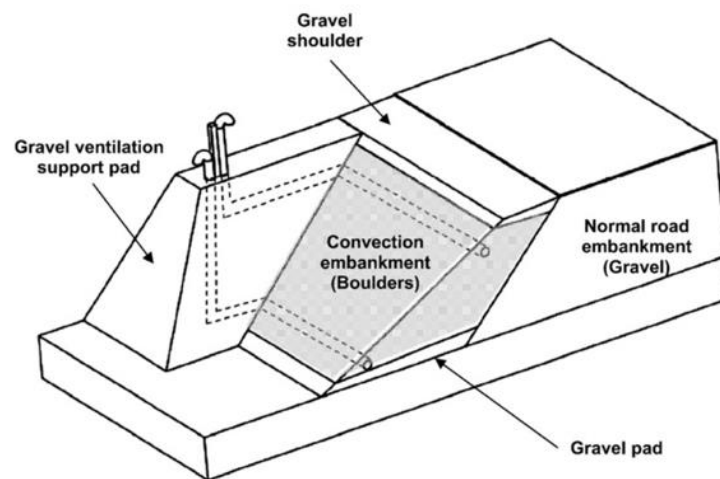
**Figure 4.7. Mechanism of heat drain (Doré & Zubeck, 2009).**

In 2008, Jørgensen, Doré, Voyer, Chataigner, & Gosselin conducted laboratory testing of heat drains in combination with air convection embankments (Figure 4.8). It was found that the installation of heat drains enhanced air flow into the ACE during winter months, and allowed more cold air to be trapped at the bottom of the embankment once temperature rises in the spring (Jørgensen *et al.*, 2008). Heat drains have also been validated at the Tasiujaq Airport in Nunavik, Québec (Jørgensen & Doré, 2009).



#### 4.1.5 Thermosyphon

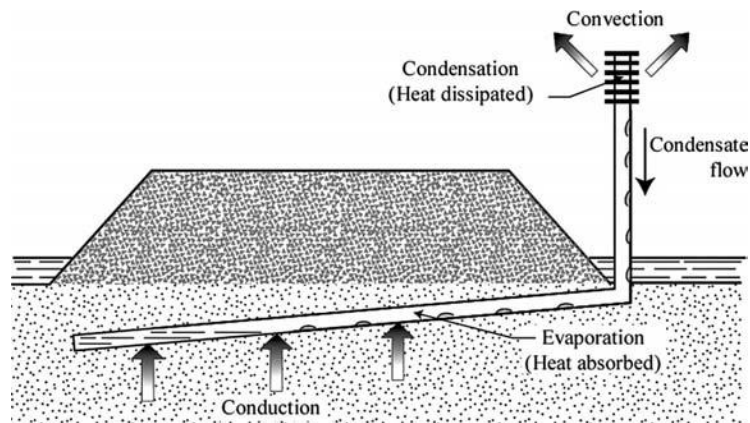
Thermosyphons is a pipe that extracts heat from the embankment using principles of conduction, condensation, evaporation, and convection (Figure 4.9). They are buried in the embankment close to the subgrade, horizontal to the driving surface and perpendicular to the directions of traffic. The pipe achieves heat extraction using refrigerants, which can be fluoro-carbon based, ammonia, carbon dioxide, or propane, both in liquid and gas form. Similar to heat drains, thermosyphons cool its surrounding in winter to reduce chances of thaw in warmer months.



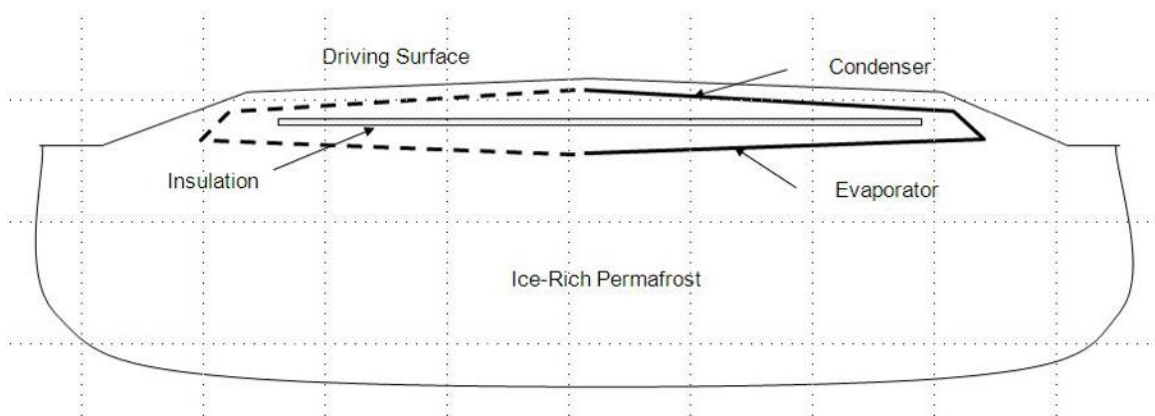
**Figure 4.8. Schematic an ACE with heat drains (Jørgensen *et al.*, 2008).**

Thermosyphons generally need to be installed at an angle of or greater than 6%. Depending on the embankment height and width of the right of way, this can pose a challenge in the design process. Another issue with thermosyphons is that its vertical component, like sunsheds/snowsheds, can be a roadside hazard and would require additional clear zone considerations. A modified version of the conventional system was proposed: hairpin thermosyphons.

Hairpin thermosyphons are closed, two-phased systems completely buried beneath the roadway and consist of three components, the arrangement of which can be seen in Figure 4.10: evaporator, riser, and condenser. In the winter, when the road surface becomes colder than the ground, the refrigerant fluid evaporates in the lower portion of the tube (evaporator) and travels upward as a gas, then condenses inside the upper, colder pipe (condenser) and drops back down. As this process happens, it absorbs ground heat from the surrounding earth and permafrost layer, which, like traditional thermosyphons, cools the permafrost throughout the winter and allows it to stay frozen through the warmer months (Xu & Goering, 2008).



**Figure 4.9. Mechanism of a common unit of thermosyphon (Doré & Zubeck, 2009).**



**Figure 4.10. Schematic of a typical hairpin thermosyphon unit.**

Hairpin thermosyphons and air convection embankments (ACE) (see Section 4.1.6) were tested in-field as part of the Thompson Drive construction project at the University of Alaska Fairbanks (see Section 2.3.2). Figure 4.11 shows condensers being installed in the embankment of Thompson Drive. In 2008, Xu & Goering found that the hairpin thermosyphons along Thompson Drive, in combination with air convection embankments (Figure 4.14), displayed long-term cooling trends in the permafrost subgrade beneath the roadway.

Thermosyphons have also been investigated, tested, and modelled by Lai, Guo, & Dong (2009), and Zhang, Baker, & Cheng (2008), and others, all concluding that it successfully reduces subgrade and embankment temperature. However, most literature agree that its cost is only justified when permafrost is low temperature and extensive.

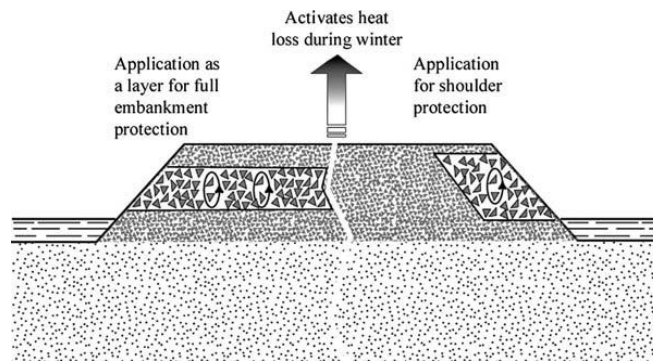


**Figure 4.11. Hairpin thermosyphon condensers installed during Thompson Drive Construction (Xu & Goering, 2008).**

#### 4.1.6 Air Convection Embankment

Air convection embankment (ACE) is made up of poorly graded (no fines) coarse aggregates that form convection cells which evacuate heat during winter months (Figure 4.12). The thermal gradient formed by the cool surface and warm subgrade forces warm air to flow upward through the cells into the air, thus cooling the embankment. During months when the surface becomes warmer than the embankment, no circulation is induced, and the system becomes inactive (but still acts as a barrier that slows warming of the subgrade) (Esch, 1996).

In 2016, Du, Wang, Wang, Chen, & Zhu designed and tested two types of heat-dissipating systems along the QTH, both containing crushed rocks within the embankment to promote convection. They found that the systems reduced heat accumulation by between 16.7% and 34.9%, and that the temperature at the top of the embankment was reduced by between 0.66°C and 1.58°C. One of the two designs can be seen in Figure 4.13.



**Figure 4.12. Mechanism of an air convection embankment (Doré & Zubeck, 2009).**

ACE and various closely related crushed rock systems are among the most widely investigated innovative permafrost protection systems. Studies not discussed above include those by Xu & Goering (2008), Darrow & Jensen (2016), and Luo, Niu, Liu, Lin, & Yin (2018), and more, dealing with field tests in locations ranging from the Fairbanks project in Alaska (Figure 4.14) to the QTH in China (Figure 4.15).

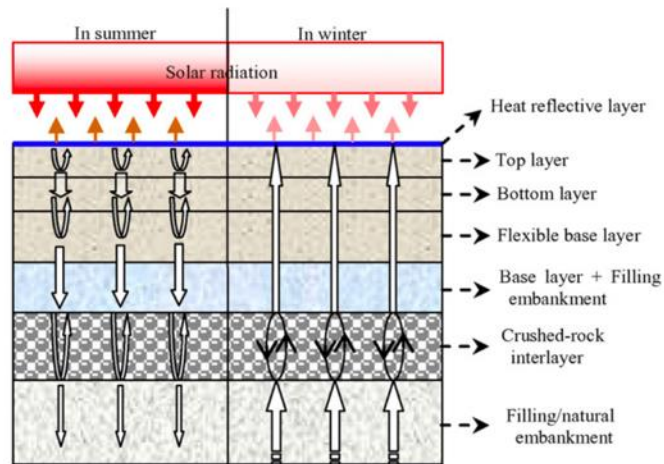


Figure 4.13. Schematic of integrated heat-dissipating system (Du *et al.*, 2016).



Figure 4.14. Air convection embankment installed along Thompson Drive in Fairbanks, Alaska (Xu & Goering, 2008).



**Figure 4.15. ACE installation along the QTH (Luo, Niu, Liu, Lin, & Yin, 2018).**

#### 4.1.7 Geosynthetics

Geosynthetics are synthetic polymers in the form of geofabric, geotextile, geocells, and geogrids. They have a long list of geotechnical applications but are used in permafrost regions specifically for separation and reinforcement between the embankment and subgrade. They also enhance drainage and filtration as secondary functions (Instanes, Fannin, & Haldorsen, 1998). An example of geotextile being installed in Nunavik, QC can be seen in Figure 4.16, and along the Qinghai-Tibet Highway in Figure 4.17.



**Figure 4.16. Geotextile being installed on side slope in Nunavik, Québec (Jørgensen & Doré, 2009).**



**Figure 4.17. Geotextile being installed in the subgrade of QTH (Li, Zhi, Fang, & Zhang, 2013).**

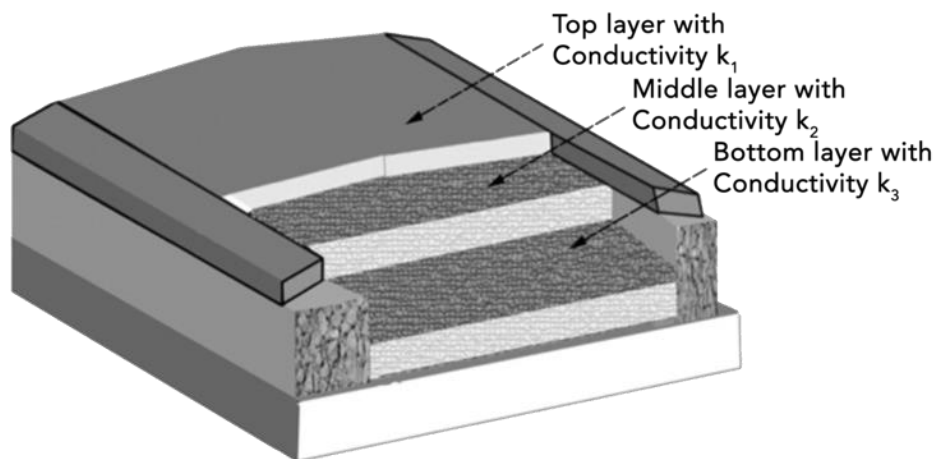
#### 4.1.8 Pre-thawing

Pre-thawing involves inducing permafrost thaw prior to construction. It can be performed to different extents and for different duration, though should be avoided when permafrost is extensive. Methods of pre-thawing include stripping vegetation to expose ground to solar

radiation, covering an area with plastic sheets to induce greenhouse effect, scattering dark material to decrease albedo (i.e. increase solar absorption), among others (Esch, 1988, 1996).

#### 4.1.9 Heat-Dissipating Structures and Materials

Heat-dissipating pavement structures (HDPS) can be loosely defined as systems of structural roadbed elements (surface, base, subbase, etc.) that induce heat dissipation toward the road surface. Notable HDPS that have been field-tested include the unilateral heat transfer pavement (Zhu *et al.*, 2012) as seen in Figure 4.18, heat oriented pavement structure (Du *et al.*, 2016), and coated asphalt and concrete surfaces (Chen *et al.*, 2019).



**Figure 4.18. Schematic of unilateral heat transfer pavement (Zhu *et al.*, 2012).**

## 4.2 Chapter 4 Summary

A summary of the feasibility and cost of each technique is summarized in Table 4.1. Summary of relative cost and feasibility of permafrost protection techniques (adapted from Doré & Zubeck, 2009).



**Table 4.1. Summary of relative cost and feasibility of permafrost protection techniques (adapted from Doré & Zubeck, 2009).**

	Cost	Recommended		Comments
		Low-temp. permafrost	High-temp. permafrost	
Embankment insulation	Moderate	✓	✗	Most effective when combined with ventilation pipes, ACE, or thermosyphons.
Light/reflective surface	Moderate	✗	✓	May be hazardous; high maintenance
Shading	Moderate	✗	✓	May be hazardous; high maintenance
Ventilation Pipes	High	✗	✓	Effective if able to mitigate water/ice buildup
Thermosyphon	Very High	✗	✓	Most effective in high risk areas
Air convection embankment (ACE)	High	✗	✓	Effective but limited by availability of aggregates
Geosynthetics	High	✗	✓	Reduces settlement and cracking
Pre-thawing	Moderate	✗	✓	Effective but time-consuming
Heat-Dissipating Pavement Structures	Varies	✓	✓	Effective and likely most promising for future applications

It can be concluded from this review that most permafrost protection techniques available at the moment are designed for high-temperature, discontinuous permafrost. This is as expected since discontinuous permafrost has the highest risk of degradation in light of climate change and anthropogenic effects.

## Chapter 5 TEMPS Simulation

### 5.1 Selection of Existing Technologies for Simulation

Two types of permafrost protection techniques were selected for simulation in the Temperature Estimate Model for Pavement Structures (TEMPS). Protection techniques can be categorized as passive or active cooling techniques. Passive techniques, such as gradient heat conduction structures and the use of low thermal conductivity materials, are most prevalent as they are easier to implement and do not depend on energy input to operate. Active cooling techniques, such as solar-driven active hydronic cooling, can improve cooling efficiency during the warm summer months when most of the permafrost degradation occurs. Thermosyphons and embankment fill/insulation materials with low thermal conductivity were selected.

Typical refrigerants used in thermosyphons are fluorocarbon-based (FC-based), including chlorofluorocarbons and hydrofluorocarbons (Gorecki, 2018). Issues and challenges relating to these conventional thermosyphon refrigerant fluids are discussed in Section 5.2.

Alternatively, and more conventionally, insulative materials in the form of layers or fill can be used for permafrost protection. Crushed aggregates are the most commonly used material in road construction in North America and can be designed to serve as good insulation. As such, materials that are lighter and more insulative than traditional aggregates have been extensively investigated and used in recent decades, notably those in the polystyrene and light-weight aggregate categories. Issues and challenges relating to these materials will be discussed in Section 5.2.

### 5.2 Issues and Challenges

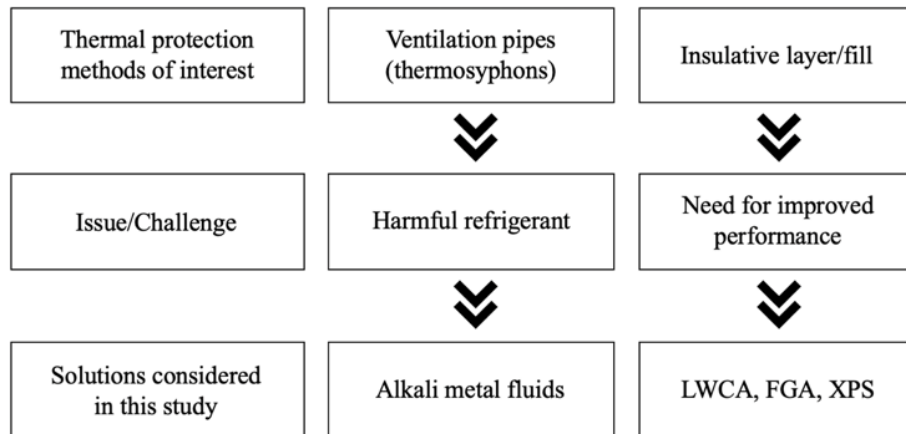
While thermosyphons have proven to be effective in the cooling of pavement structures (Xu & Goering, 2008), they come with challenges such as high costs and the environmentally harmful nature of their FC-based refrigerants (Gorecki, 2018). As the use of FC-based refrigerants have been highly restricted by various international protocols over the past three decades (Bolaji, 2005), various substituents have been considered.

In order for aggregates to adequately mitigate heat transfer between pavement surface and the subgrade, thick layers of aggregates are often required, leading to thick pavement structures with high embankments and, consequently, elevated costs. More importantly in the context of permafrost protection, thick layers of traditional crushed aggregates can be extremely heavy and further disturb the active layer of the permafrost regime below (Doré and Zubeck, 2009). Similarly, polystyrene sheets, another conventional insulation, are often needed in great thickness in order to reach the desired degree of insulation. Further, polystyrene has relatively low recyclability, a quality of some importance in modern construction (Valtseva, Peters, Kudryavtsev, & Alekseenko, 2019). Three alternatives to aggregates and traditional polystyrene sheets are of interest in this study and will be examined in the next section.

### 5.3 Alternative Solutions

In light of the challenges discussed in Section 5.2, it is worthwhile to consider alternative solutions to thermosyphons and traditional insulating materials. In a study detailing alternatives to FC-based refrigerants, Sabharwall & Gunnerson (2009) discusses the use of alkali metals as working liquids in two-phase thermosyphons in hydrogen plants with varying success. Elemental alkali metals are lightweight, readily available, and have low reactivity with the environment compared to FC-based refrigerants (Lyon, R. N.; Katz, 1950), making them a worthy contender for hairpin thermosyphons in pavement. Specifically, lithium, sodium, and potassium, the three lightest alkali metals, will be investigated in this study.

A Norwegian field test compares various alternatives to conventional crushed aggregates as insulation (Øiseth, Aabøe, & Hoff, 2007), of which light-weight clay aggregates (LWCA), foam glass aggregates (FGA), and extruded polystyrene (XPS) are of particular interest in this study. LWCA and FGA are lightweight, can be recycled, and can be made from recycled raw material. While XPS is generally not considered recyclable, it is significantly more insulative than regular polystyrene sheets per unit thickness and therefore more economical and worthy of consideration. Figure 5.1 provides a summary of this case study.



**Figure 5.1. Case study inputs.**

## 5.4 Materials

As alternatives to FC-based and other harmful refrigerants, three alkali metal fluids will be investigated for their thermal performance as part of a pavement structure. Lithium, sodium, and potassium are the lightest and most readily available of the alkali metals, and all possess high latent and specific heats. Of the three materials, lithium is the rarest and also the least dense. The relatively low density of these three metals permits high fluid velocities without creating high pressure drops in the system, which is an important consideration in thermosyphons. The primary disadvantage of using alkali metals as thermosyphon fluids is their varying degree of reactivity with atmospheric gases. Lithium can react with carbon-containing gases to become explosive, but only at temperatures significantly higher than ever possible in a pavement structure and therefore poses little threat in the application in question. Sodium and potassium, on the other hand, burn readily when in contact with oxygen and halogens at ambient temperature, though no reaction with nitrogen, argon, and helium is observed (Lyon, R. N.; Katz, 1950). Values of specific heat capacity, conductivity, and density for the three metals in liquid form are found in Table 5.1.

This study will also investigate light-weight clay aggregates (LWCA), foam glass aggregates (FGA), and extruded polystyrene (XPS) as alternatives to common aggregate fill and

conventional polystyrene sheets. LWCA and FGA, seen in Figure 5.2, both originally emerged as desirable fill materials for their low density but are also interesting for their insulative properties. LWCA is made by the furnace-sintering of clay and is relatively low-cost, available, and sustainable in North America. FGA is made by the melting of recycled waste glass, a specialized technology moderately available in Europe but thus far unavailable in North America. XPS offers higher stiffness, better performance in compression, and greater thermal insulation than conventional polystyrene sheets (referred to as expanded polystyrene, or EPS). The thermal conductivity of LWCA and FGA are reported to vary with temperature and water content, while that of XPS remains fairly consistent (Øiseth *et al.*, 2007). Values of specific heat capacity, conductivity, and density for these three insulative materials are found in Table 5.1.

**Table 5.1. Specific heat capacity, conductivity, and density of materials of interest.**

Material	Specific Heat J/(kgK)	Conductivity W/(mK)	Density kg/m <sup>3</sup>
Lithium (Lyon & Katz, 1950)	3570	85	535
Sodium (Lyon & Katz, 1950)	1230	140	968
Potassium (Lyon & Katz, 1950)	757	100	856
LWCA (Øiseth <i>et al.</i> , 2006)	1381	0.18	280
FGA (Øiseth <i>et al.</i> , 2006)	840	0.155	215
XPS (Øiseth <i>et al.</i> , 2006)	1400	0.04	50

## 5.5 Pavement Design in PAVEXpress

To perform the case study, a baseline pavement design was adapted from previous literature (Øiseth *et al.*, 2006) and verified using PAVEXpress against traffic loading.

PAVEXpress is developed by Pavia Systems Inc. and is based on formulae from the American Association of State Highway and Transportation Officials (AASHTO) Guide for Design of

Pavement Structures 1993 for flexible and rigid pavements. Design recommendations generated by PAVEXpress have been verified by various organizations, including Palmer Engineering and the Kansas Department of Transportation.



**Figure 5.2. LWCA (left) and FGA (right) aggregates.**

Øiseth *et al.* (2007) conducted field investigation on a pavement structure with LWCA, FGA, and XPS in Norway. The pavement structure consisted of two lifts of asphalt concrete (AC) at 40 mm per lift (1.57 inches), 30 mm (1.18 in) of levelling sand, 350 mm (13.78 in) of base aggregates, and 150 mm (5.91 in) of subbase aggregates. For simplicity, this design was used as the baseline structure, as seen in Figure 9, and verified against a traffic loading of 2.59 million equivalent single axle loads (ESALs) over a 20-year service life in PAVEXpress. Inputs for each step of the design verification process can be seen in Figure 5.3 to Figure 5.6.

It is worth clarifying that the “Other” layer seen in Figures 8 and 9 represents layer of levelling sand. The 2.59 million ESALs (Figure 5.5) of traffic loading over 20 years (Figure 5.4) is based on a typical rural road in Northern Canada (Liu *et al.*, 2019).

The resilient modulus of permafrost soil is typically considered to be over 100,000 psi (Doré and Zubeck, 2009) as the ground is essentially as solid as bedrock so long as the soil stays permanently frozen. However, PAVEXpress only allows for the maximum input of 20,000 psi as the resilient modulus, and this was therefore the value utilized as seen in Figure 5.7.

## Scenario Information





Scenario Information	Pavement Design
<p>Scenario Name</p> <input type="text" value="Thermosyphons"/>	<p>Estimated Completion Year </p> <input type="text" value="2020"/>
<p>Scenario Description</p> <input type="text" value="Scenario Description"/>	<p>Roadway Classification </p> <input type="text" value="Local"/>
<p>State </p> <input type="text" value="Alaska"/>	<p>Project Type </p> <input type="text" value="New - Asphalt"/>

Figure 5.3. PAVExpress Step 1/6 - Scenario Information.

## Design Parameters







Design Parameters	Serviceability
<p>Design Period </p> <input type="text" value="20"/> years	<p>Initial Serviceability Index (<math>p_i</math>) </p> <input type="text" value="4.5"/>
<p>Reliability Level (R) </p> <input type="text" value="95"/> $Z_R = -1.645$	<p>Terminal Serviceability Index (<math>p_t</math>) </p> <input type="text" value="2"/>
<p>Combined Standard Error (<math>S_0</math>) </p> <input type="text" value="0.5"/>	<p>Change in Serviceability (<math>\Delta PSI</math>) </p> <input type="text" value="2.5"/>

Figure 5.4. PAVExpress Step 2/6 - Design Parameters.

## Traffic & Loading




Traffic Data	Traffic Growth
<p>Method of Determining ESALs </p> <input type="text" value="Using AADT"/> <input type="text" value="Annual ESALs"/> <input checked="" type="text" value="Design ESALs"/>	<p>Total Design ESALs (<math>W_{18}</math>) </p> <input type="text" value="2,590,000"/>

Figure 5.5. PAVExpress Step 3/6 - Traffic & Loading.




## Pavement Structure

**Pavement Structure (Flexible) (Asphalt)**

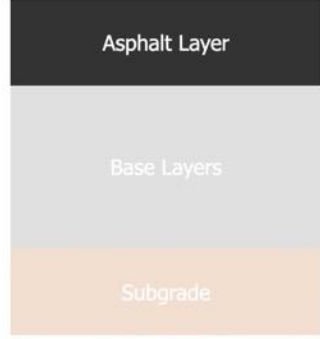
Use Multiple Lifts 

Yes ▾

**Asphalt Layers**

Layer	Layer Coef	Drainage	Thickness	Edit?
Surface	0.44	1	1.57 in.	
Binder/Intermediate	0.44	1	1.57 in.	
Base	0.44	1	0 in.	







**Pavement Diagram**



**Figure 5.6. PAVExpress Step 4/6 - Pavement Structure.**


## Pavement Sub-Structure

**Base Layers**

Layer Type	Layer Coef.	Drainage Coef.	Thickness	Resilient Mod	Action?
Other	0.07	0.5	1.18 in.	11600	 
Aggregate Base	0.14	1	13.78 in.	21000	 
Aggregate Subbase	0.11	1	5.91 in.	14000	 

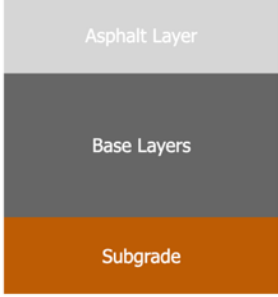
[Add Layer](#)

**Subgrade**

Resilient Modulus ( $M_R$ ) 

20000 psi [Calculate MR](#)

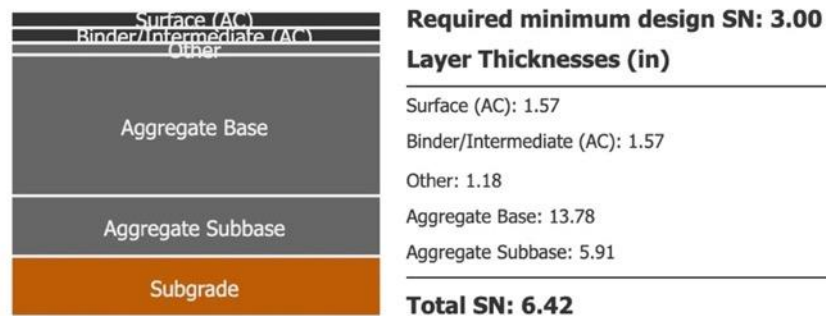
**Pavement Diagram**



**Figure 5.7. PAVExpress Step 5/6 - Pavement Sub-Structure (Note: “Other” represents sand).**

As seen in Figure 5.8, the required minimum design structural number (SN) for the projected traffic loading is 3.00, which the SN derived from the pavement design well exceeds at 6.42. Although this presents a significant overdesign, the structure is carried forward as it is for modelling in TEMPS with the permafrost protection techniques discussed.





**Figure 5.8. PAVExpress Step 6/6 - Baseline pavement design, its SN of 6.42 and the required minimum design SN of 3.00 (Note: “Other” represents sand).**

## 5.6 Thermal Modelling in TEMPS

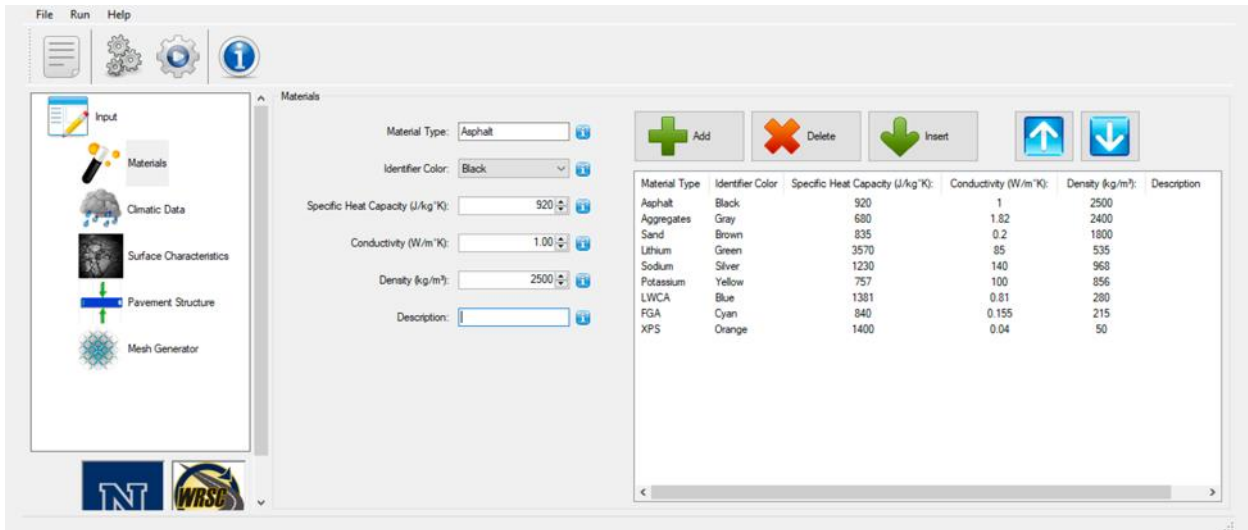
After verifying the pavement design per Section 5.5, each thermosyphon fluid of interest was then inserted into the pavement 80 mm below the driving surface and each insulative material just above the subgrade for thermal modelling using TEMPS.

TEMPS is a program that predicts hourly temperatures at any depth in a pavement structure through the Finite Control Volume Method (FCVM). It is location-specific in the sense that it uses meteorological data such as solar radiation and accounts for monthly variation in pavement surface radiation properties (albedo, emissivity, and absorption coefficients). TEMPS was created at the University of Nevada Reno and internally verified against controlled test sites. TEMPS requires five types of input, categorized as materials, climatic data, surface characteristics, pavement structure, and mesh generator (Figure 5.9).

Material properties for the three alkali metal liquids and the three insulative materials were input as listed in Table 5.1 and can be seen in Figure 5.9. The values for asphalt, aggregates, and sand were left as default.

Climatic data was obtained from the National Solar Radiation Database (NSRDB) and originated from a station at the border of Alberta and the Northwest Territories in Canada, just

south of the Great Slave Lake. This area represents a typical Northern setting, and the station records air temperature, wind speed, and solar radiation for the year, all of which are parameters required by TEMPS. Station data from 2017 were used (Figure 5.10).



**Figure 5.9. TEMPS Input Step 1/5 - Materials.**

A pre-programmed U.S. location was selected for surface characteristics. The location selected was in Montana and has nearly the same longitude as the source of the climatic data. For simplicity, the topography of this location was deemed sufficiently similar to that of the climatic data source and was carried forward (Figure 5.11).

The pavement design verified using PAVEXpress was entered into the Pavement Structure tab. As mentioned, each thermosyphon fluid (lithium, sodium and potassium) is to be inserted at a depth of 80 mm, just below the two lifts of asphalt concrete. Figure 5.12 shows a sample input for lithium. Note that the three insulation layers will be input in the same fashion but placed just above the subgrade (i.e. below aggregates) per the design by Øiseth *et al.* (2006).

Lastly, the model requires the user to specify the mesh type and spacing. A uniform mesh with 0.01 m spacing was used, as seen in Figure 5.13.

Due to difference in properties, the design thickness for each insulation material varied. The variation was based on the study by Øiseth *et al.* (2006). A schematic can be seen in Figure 5.14. The placement of the three thermosyphons (each with a different fluid) were kept identical.

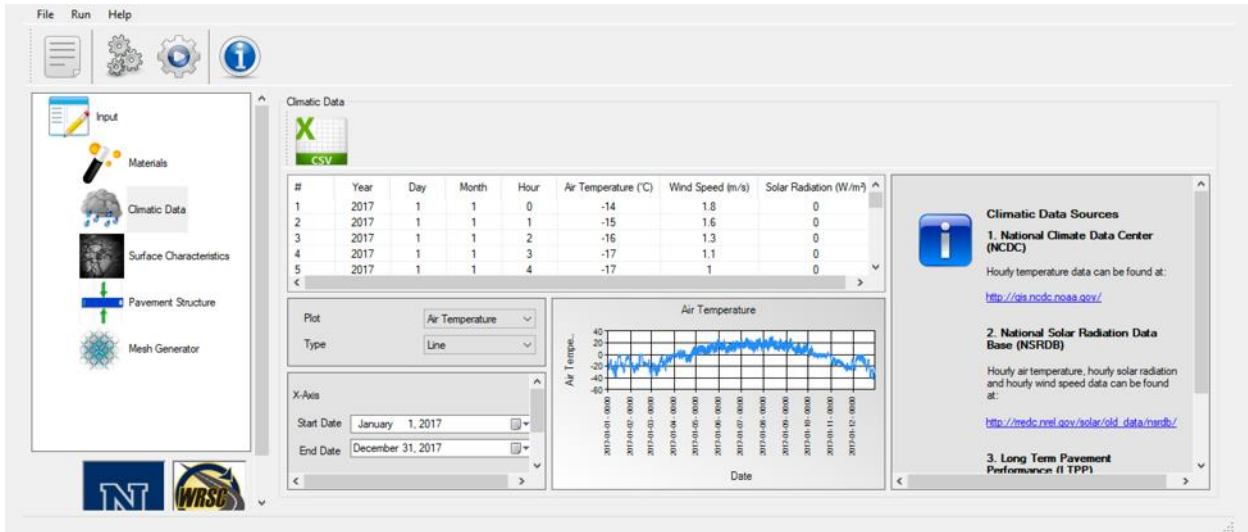


Figure 5.10. TEMPS Input Step 2/5 - Climatic Data.

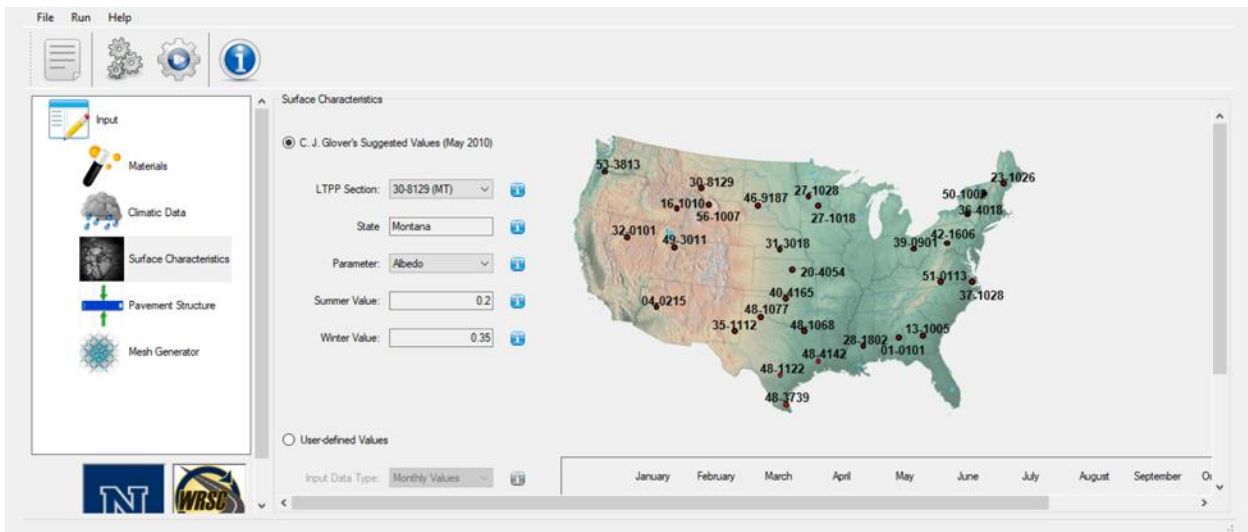
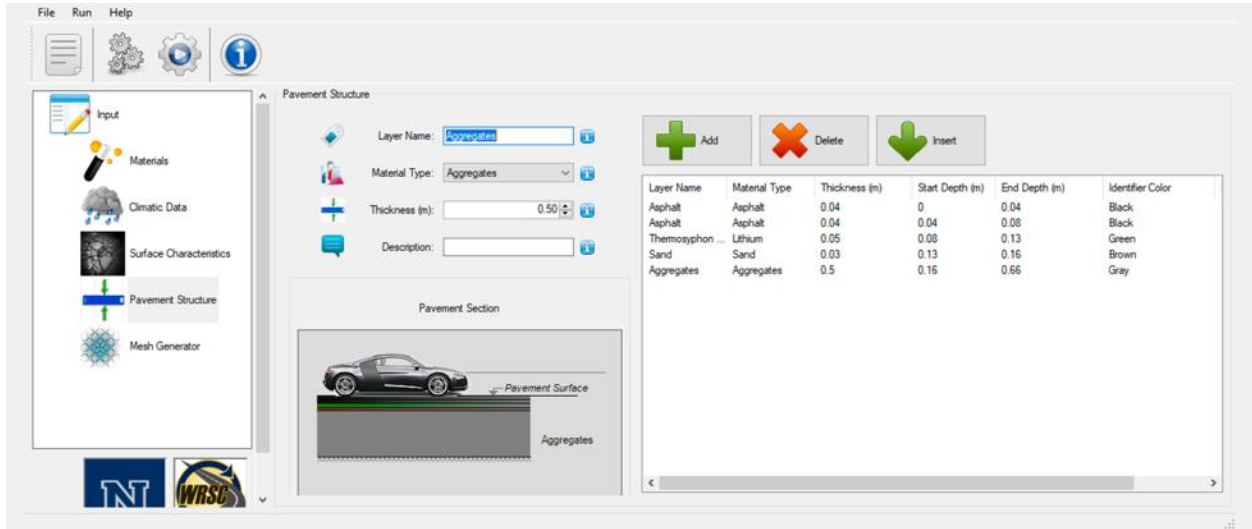
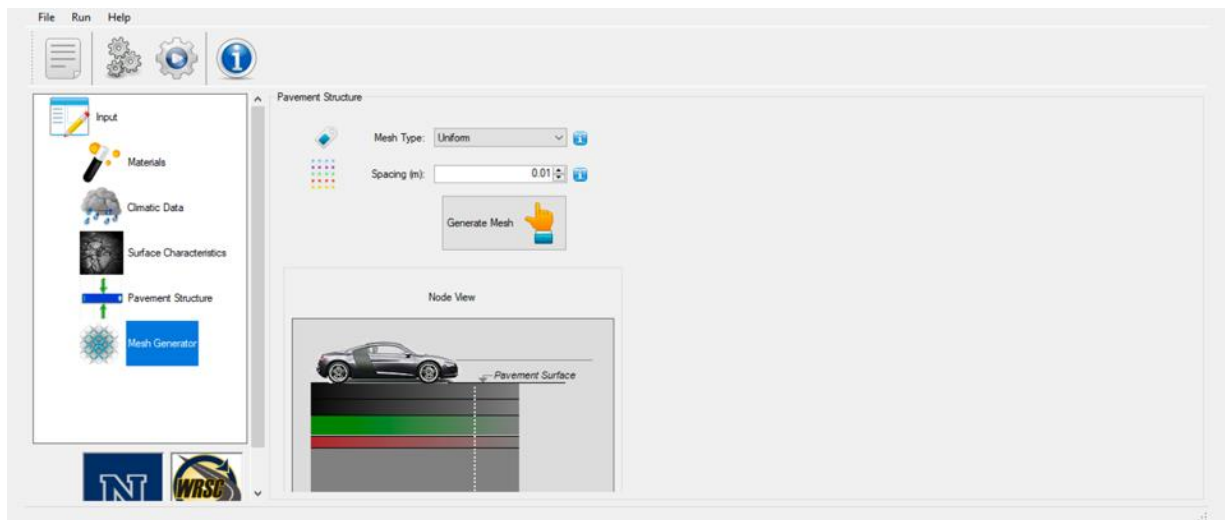


Figure 5.11. TEMPS Input Step 3/5 - Surface Characteristics.



**Figure 5.12. TEMPS Input Step 4/5 - Pavement Structure.**

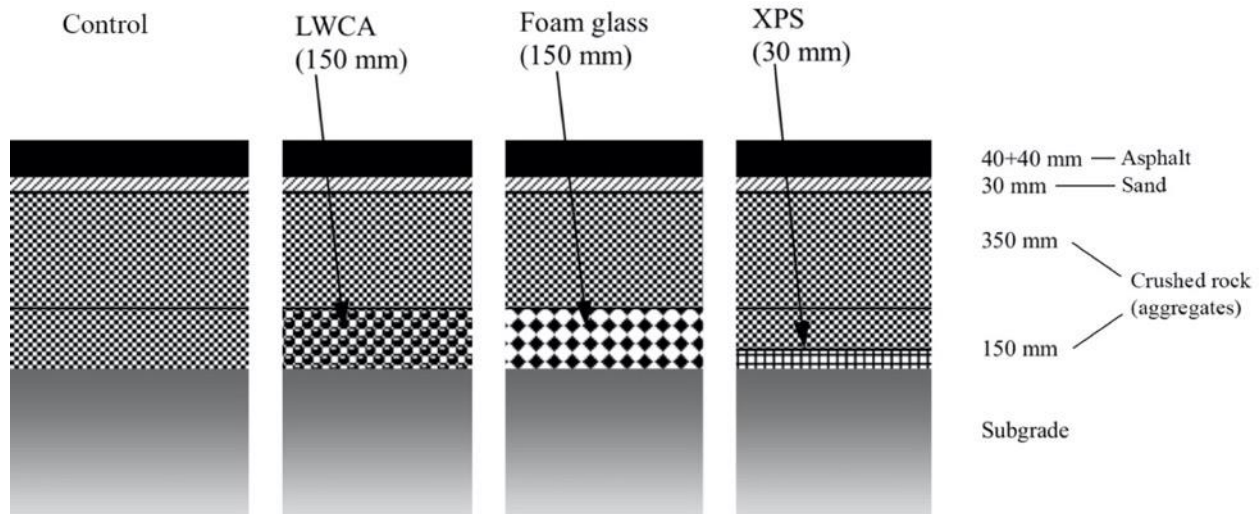


**Figure 5.13. TEMPS Input Step 5/5 - Mesh Generator.**

## 5.7 Simulation Results

Since the goal of thermosyphons and insulative materials is to keep the subgrade temperature as low as possible throughout the year, the extent to which these techniques do so compared to

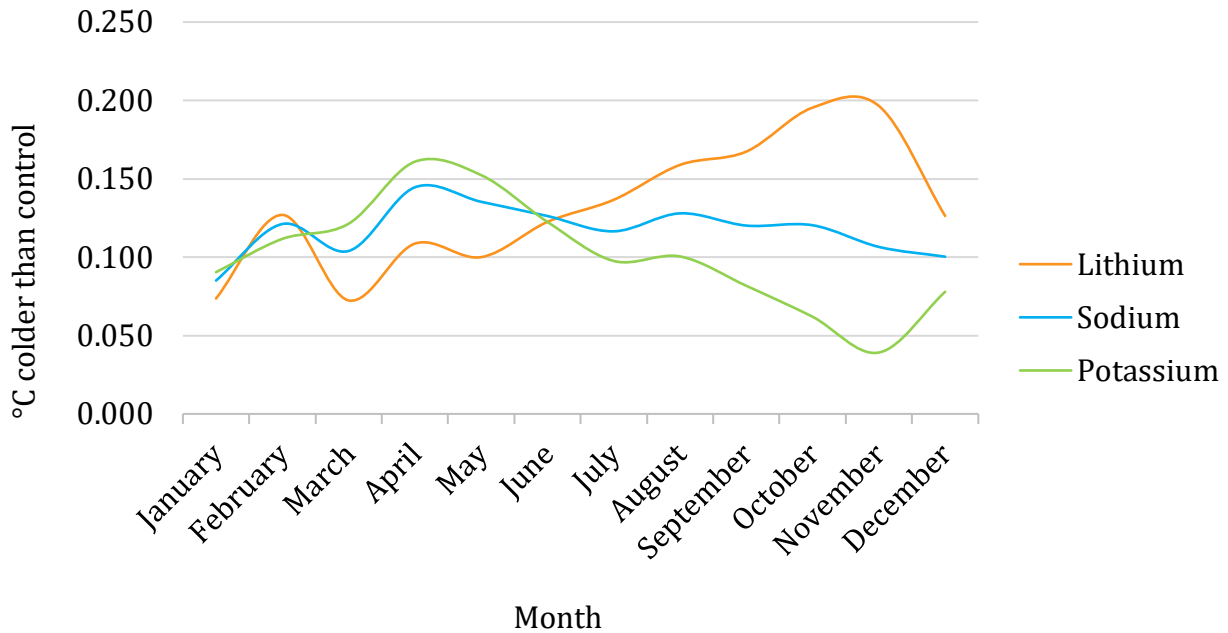
control is of primary interest. Figure 5.15 presents a plot of degrees Celsius cooler at the subgrade surface (i.e. bottom of pavement structure) of the three thermosyphon fluids compared to a control pavement structure without any permafrost cooling technique present. Figure 5.16 presents an analogous plot for the insulative materials of LWCA, FGA, and XPS.



**Figure 5.14. Schematic of design thickness for the three insulation materials used (adapted from Øiseth *et al.*, 2006).**

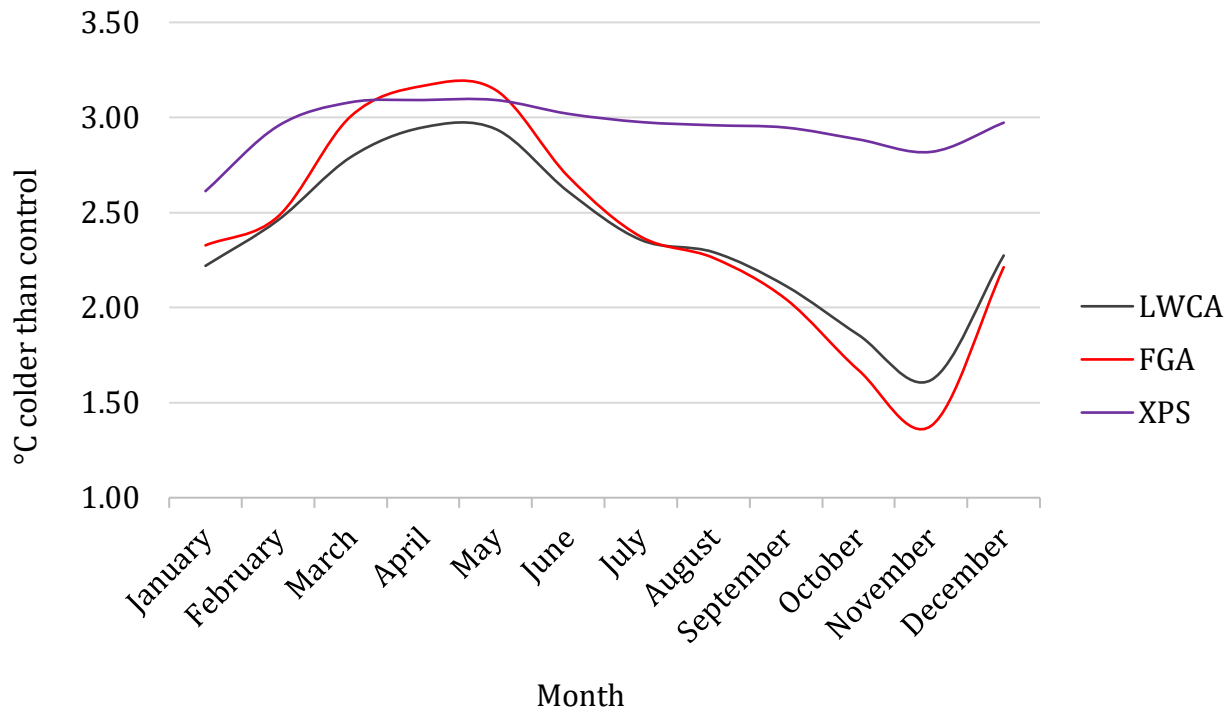
A chi-squared test was performed to verify whether the difference between using each permafrost protection technique and the control is statistically significant. The temperature at the subgrade surface for all simulations ranged from  $-30^{\circ}\text{C}$  to  $50^{\circ}\text{C}$  and were divided into eight intervals (increments of  $10^{\circ}\text{C}$ ) for the chi-squared test. The degrees of freedom used was 7 ( $\text{DF} = 7$ ) and the confidence interval selected was 95% ( $p = 0.05$ ). It was found that using thermosyphons with alternative fluids did not make a statistically significant difference. The difference made by using thermosyphons with these fluids, as seen in Figure 5.15, is quite small in magnitude. This is likely due to the relatively high thermal conductivity of all three alkali metal fluids and TEMPS's inability to fully simulate the effects of convection. Since the results

for these potential thermosyphon fluids were statistically insignificant (i.e. potentially random), their trend will not be discussed further.



**Figure 5.15. Degrees Celsius cooler of designs with lithium, sodium, and potassium thermosyphon fluids compared to control.**

On the other hand, the chi-squared test, using the same degrees of freedom and confidence interval as above, confirmed the statistical significance of the results for the three insulative materials. By looking at Figure 5.16, it can be seen that XPS outperforms LWCA and FGA for the greater part of a year. FGA briefly surpasses XPS during spring thaw but deteriorates in performance throughout the summer along with LWCA, and both are least effective just before November. This can likely be explained by XPS's relatively high heat capacity and low thermal conductivity. Based on this, XPS has the highest overall performance, although FGA could potentially be considered for areas especially sensitive to spring thaw. FGA and XPS follow a similar trend and field testing of both materials may be worthwhile to better understand their performance trend and associated engineering implications.



**Figure 5.16. Degrees Celsius cooler of designs with LWCA, FGA, and XPS compared to control.**

### 5.8 Chapter 5 Summary

A pavement design was adapted and verified using PAVEXpress for a total ESAL of 2.59 million ESALs over 20 years. Three thermosyphon fluid alternatives and three insulation materials were inserted into the verified pavement structure and modelled for thermal performance using TEMPS.

Thermosyphons dissipate heat upward via passive convection made possible by its working fluids. Lithium, sodium, and potassium were considered as alternatives to the more harmful FC-based refrigerants traditionally found in thermosyphons. Lithium, sodium, and potassium are readily available and relatively economical, though risks associated with their presence in

the natural environment should be investigated. The three fluids selected for simulation did not make statistically significant differences to the subgrade temperature, but this is likely because TEMPS is unable to fully simulate the effects of convection.

Insulation layers have long been used in pavement structures to prevent heat transfer between the pavement structure and the subgrade. Although typically used to prevent frost from penetrating the subgrade, the reversed use of keeping the heat absorbed by the pavement structure away from the subgrade is also an important application. Light-weight concrete aggregates (LWCA), foam glass aggregates (FGA), and extruded polystyrene (XPS) were considered as innovative alternatives to the traditional thick aggregate fills or polystyrene sheets. XPS was found to be most effective throughout the year except for about a 1.5-month period during spring thaw when FGA has slightly better performance. This suggests that FGA could be used in areas that are especially sensitive to spring thaw.

Recommendations for future modelling work include the repetition of this study with different thermosyphon fluids, surficial characteristics data that coincide geographically with the climatic data used and using a 3D thermal modelling program that can account for transience (e.g. events that take place over time, like convection).

The main conclusion to be drawn from this Chapter is that the thermal regime of subgrades is generally sensitive and dependent on its surrounding. According to the simulation, inserting even a small amount of material in the structure above can change the subgrade temperature by up to 3.25°C.



## Chapter 6 Field Study Results and Discussions

### 6.1 Sources of Error and Statistical Significance

Two main sources of error are taken into account in this section: short data collection period and one lost sensor.

The first complete set of data across 10 locations was logged on January 21<sup>st</sup>, 2019 as initial installation took place from January 16<sup>th</sup> to January 21<sup>st</sup>, 2019. The last set of data used in this analysis was collected on October 3<sup>rd</sup>, 2019. As such, the data collection period was only 255 days, or 8 months and 12 days, which is 70% of one calendar year.

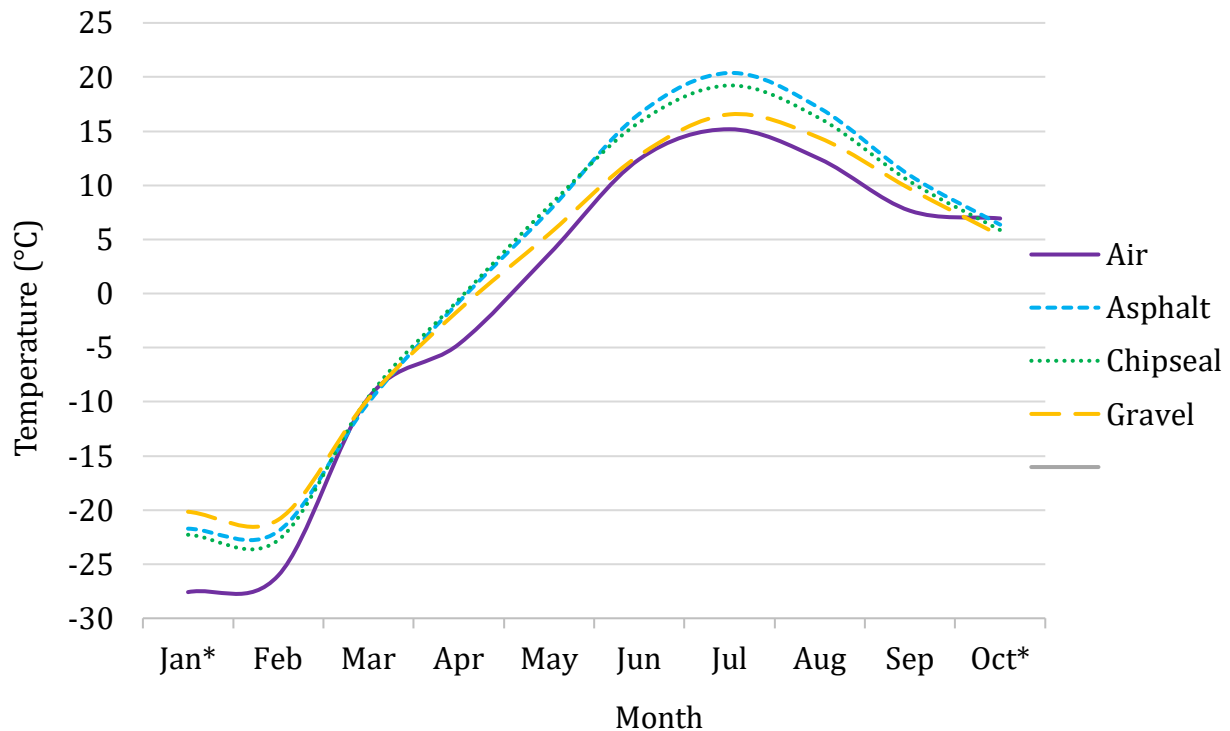
In October 2019, several attempts were made to establish communication to thermistor string #10 (logger E531A5), located in the gravel road surface directly adjacent the 'Reid Lake/Lac Reid' sign. No signal was detected after extensive search efforts and it was concluded that the thermistor string was damaged or displaced during grading and maintenance of the gravel surface. String #10 was last visited in May 2019, meaning only 4 months of data is available for this site as opposed to 8.5 months. Data from string #10 were therefore excluded in this study, which reduced the sample size by 10%.

Given the small sample size ( $N = 9$ ) and short data collection period, a statistical analysis was omitted. The results in this section should not to be extrapolated on its own but can be used to inform future analyses of data collected at these sites. Data can be expected to be collected for 20 years per the design battery life reported by the manufacturer. In October 2019, loggers reported battery usage of less than 0.1% after 8 months.

### 6.2 Average Road and Air Temperatures

Per Section 2.1.2, anthropogenic effects are of concern in this study in addition to climate change. One of the ways to quantify the thermal impact of infrastructure on existing ground (and therefore the underlying permafrost) is to compute the difference in temperature between each road surface type and nearby ground.

Average monthly temperature at the depth of 0.3 m from January to October 2019 can be seen in Figure 6.1. As expected, asphalt exhibited the highest temperature in summer months (June, July, August), followed by chipseal and gravel. Chipseal was found to be colder than asphalt in winter months, followed by gravel, which is different from the hypothesized trend. Chipseal is however only about 4% colder than asphalt at this depth in the coldest month of February, which could be said to be negligible given the small sample size (2 asphalt sites and 3 chipseal sites) and length of observation. Minimum, maximum, average, and standard deviation of temperatures and recorded along the Ingraham Trail can be seen in Table 6.1, along with those of air temperature at Chan Lake Road.



**Figure 6.1. Average monthly temperature at 0.3 m below ground (\* = months with incomplete data).**

**Table 6.1. Minimum and maximum temperatures recorded along the Ingraham Trail.**

	Maximum temperature (°C)	Minimum temperature (°C)	Average temperature (°C)	Standard Deviation (°C)
Asphalt	29.73	-29.93	4.27	15.36
Chipseal	28.08	-31.66	3.95	15.22
Gravel	24.65	-26.72	2.76	13.61
Control	14.16	-6.89	3.25	5.89
Air	34.00	-42.40	-1.83	15.91

All three surface types were significantly warmer in summer months and much colder in winter months compared to nearby ground (control). This increased heat flux is evidence of the substantial impact that roads have on the thermal regime of natural ground. It is worth noting that both the road surface and off-road control areas were covered with snow for the duration of the winter months, though the exact time of thaw at each location cannot be confirmed, nor the thickness of the snow cover.

Since data for Ingraham Trail was only collected for less than a year, supporting data from Chan Lake Road was obtained and plotted in Figure 6.2. The crossover between the temperature of air and road surfaces in October shown in the Ingraham Trail plot is corroborated by data from Chan Lake Road. Air temperature is also, for most of the year, cooler than road surfaces in both cases. However, there is a crossover in March for Ingraham Trail that is not seen in the Chan Lake Road Data.

Daily average air temperature from the Yellowknife Airport along with that of three road surface types and control along Ingraham Trail were plotted by month as seen in Figure 6.3. It can be seen that air temperature is lower than that of all three road surface types year-round. It can also be seen that the control surface (natural ground) does not experience as much fluctuation in temperature throughout the year. These observations indicate that the effects of infrastructure on the thermal regime of a ground surface are significant.

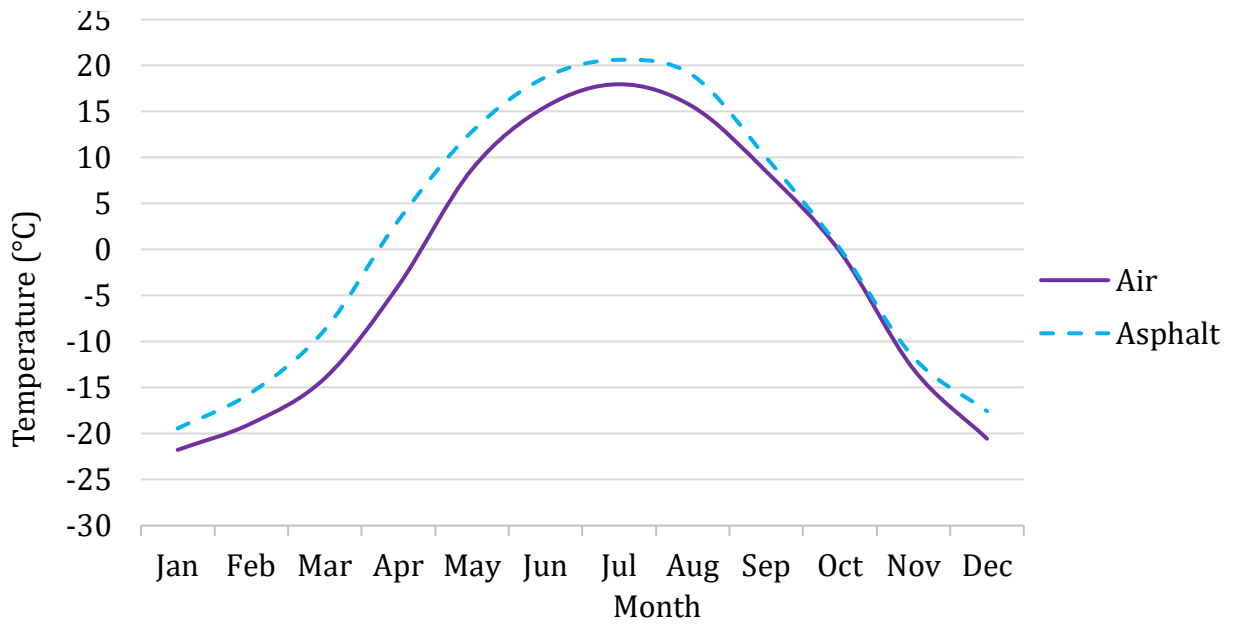


Figure 6.2. Average monthly air and road surface temperatures of Chan Lake Road.

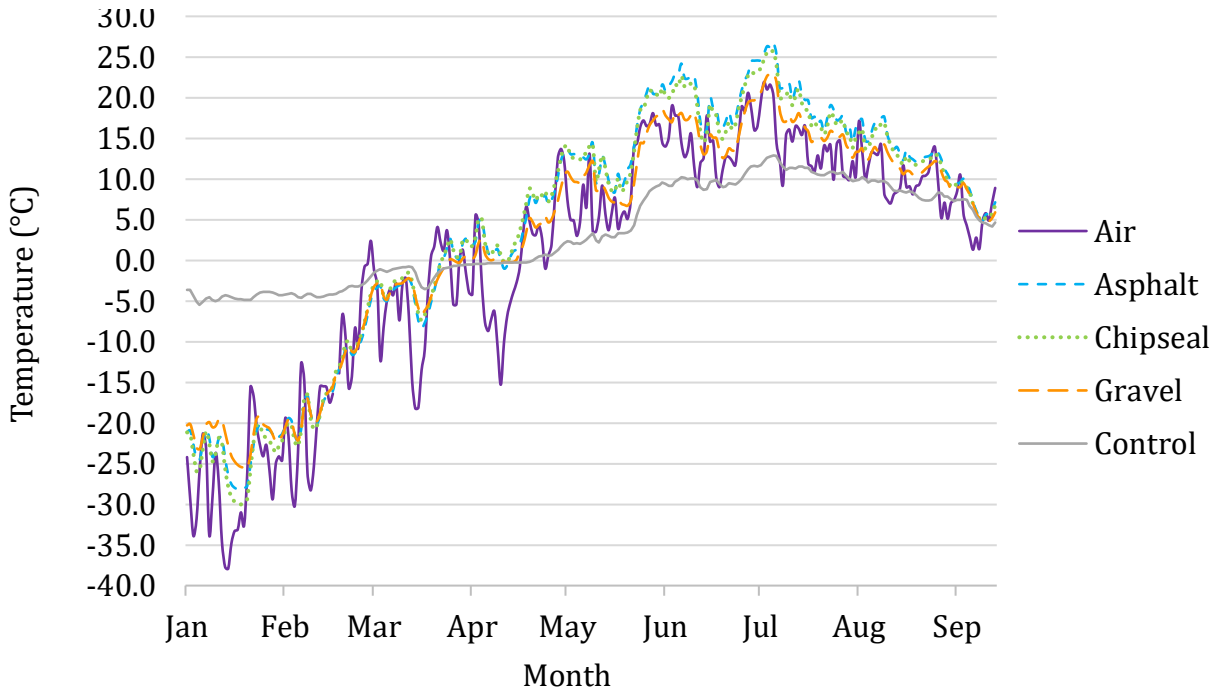


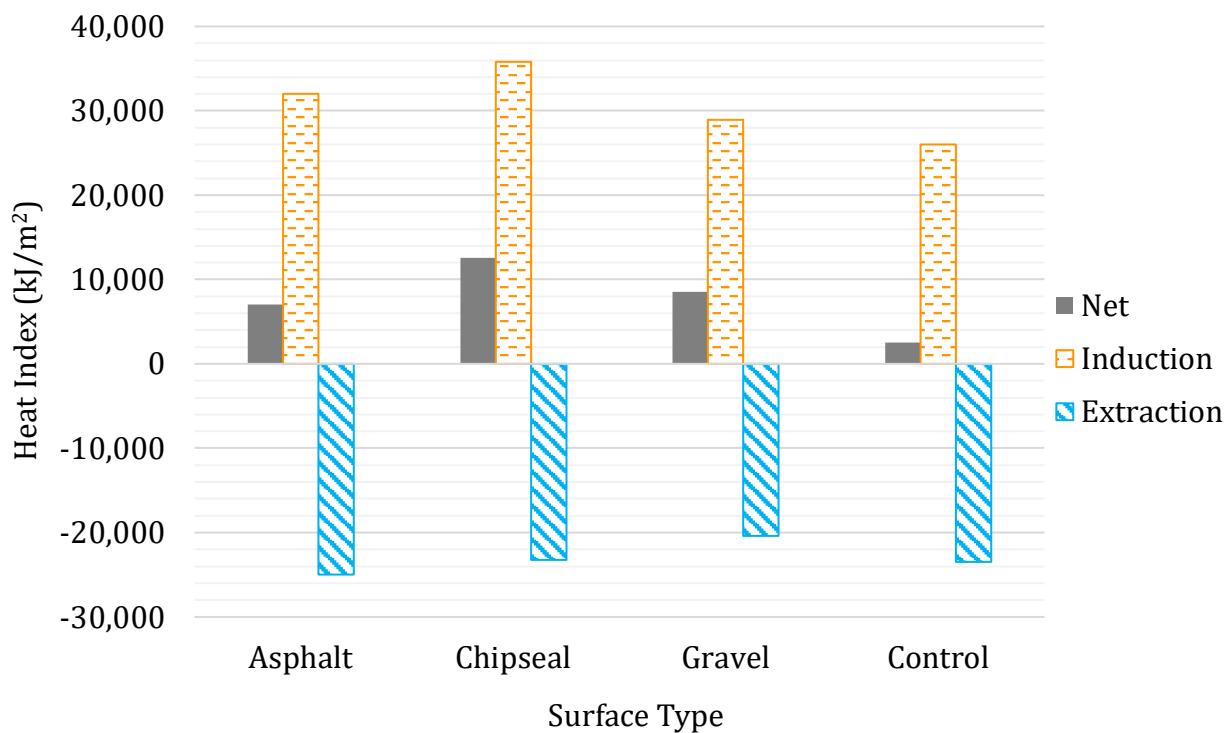
Figure 6.3. Temperature of air, three surface types, and control by month.

### 6.3 Heat Balance

Heat balance is calculated by summing  $H_x$  and  $H_i$  ((3.3 and (3.4) and represents the instantaneous net heat present in a plane. In this analysis, positive heat balance represents more heat being transferred from air to asphalt, while negative heat balance represents more heat being transferred from asphalt to air.

#### 6.3.1 By Surface Type

The positive and negative terms of a heat balance equation represent induction and extraction, respectively. By plotting the induction and extraction of each surface type alongside heat balance (or net heat flux), per Figure 6.4, it can be seen that chipseal induced (or absorbed) the most amount of heat, while asphalt released (or had extracted from it) the most.



**Figure 6.4. Heat balance, induction, and extraction by surface material type.**

Over the 8-month period, chipseal saw the most positive heat balance (net heat index) increase, meaning it absorbed the most heat. This is different than the expectation that asphalt would be the most heat-absorbent. Asphalt, in an isolated environment, is expected to induce the most heat due to its darker colour, higher density and lower porosity compared to the other two surface materials. However, snow cover, solar radiation, drainage, subgrade type and moisture content, and asphalt binder content could explain the observed in-field behaviour.

Over 8 months, all four surface types saw a net increase in heat balance, but this may be due to incomplete data. In other words, there may be more, less, or no increase in heat gain if one full year (or more, so long as number of months is multiple of 12) of data were available for analysis. Regardless of seasonal/cyclic behaviour, it was observed that the net heat index of asphalt was 63.9% more than that of control, while chipseal was 79.8% more, and gravel was 70.2% more.

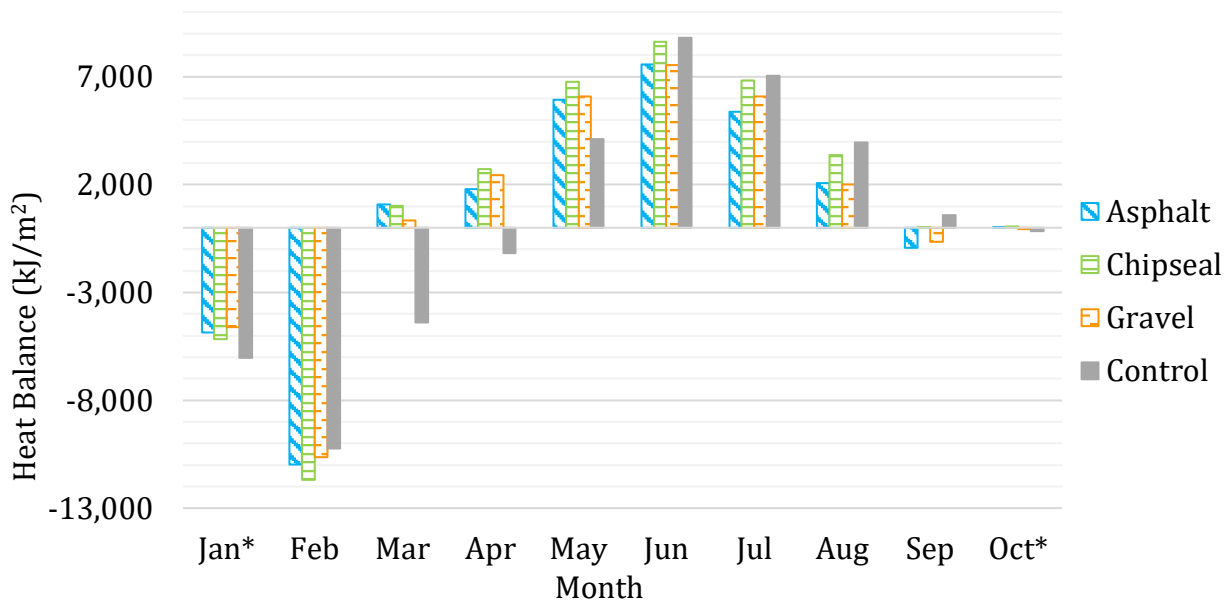
### 6.3.2 By Month

Figure 6.5 was obtained by summing  $H_x$  and  $H_i$  for each calendar month for each material. It can be seen that heat was being extracted from all four surface types in January and February. This makes sense as air temperature is expected to be lower than surface temperature during winter months, meaning heat will travel from the warmer road surface into the air. However, results from January should not be compared quantitatively to results from February as data was only collected for 10 days in January (21<sup>st</sup> to 31<sup>st</sup>), leading its magnitude (since the equation is a summation) to be smaller.

In March and April, it can be seen that the three road surfaces were inducing heat, while heat was still being extracted from control. This means that on average over that month, the road surface was entirely warmer than deeper in the embankment, compared to the control surfaces and below. This can be explained by spring thaw of the road structure, starting with the surface. Snow on the road surface likely thawed quicker/earlier than on the control surfaces due to difference in emissivity and therefore absorbed solar radiation. This

phenomenon highlights the interaction between climate change and anthropogenic effects, and the role they collectively play in subgrade permafrost degradation.

Chipseal displayed the most positive heat index in April and May (see possible explanation in Section 6.3.1). It is however slightly surpassed by control in June, July and August. In other words, control surfaces were on average warmer than its subsurface, and the magnitude of the difference is larger than that of the road surface. Among other things, this can imply that more heat has travelled into the road embankment since the surface is now cooler in comparison.



**Figure 6.5. Heat balance by month (\* = months with incomplete data).**

The opposite observation was made in September compared to March and April. In this case, it would appear that so much heat has travelled into the road embankment that the road is now warmer than the air, which is cooling as summer transitions to fall, and the direction of net heat flow has been reversed. The control surface is still inducing heat at this time, though at a smaller extent, so the same explanation can be provided.

Only 3 days of data were collected for October, hence the low heat balance (again, since the equation is a summation). It is however expected that results to October would have followed closely to that of September, in which the heat balance of control would approach zero or falling below zero.

### 6.3.3 By Time of Day

Values of extracted heat at the same time each day were averaged and plotted against time of day as seen in Figure 6.6, as were values of induced heat, in Figure 6.7. Heat is generally extracted from the surface in the winter and induced by the surface in the summer, so plotting induction and extraction separately can shed light on season behaviours. It can be seen that induced heat balance fluctuates at a greater magnitude than that of extracted heat. When heat is being extracted (i.e. in the winter), there is close to no change for the control and gravel surfaces. For chipseal, the amount of extracted heat is lowest between midnight and 8 AM, followed by a small increase, then plateaus for the rest of the day. Heat extracted from asphalt is lower in magnitude than that extracted from chipseal but is most significant at around 8 AM as well. It however starts decreasing at 6 PM and restarts the same cycle by 10 PM.

When heat is being induced (i.e. in the summer), the greatest fluctuation in heat balance is observed in asphalt. Heat induction/absorption peaks between 2 and 3 AM, which can be explained by latency (Kodippily, Yeaman, Henning, & Tighe, 2018). Air temperature is generally warmest in early afternoons, and the warmth is felt by asphalt with a slight delay.

### 6.3.4 Vs. Thermal Gradient

Thermal gradient ( $^{\circ}\text{C}/\text{m}$ ) is calculated by dividing the difference between the temperature at 0.3 m and that at 0.2 m below by the absolute distance of 0.1 m. Heat balance was plotted against thermal gradient as seen in Figure 6.8. It can be seen that the relationship between heat balance and thermal gradient for all three surface materials are overlap significantly at thermal gradients below  $-1.5^{\circ}\text{C}/\text{m}$  and above  $0^{\circ}\text{C}/\text{m}$ . However, the heat balance of each material exhibits some divergence between thermal gradients of  $-1.5$  and  $0^{\circ}\text{C}/\text{m}$  (Figure 6.9), which is a frequent scenario as evidenced by the concentration of data points in this range. In this range,



most heat is extracted from chipseal, followed by control, asphalt, and gravel, which is different from the expected trend. This is evidence that the in-field thermal regime of a road surface cannot simply be predicted based on properties of its constituents.

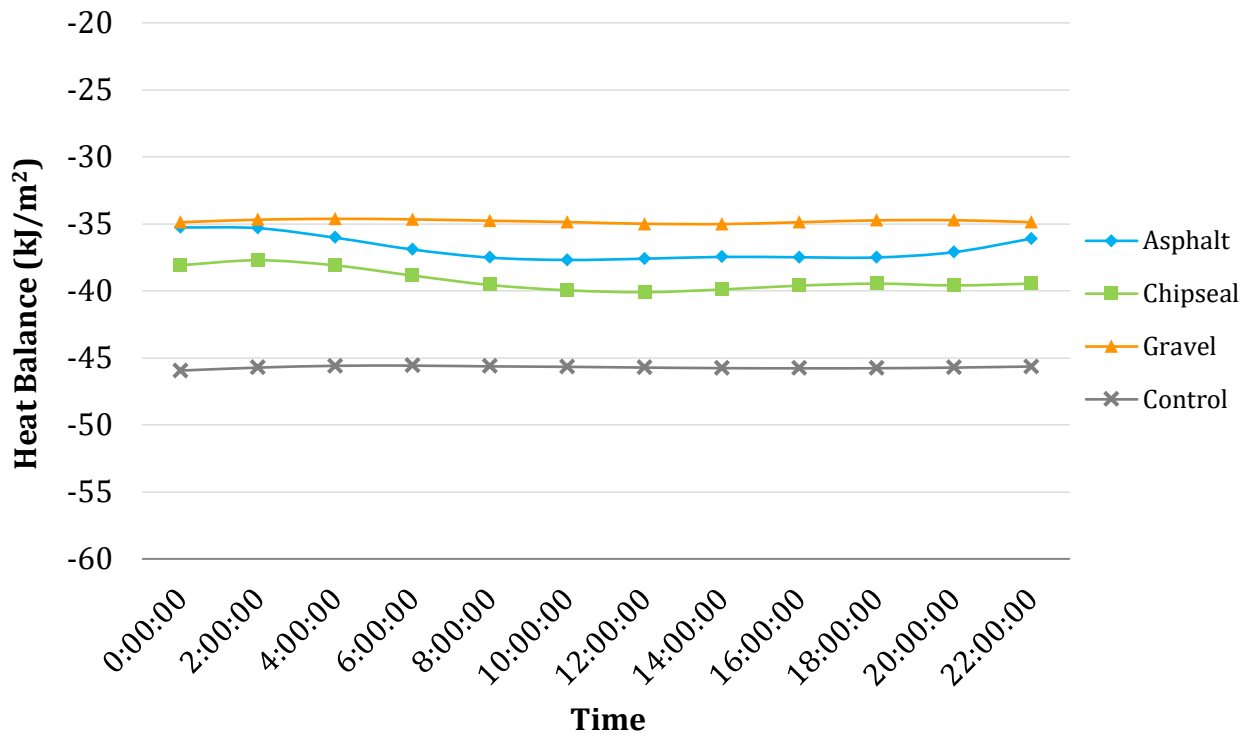


Figure 6.6. Average extracted heat by time of day.

Regression analysis was performed on the heat balance vs. thermal gradient relationship for all three road surface types. The coefficient of determination ( $R^2$ ) was  $> 0.999$  for all three surface types. Regression equations can be seen in

Table 6.2. Regression equations describing the relationship between thermal balance and heat gradient. These equations have the potential to predict heat balance (extraction or induction) based on the difference in temperature between two points in a road structure.

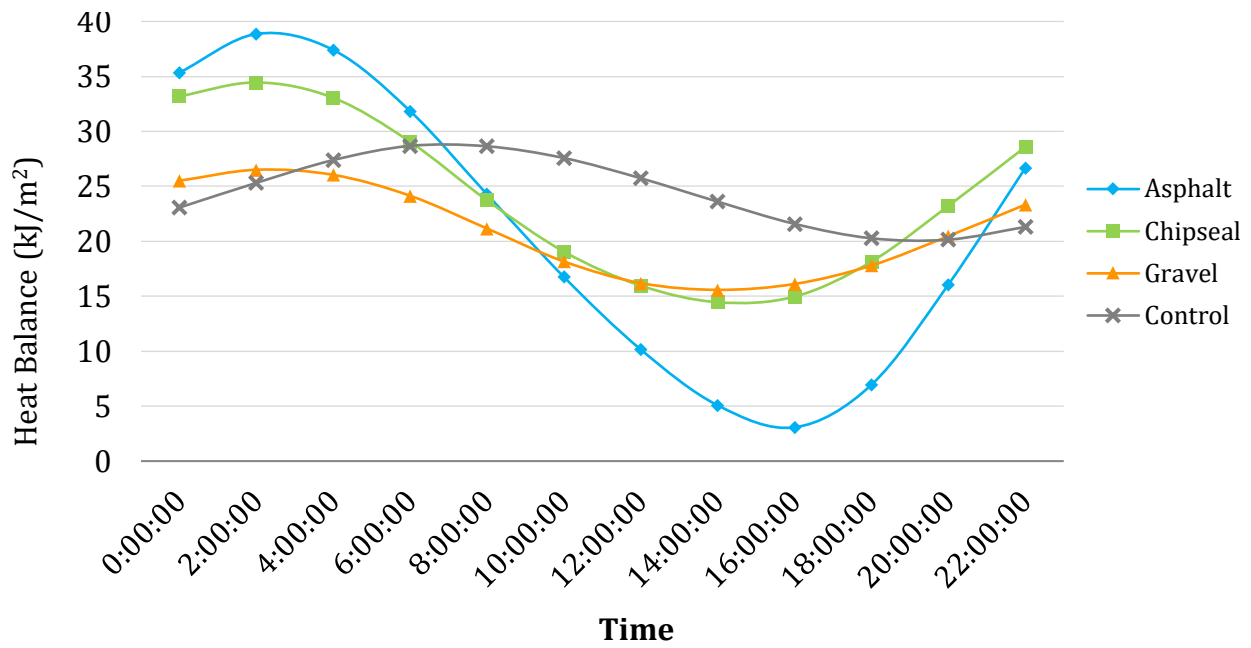


Figure 6.7. Average induced heat by time of day.

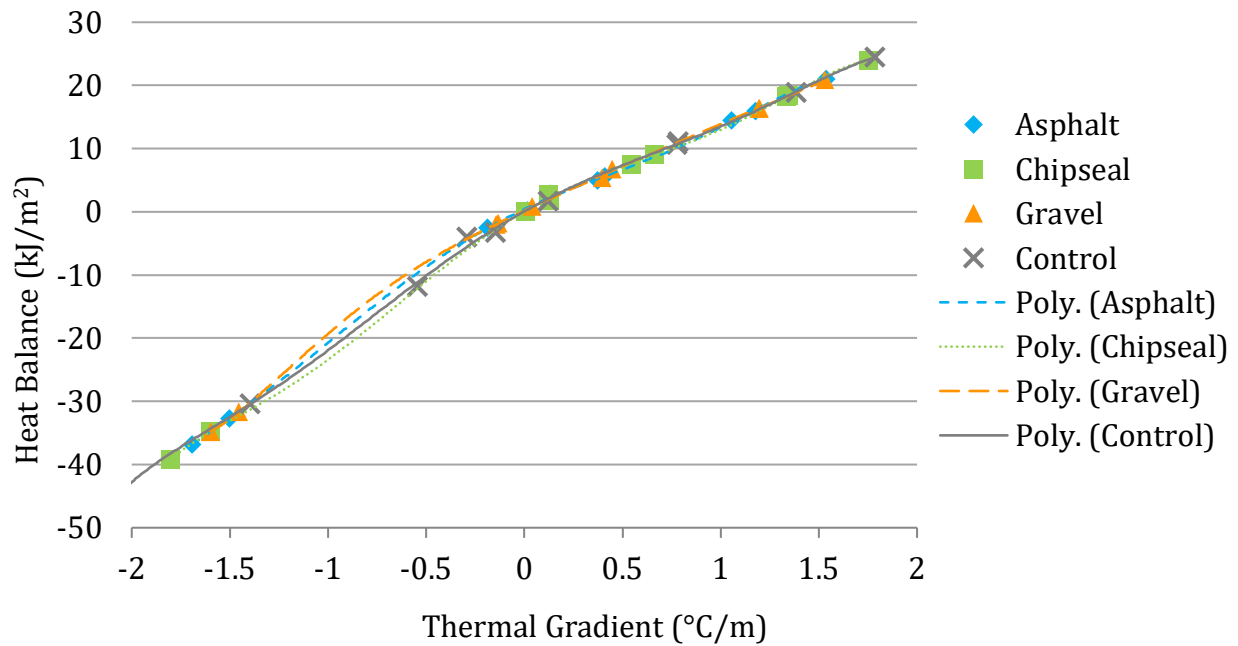


Figure 6.8. Heat balance vs. thermal gradient with trendlines, from -2°C/m to 2°C/m.

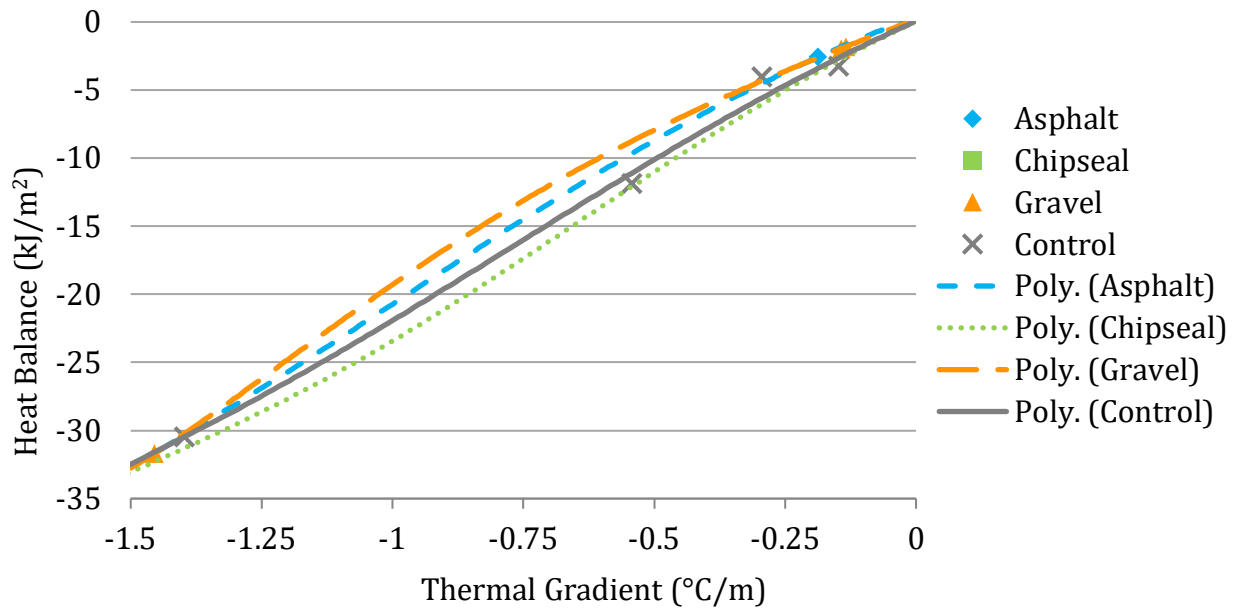


Figure 6.9. Heat balance vs. thermal gradient with trendlines from -1.5°C/m to 0°C/m.

Table 6.2. Regression equations describing the relationship between thermal balance and heat gradient.

	Regression equation (x = thermal gradient in °C/m)	R <sup>2</sup>
Asphalt	$-0.5065x^6 - 0.7828x^5 + 2.6408x^4 + 3.1447x^3 - 6.2201x^2 + 14.67x + 0.3982$	> 0.999
Chipseal	$-0.7425x^6 - 0.117x^5 + 4.4485x^4 + 0.2207x^3 - 8.9552x^2 + 18.111x + 0.0423$	> 0.999
Gravel	$-0.4854x^6 - 0.5049x^5 + 1.5269x^4 + 2.5602x^3 - 1.8375x^2 + 14.542x + 0.1867$	> 0.999

#### 6.4 Road vs. Air Temperatures

Finally, it may also be meaningful to show the relationship between air and surface temperatures. These data were plotted for both Ingraham Trail and Chan Lake Road, in Figure 6.10 and Figure 6.11 respectively. The linear regression analysis results for both locations are shown in Table 6.3. The coefficient of determination was > 0.98 in all cases except for the Chan Lake Road asphalt dataset.

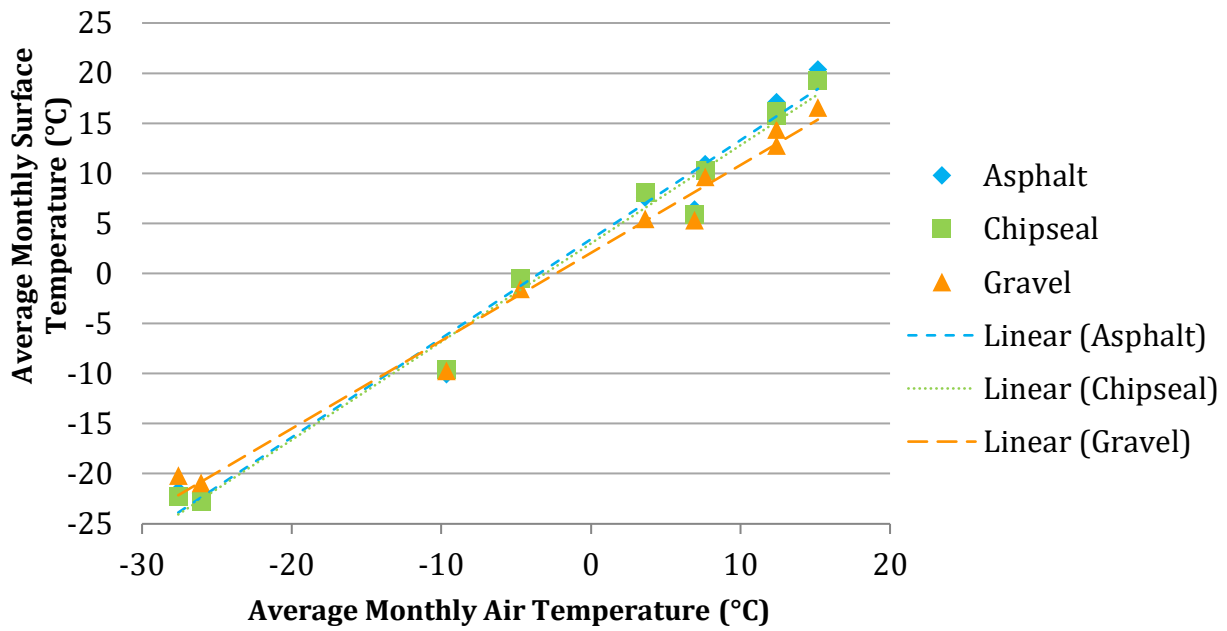


Figure 6.10. Average monthly surface vs air temperatures, Ingraham Trail.

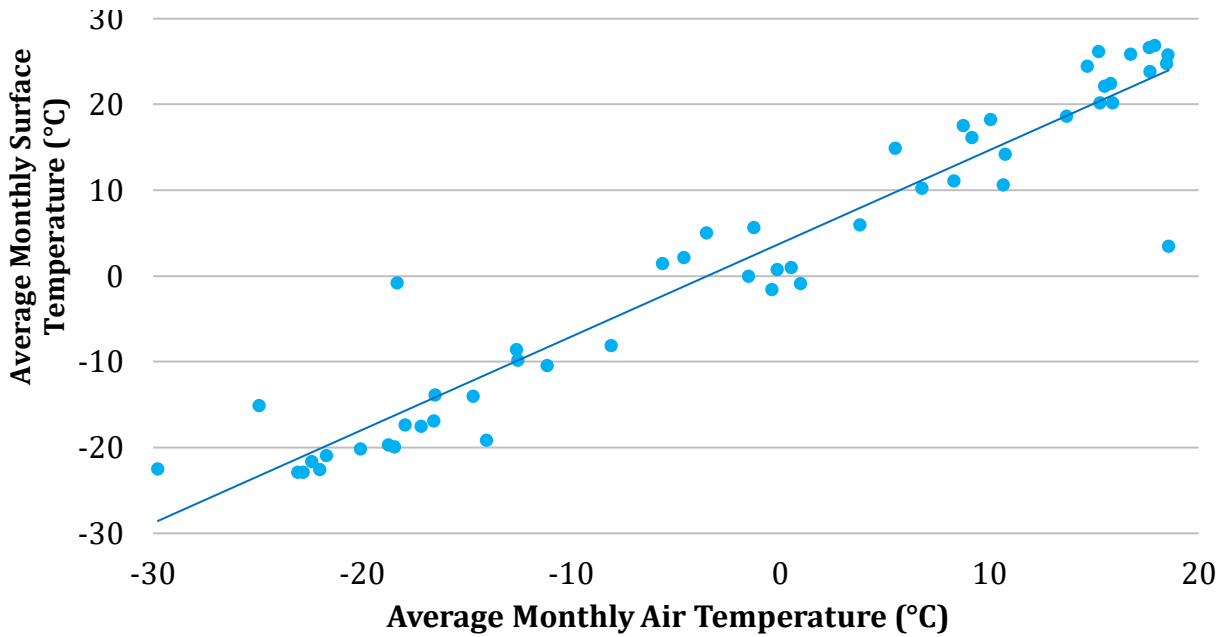


Figure 6.11. Average monthly surface vs air temperatures, Chan Lake Road.

**Table 6.3. Regression equations for surface vs. air temperatures.**

	Regression equation (x = air temperature in °C)	R <sub>2</sub>
Asphalt	$0.9891x + 3.4074$	0.9805
Chipseal	$0.9807x + 2.986$	0.9838
Gravel	$0.877x + 2.0439$	0.9841
Asphalt (Chan Lake Road)	$1.087x + 3.8039$	0.9193

### 6.5 Chapter 6 Summary

This Chapter presented and analyzed temperature data collected along Ingraham Trail, which has three different surface types: asphalt, chipseal, and gravel. Data were also collected from nearby natural ground as control. Analyses conducted are as follows: comparison of average road and air temperature, heat balance by surface type, heat balance by month, heat balance by time of day, heat balance vs. thermal gradient, and road vs. air temperature. Regression equations were generated for heat balance vs. thermal gradient, and road vs. air temperature.

In examining average road and air temperatures, asphalt was found to be warmest in temperature, as expected, from March to October (with no data available for November and December). It was however surpassed by gravel between January and February, likely due to the combined effects of climate warming and thermal regime disturbance by the road itself. Chipseal has the highest positive heat balance by surface material type along the Ingraham Trail, meaning it absorbed the most amount of heat, which is different from the expectation that asphalt would be the most heat-absorbent. This indicates the importance of field investigations and is a sign that combined effects of climate change and manmade structures are at play.

Chipseal displayed the most positive heat index by month in April and May. It is however slightly surpassed by control in June, July and August. Again, this unusual finding indicates

the importance of field investigations and is a sign that combined effects of climate change and manmade structures on permafrost cannot easily be studied otherwise.

When examined by time of day, there is nearly no change in heat balance when heat is being extracted (i.e. during winter months) compared to when heat is being induced (i.e. during summer months). When heat is being induced, the greatest fluctuation in heat balance is observed in asphalt. This indicates an increased thermal disturbance to the pavement and subgrade when exterior temperature is high, which will become increasingly frequent with climate change.

Examining heat balance against thermal gradient allowed regression equations to be developed for each of the three surface material types, each with a coefficient of determination greater than 0.999. This can be used to predicting extent of thermal disturbance to permafrost subgrade beneath the road embankment when temperatures at two depths are known.

## Chapter 7 Conclusions and Recommendations

Much of Northern Canada is underlain with permafrost, notably discontinuous/high-temperature permafrost which is particularly sensitive to the temperature of its surrounding. Climate change and anthropogenic effects have combined impacts on permafrost, which are leading to the premature failure of infrastructure and elevated spending on maintenance and rehabilitation. As a result, a myriad of permafrost protection techniques to be implemented in road structures have emerged over the past several decades. However, there are relatively few studies that compare the feasibility and performance of these techniques. There is also only a low number of field studies that examine the in situ thermal regime of permafrost influenced by both climate change and infrastructure.

In light of the above, this study conducted a literature scan for qualitative feasibility comparison of existing permafrost protection techniques, simulated select techniques for quantitative performance comparison using TEMPS, and examined the in situ thermal regime through a field study along the Ingraham Trail in Yellowknife, NWT. The following specific conclusions were drawn:

1. Of the nine permafrost protection techniques examined – embankment insulation, reflective surfaces, shading, ventilation pipes, thermosyphons, air convection, geosynthetics, pre-thawing, and heat-dissipating structures and materials – the latter eight were deemed suitable for high-temperature (discontinuous) permafrost only, embankment insulation was deemed suitable for low-temperature (continuous) permafrost only, and most heat-dissipating pavement structures may be suitable for both high- and low-temperature permafrost.

2. Thermosyphons are widely accepted as being the most effective permafrost protection technique in high-sensitivity areas, though it is the most expensive of the nine types examined.
3. The three alkali metal selected as alternative thermosyphon fluids did not have statistically significant effects on subgrade temperature compared to control.
4. Of the three materials considered for insulative layers in the TEMPS simulation – light-weight concrete aggregates (LWCA), foam glass aggregates (FGA), and extruded polystyrene (XPS) – XPS was found to have the best quantitative performance throughout the year except for about a 1.5-month period during spring thaw when FGA has slightly better performance.
5. In examining average road and air temperatures along the Ingraham Trail, asphalt was found to be warmest in temperature, as expected, from March to October (with no data available for November and December). It was however surpassed by gravel between January and February, likely due to the combined effects of climate warming and thermal regime disturbance by the road itself.
6. Chipseal has the highest positive heat balance by surface material type along the Ingraham Trail, meaning it absorbed the most amount of heat, which is different from the expectation that asphalt would be the most heat-absorbent. This indicates the importance of field investigations and is a sign that combined effects of climate change and manmade structures are at play.
7. Chipseal displayed the most positive heat index by month in April and May. It is however slightly surpassed by control in June, July and August. Again, this unusual finding indicates the importance of field investigations and is a sign that combined effects of climate change and manmade structures on permafrost cannot easily be studied otherwise.
8. When examined by time of day, there is nearly no change in heat balance when heat is being extracted (i.e. during winter months) compared to when heat is being induced



(i.e. during summer months). When heat is being induced, the greatest fluctuation in heat balance is observed in asphalt. This indicates an increased thermal disturbance to the pavement and subgrade when exterior temperature is high, which will become increasingly frequent with climate change.

9. Examining heat balance against thermal gradient allowed regression equations to be developed for each of the three surface material types, each with a coefficient of determination greater than 0.999. This can be used to predicting extent of thermal disturbance to permafrost subgrade beneath the road embankment when temperatures at two depths are known.

Overall, three main gaps are evident:

- There is insufficient qualitative and quantitative information on the cost, performance, and other considerations related to permafrost protection techniques.
- Areas of improvements should be identified for the most effective permafrost protection techniques such that their cost can be reduced for mass application.
- Climate change and the presence of infrastructure have combined effects on permafrost degradation that is not obvious to quantify and is likely not simply the summation of the individual impacts of each factor.

To that end, the following recommendations are provided for future work relating to permafrost degradation and its impact on Northern infrastructure in light of climate change:

- A systemic literature review to qualitatively identify, compare, and contrast the functions, efficiency, constructability, design requirements, and precedents (if any) of existing permafrost protection techniques.

- A systemic and quantitative performance evaluation of existing permafrost protection techniques should be conducted so that costs can be more easily justified by jurisdictions wishing to implement a technique.
- Three-dimensional modelling of all permafrost protection techniques should be conducted and calibrated using field data so that site-specific performance predictions can be made.
- Data along the Ingraham Trail should continue to be collected and downloaded for longitudinal analysis of road and air temperatures as well as heat balance; and the same analyses conducted in this study should be repeated when one full year of data becomes available to verify trends discussed.
- Thermistor strings of longer than 30 cm, ideally 1 to 2 m in length, should be installed along the Ingraham Trail to verify that the trends discussed applies to lower portions of the road embankment.
- Road temperature data collected along the Ingraham Trail should be made available to other cold regions researchers to calibrate and verify existing models.

## References

- Bolaji, B. O. (2005). CFC refrigerants and stratospheric ozone: past, present and future. *Environmental Sustainability and Conservation in Nigeria*.
- Chen, J., Zhou, Z., Wu, J., Hou, S., & Liu, M. (2019). Field and laboratory measurement of albedo and heat transfer for pavement materials. *Construction and Building Materials*, 202, 46–57. <https://doi.org/10.1016/j.conbuildmat.2019.01.028>
- Cole, H., Colonell, V., & Esch, D. (1999). *The economic impact and consequences of global climate change on Alaska's infrastructure*. Assessing the Consequences of Climate Change for Alaska and the Bering Sea~....
- Darrow, M. M., & Jensen, D. D. (2016). Modeling the performance of an air convection embankment (ACE) with thermal berm over ice-rich permafrost, Lost Chicken Creek, Alaska. *Cold Regions Science and Technology*, 130, 43–58. <https://doi.org/10.1016/j.coldregions.2016.07.012>
- Doré, G., & Zubeck, H. (2009). *Cold Regions Pavement Engineering*. Retrieved from <http://trid.trb.org/view.aspx?id=903094>
- Du, Y., Wang, S., Wang, S., Chen, J., & Zhu, D. (2016). Integrative heat-dissipating structure for cooling permafrost embankment. *Cold Regions Science and Technology*, 129, 85–95. <https://doi.org/10.1016/j.coldregions.2016.07.002>
- Dysli, M. (1997). Related effects on frost action: Freezing and solar radiation indices. *Ground Freezing* 97, 3–23.
- Esch, D. C. (1988). Embankment case histories of permafrost. *Technical Council on Cold Regions Engineering Monograph*.
- Esch, D. C. (1996). Road and airfield design for permafrost conditions. In *Technical Council on Cold Regions Engineering Monograph*.
- Fontaine, M. (2016). *Ground Ice Content and Geochemistry of Active Layer and Permafrost in*

*Northwestern Arctic Canada.*

Goering, D. J. (2001). *ACE and Thermosyphon Design Features Loftus Road Extension Project*. 58.

Gorecki, G. (2018). Investigation of two-phase thermosyphon performance filled with modern HFC refrigerants. *Heat and Mass Transfer/Waerme- Und Stoffuebertragung*, 54(7), 2131–2143. <https://doi.org/10.1007/s00231-017-2264-4>

Government of the Northwest Territories. (2016). *Proposed Th̄ chq All-season Road Project Description Report*. (March).

Government of the Northwest Territories. (2017). *Northwest Territories 2017 Highway Traffic Report*.

Instanes, A., Fannin, R., & Haldorsen, K. (1998). Mechanical and Thermal Stabilization on Fill Materials for Road Embankment Construction on Discontinuous Permafrost in Northwest Russia. *Proceedings 7th International Permafrost Conference*.

Johnson, E. G. (1988). *Embankment Design and Construction in Cold Regions*.

Jones, P. D., & Wigley, T. M. L. (1990). Global warming trends. *Scientific American*.  
<https://doi.org/10.1038/scientificamerican0890-84>

Jørgensen, A. S., & Doré, G. (2009). Experimentation of several mitigation methods in Tasiujaq airport to minimize the effects caused by the melting of permafrost. *Proceedings of the International Conference on Cold Regions Engineering*, 171–182.  
[https://doi.org/10.1061/41072\(359\)20](https://doi.org/10.1061/41072(359)20)

Jørgensen, A. S., Doré, G., Voyer, É., Chataigner, Y., & Gosselin, L. (2008). Assessment of the effectiveness of two heat removal techniques for permafrost protection. *Cold Regions Science and Technology*, 53(2), 179–192. <https://doi.org/10.1016/j.coldregions.2007.12.002>

Kaplan, J. O., & New, M. (2006). Arctic climate change with a 2° C global warming: Timing, climate patterns and vegetation change. *Climatic Change*, 79(3–4), 213–241.

Kodippily, S., Yeaman, J., Henning, T., & Tighe, S. (2018). Effects of extreme climatic conditions on pavement response. *Road Materials and Pavement Design*.

<https://doi.org/10.1080/14680629.2018.1552620>

- Kong, X., Doré, G., & Calmels, F. (2019). Thermal modeling of heat balance through embankments in permafrost regions. *Cold Regions Science and Technology*, 158(November 2018), 117–127. <https://doi.org/10.1016/j.coldregions.2018.11.013>
- Lai, Y., Guo, H., & Dong, Y. (2009). Laboratory investigation on the cooling effect of the embankment with L-shaped thermosyphon and crushed-rock revetment in permafrost regions. *Cold Regions Science and Technology*, 58(3), 143–150. <https://doi.org/10.1016/j.coldregions.2009.05.002>
- Li, M., Zhi, X., Fang, C., & Zhang, Q. (2013). Study on New Treatment Technology of Subgrade Thaw Collapse and Deformation in Qinghai-Tibet Highway. *Procedia - Social and Behavioral Sciences*, 96(Cictp), 398–404. <https://doi.org/10.1016/j.sbspro.2013.08.047>
- Liu, M. C., Hubert, K., Tharmabala, S., & Humphrey, B. (2018). *Detailed Design of the Tlicho All-Season Road, Yellowknife, NWT*. Waterloo, ON, Canada.
- Liu, M. C., Hubert, K., & Tighe, S. L. (2019). Conceptual Design of Road and Bridge Substructure in Northern Canada with Considerations for Constructability and Climate Change. *CSCE Annual Conference*, 1–8.
- Luo, J., Niu, F., Liu, M., Lin, Z., & Yin, G. (2018). Field experimental study on long-term cooling and deformation characteristics of crushed-rock revetment embankment at the Qinghai-Tibet Railway. *Applied Thermal Engineering*, 139(January), 256–263. <https://doi.org/10.1016/j.applthermaleng.2018.04.138>
- Lyon, R. N.; Katz, D. L. (1950). *Liquid-Metals Handbook: A Guide to the Use of liquid Metals as Heat-Transfer Media*. Oxford University.
- M-Lepage, J., Doré, G., Fortier, D., & Murchison, P. (2012). Thermal Performance of the Permafrost Protection Techniques at Beaver Creek Experimental Road Site, Yukon, Canada. *10th International Conference on Permafrost*.
- Mueller, B. (2007). *Climate Change and Transportation in the NWT* (pp. 1–96). pp. 1–96.

- Nelson, F. E., Anisimov, O. A., & Shiklomanov, N. I. (2002). Climate change and hazard zonation in the circum-arctic permafrost regions. *Natural Hazards*.  
<https://doi.org/10.1023/A:1015612918401>
- Nidowicz, B., & Shur, Y. (1998). Pavement thermal impact on discontinuous permafrost. *Proceedings of the International Conference on Cold Regions Engineering*.
- Niu, F. J., Cheng, G. D., & Lai, Y. M. (2003). Laboratory study on a duct-ventilation roadbed of the Qinghai-Tibet railway. *Permafrost, Vols 1 and 2*.
- Øiseth, E., Aabøe, R., & Hoff, I. (2007). Field test comparing frost insulation materials in road construction. *Proceedings of the International Conference on Cold Regions Engineering*.  
[https://doi.org/10.1061/40836\(210\)62](https://doi.org/10.1061/40836(210)62)
- Pachauri, R. K., Allen, M. R., Barros, V. R., Broome, J., Cramer, W., Christ, R., ... others. (2014). *Climate change 2014: synthesis report. Contribution of Working Groups I, II and III to the fifth assessment report of the Intergovernmental Panel on Climate Change*. Ipcc.
- Peng, H., Ma, W., Mu, Y. H., & Jin, L. (2015). Impact of permafrost degradation on embankment deformation of Qinghai-Tibet Highway in permafrost regions. *Journal of Central South University*, 22(3), 1079–1086. <https://doi.org/10.1007/s11771-015-2619-2>
- Peng, H., Ma, W., Mu, Y. hu, Jin, L., & Yuan, K. (2014). Degradation characteristics of permafrost under the effect of climate warming and engineering disturbance along the Qinghai–Tibet Highway. *Natural Hazards*, 75(3), 2589–2605.  
<https://doi.org/10.1007/s11069-014-1444-5>
- Reimchen, D., Doré, G., Fortier, D., Stanley, B., & Walsh, R. (2009). Cost and constructability of permafrost test sections along the Alaska Highway, Yukon. *TAC/ATC 2009 - 2009 Annual Conference and Exhibition of the Transportation Association of Canada: Transportation in a Climate of Change*.
- Sabharwall, P., & Gunnerson, F. (2009). Engineering design elements of a two-phase thermosyphon for the purpose of transferring NGNP thermal energy to a hydrogen plant.

- Nuclear Engineering and Design*, 239(11), 2293–2301.  
<https://doi.org/10.1016/j.nucengdes.2009.06.022>
- Schöngaßner, T., & Hagemann, S. (2013). *Derivation of thermokarst distribution based on climate and surface characteristics*. 10701-.
- Shen, Y., Zuo, R., Liu, J., Tian, Y., & Wang, Q. (2018). Characterization and evaluation of permafrost thawing using GPR attributes in the Qinghai-Tibet Plateau. *Cold Regions Science and Technology*, 151(3), 302–313. <https://doi.org/10.1016/j.coldregions.2018.03.028>
- Stephani, E., Fortier, D., Shur, Y., Fortier, R., & Doré, G. (2014). A geosystems approach to permafrost investigations for engineering applications, an example from a road stabilization experiment, Beaver Creek, Yukon, Canada. *Cold Regions Science and Technology*, 100, 20–35. <https://doi.org/10.1016/j.coldregions.2013.12.006>
- Tetra Tech Canada Inc. (2017). *Tlicho All Season Road 2017 Geotechnical Investigation of Granular & Bedrock Prospects*.
- Tong, C., & Wu, Q. (1996). The effect of climate warming on the Qinghai-Tibet Highway, China. *Cold Regions Science and Technology*, 24(1), 101–106. [https://doi.org/10.1016/0165-232X\(95\)00012-Z](https://doi.org/10.1016/0165-232X(95)00012-Z)
- Valtseva, T., Peters, A., Kudryavtsev, S., & Alekseenko, S. (2019). Investigation of the construction of airfield pavement using extruded polystyrene foam in the cold regions of the Russian Far East. *MATEC Web of Conferences*.  
<https://doi.org/10.1051/mateconf/201926502007>
- Wu, Q., Dong, X., Liu, Y., & Jin, H. (2007). Responses of permafrost on the Qinghai-Tibet Plateau, China, to climate change and engineering construction. *Arctic, Antarctic, and Alpine Research*, 39(4), 682–687. [https://doi.org/10.1657/1523-0430\(07-508\)\[WU\]2.0.CO;2](https://doi.org/10.1657/1523-0430(07-508)[WU]2.0.CO;2)
- Wu, Q., Shi, B., & Liu, Y. (2003). Interaction study of permafrost and highway along Qinghai-Xizang Highway. *Science in China, Series D: Earth Sciences*, 46(2), 97–105.  
<https://doi.org/10.1360/03yd9009>

- Wu, Q., Zhang, Z., & Liu, Y. (2010). Long-term thermal effect of asphalt pavement on permafrost under an embankment. *Cold Regions Science and Technology*, 60(3), 221–229. <https://doi.org/10.1016/j.coldregions.2009.10.007>
- Xu, J., & Goering, D. J. (2008). Experimental validation of passive permafrost cooling systems. *Cold Regions Science and Technology*, 53(3), 283–297. <https://doi.org/10.1016/j.coldregions.2007.09.002>
- Yu, F., Qi, J., Yao, X., & Liu, Y. (2013). Degradation process of permafrost underneath embankments along Qinghai-Tibet Highway: An engineering view. *Cold Regions Science and Technology*, 85, 150–156. <https://doi.org/10.1016/j.coldregions.2012.09.001>
- Zhang, T., Barry, R. G., Knowles, K., Heginbottom, J. A., & Brown, J. (2008). Statistics and characteristics of permafrost and ground-ice distribution in the Northern Hemisphere. *Polar Geography*. <https://doi.org/10.1080/10889370802175895>
- Zhang, Tingjun, Baker, T. H. W., & Cheng, G. D. (2008). The Qinghai-Tibet Railroad: A milestone project and its environmental impact. *Cold Regions Science and Technology*, 53(3), 229–240. <https://doi.org/10.1016/j.coldregions.2008.06.003>
- Zhu, Q. Y., Wang, W., Wang, S. Y., Zhou, X. F., Liao, G. Y., Wang, S. J., & Chen, J. B. (2012). Unilateral heat-transfer asphalt pavement for permafrost protection. *Cold Regions Science and Technology*, 71, 129–138. <https://doi.org/10.1016/j.coldregions.2011.11.003>



## **Appendix A NWT Highway, Ferry and Ice Crossing**



Obtained from the Government of the Northwest Territories, 2019

:

## **Appendix B Estimated Traffic on NWT Highways**

Highway	Kilometre Counter ID	Description	2017	2016	2015	2014	2013	2012	AADT
1	58	1-58	15 km south of Alexandra Falls	470	460	450	430	350	260
1	85	1-85	1.2 km west of Enterprise	540	530	520	500	400	300
1	322	1-322	0.4 km west of Trout Lake Winter Road	60	60	70	60	60	80
1	477	1-477	5.2 km west of Fort Simpson Access on Highway 1	80	80	90	80	80	70
2	10	2-10	10 km north of Enterprise, south of Paradise Gardens	730	720	690	670	640	700
2	32	2-32	40 metres north of Highway 2 & 5 intersection	1930	1890	1820	1750	1690	1840
2	42	2-42	North of West Channel across bridge	2400	2360	2260	2170	2100	2680
3	25	3-25	1 km north of Deh Cho Bridge	400	390	380	370	300	300
3	175	3-175	53 km north of Chan Lake, 62 km south of Edzo	380	370	360	350	280	280
3	240	3-240	3 km south of Rae access, south of Frank's Channel	970	950	930	890	950	820
3	324	3-324	21 km east of Boundry Creek	690	680	660	740	790	680
3	338	3-338	0.8 km west of Highway 3 and 4 intersection	6340	6230	6020	6600	6990	6050
4	1	4-1	1 km north of Highway 3 & 4 intersection	630	680	640	700	1360	1390
4	10	4-10	2.5 km east of Yellowknife River Bridge	580	630	610	670	940	960
4	43	4-43	11 km east of Prelude Lake East Access	150	160	150	170	130	130
5	1	5-1	1 km east of Highway 2 & 5 intersection	720	710	680	660	640	630
5	19	5-19	19 km east of Highway 2 & 5 intersection	260	260	250	240	230	230
5	65	5-65	5 km south of Highway 5 & 6 intersection	90	90	90	90	100	100
5	232	5-232	25km west of Fort Smith	180	170	170	170	160	160
5	257	5-257	6.1 km west of Fort Smith	570	560	540	520	500	500
6	30	6-30	8.5 km east of Pine Point Access	60	60	60	60	30	70
6	74	6-74	16 km west of Fort Resolution	100	100	100	100	100	100
7	35	7-35	2.6 km south of Fort Liard	100	100	120	100	100	110
7	253	7-253	0.3 km south of Highway 1 & 7 intersection	60	60	70	60	60	70
8	34	8-34	10 km west of Midway Lake	60	60	60	60	70	60
8	106	8-106	4.6 km north of Fort Mcpherson Access	90	80	90	80	90	120
8	243	8-243	1 km south of Cabin Creek	170	160	140	150	130	110
8	260	8-260	0.7 km north of airport access	1450	1370	1200	1250	1120	960
8	268	8-268	1.3 km south of Inuvik	2510	2380	2090	2180	1940	1660

**Note:** \*\* Insufficient data to calculate AADT/PSADT  
AADT - Average Annual Daily Traffic  
PSADT - Peak Summer Average Daily Traffic (June, July, August)  
All values are estimated and rounded to the nearest 10.

Obtained from the Government of the Northwest Territories, 2017

## **Appendix C Field Work Photos**



GeoPrecision thermistor strings prior to installation. Taken January 16, 2019.



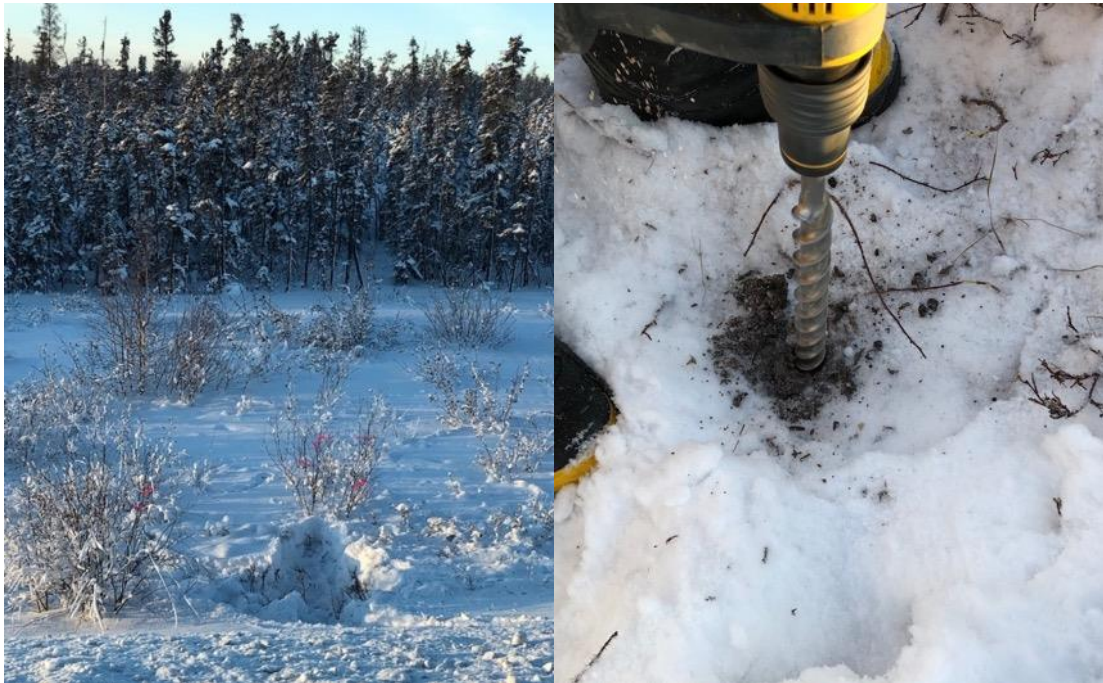
Thermistor string 1 location/installation



Thermistor string 2 location/installation



Thermistor string 3 location/installation



Thermistor string 4 location/installation





Thermistor string 5 location/installation



Thermistor string 6 location/installation



Thermistor string 7 location/installation



Thermistor string 8 location/installation



Thermistor string 9 location/installation



Thermistor string 10 location/installation

## **Appendix D Additional Photos of the Ingraham Trail**



Chipseal section near sensors #5 and #6. Taken January 16, 2019.



Gravel section near sensor #10. Taken January 18, 2019.



Asphalt section near sensors #1-#4. Taken January 18, 2019.



Gravel section near sensors #7-#9. Taken May 24, 2019.



Chipseal section near sensors #3 and #4. Taken May 24, 2019.



Chipseal section near sensors near sensors #3-#4 and Ptarmigan Mine. Taken October 7, 2019.

## Appendix E TEMPS Simulation Data



Bottom of structure, z = 0.66

Date-Time	Lithium	Sodium	Potassium	LWCA	FGA	XPS	Control
1/1/2017-0:00	-13.12	-13.12	-13.12	-13.19	-13.19	-13.19	-13.19
1/1/2017-1:00	-13.36	-13.36	-13.36	-13.34	-13.4	-13.34	-13.42
1/1/2017-2:00	-13.48	-13.48	-13.48	-13.42	-13.52	-13.4	-13.55
1/1/2017-3:00	-13.58	-13.58	-13.58	-13.5	-13.62	-13.43	-13.65
1/1/2017-4:00	-13.66	-13.66	-13.66	-13.56	-13.7	-13.46	-13.73
1/1/2017-5:00	-13.73	-13.73	-13.73	-13.61	-13.77	-13.49	-13.8
1/1/2017-6:00	-13.79	-13.79	-13.79	-13.67	-13.83	-13.51	-13.86
1/1/2017-7:00	-13.85	-13.85	-13.85	-13.72	-13.88	-13.53	-13.92
1/1/2017-8:00	-13.91	-13.91	-13.91	-13.76	-13.93	-13.56	-13.98
1/1/2017-9:00	-13.96	-13.97	-13.97	-13.81	-13.98	-13.58	-14.04
1/1/2017-10:00	-14.02	-14.02	-14.03	-13.85	-14.02	-13.61	-14.09
1/1/2017-11:00	-14.07	-14.08	-14.08	-13.9	-14.07	-13.64	-14.15
1/1/2017-12:00	-14.13	-14.13	-14.14	-13.94	-14.12	-13.67	-14.21
1/1/2017-13:00	-14.18	-14.19	-14.2	-13.99	-14.17	-13.71	-14.26
1/1/2017-14:00	-14.24	-14.25	-14.25	-14.03	-14.22	-13.74	-14.32
1/1/2017-15:00	-14.29	-14.3	-14.31	-14.08	-14.26	-13.77	-14.37
1/1/2017-16:00	-14.34	-14.35	-14.36	-14.12	-14.31	-13.8	-14.43
1/1/2017-17:00	-14.39	-14.4	-14.41	-14.16	-14.35	-13.83	-14.48
1/1/2017-18:00	-14.43	-14.45	-14.46	-14.2	-14.38	-13.84	-14.52
1/1/2017-19:00	-14.47	-14.49	-14.5	-14.23	-14.4	-13.86	-14.56
1/1/2017-20:00	-14.51	-14.52	-14.53	-14.26	-14.42	-13.87	-14.59
1/1/2017-21:00	-14.55	-14.56	-14.57	-14.29	-14.43	-13.88	-14.63
1/1/2017-22:00	-14.58	-14.59	-14.6	-14.31	-14.45	-13.89	-14.66
1/1/2017-23:00	-14.61	-14.62	-14.63	-14.33	-14.46	-13.9	-14.69
1/2/2017-0:00	-14.65	-14.66	-14.66	-14.35	-14.47	-13.91	-14.72
1/2/2017-1:00	-14.68	-14.69	-14.7	-14.37	-14.49	-13.92	-14.75
1/2/2017-2:00	-14.72	-14.73	-14.74	-14.39	-14.51	-13.94	-14.79
1/2/2017-3:00	-14.76	-14.77	-14.78	-14.41	-14.54	-13.97	-14.83
1/2/2017-4:00	-14.8	-14.81	-14.82	-14.44	-14.57	-13.99	-14.88
1/2/2017-5:00	-14.84	-14.86	-14.87	-14.47	-14.61	-14.03	-14.92
1/2/2017-6:00	-14.89	-14.91	-14.92	-14.51	-14.66	-14.07	-14.98
1/2/2017-7:00	-14.94	-14.96	-14.98	-14.55	-14.71	-14.11	-15.03
1/2/2017-8:00	-15	-15.02	-15.04	-14.59	-14.78	-14.16	-15.09
1/2/2017-9:00	-15.06	-15.08	-15.1	-14.65	-14.85	-14.21	-15.16
1/2/2017-10:00	-15.12	-15.15	-15.17	-14.7	-14.92	-14.27	-15.23
1/2/2017-11:00	-15.19	-15.22	-15.24	-14.77	-15.01	-14.33	-15.3
1/2/2017-12:00	-15.26	-15.29	-15.32	-14.84	-15.1	-14.4	-15.38
1/2/2017-13:00	-15.33	-15.37	-15.4	-14.91	-15.19	-14.48	-15.46
1/2/2017-14:00	-15.41	-15.45	-15.49	-14.99	-15.29	-14.55	-15.55
1/2/2017-15:00	-15.48	-15.53	-15.57	-15.07	-15.39	-14.62	-15.63
1/2/2017-16:00	-15.56	-15.61	-15.65	-15.15	-15.48	-14.69	-15.71
1/2/2017-17:00	-15.63	-15.68	-15.72	-15.23	-15.56	-14.75	-15.79
1/2/2017-18:00	-15.7	-15.75	-15.79	-15.3	-15.64	-14.8	-15.85
1/2/2017-19:00	-15.76	-15.81	-15.86	-15.37	-15.7	-14.85	-15.92
1/2/2017-20:00	-15.82	-15.87	-15.91	-15.43	-15.75	-14.89	-15.97
1/2/2017-21:00	-15.87	-15.93	-15.97	-15.49	-15.8	-14.92	-16.02
1/2/2017-22:00	-15.92	-15.98	-16.02	-15.54	-15.83	-14.95	-16.07
1/2/2017-23:00	-15.97	-16.02	-16.06	-15.59	-15.87	-14.98	-16.12
1/3/2017-0:00	-16.02	-16.07	-16.11	-15.63	-15.9	-15.01	-16.16
1/3/2017-1:00	-16.07	-16.12	-16.15	-15.67	-15.93	-15.03	-16.21

1/3/2017-2:00	-16.11	-16.16	-16.2	-15.71	-15.96	-15.06	-16.25
1/3/2017-3:00	-16.16	-16.21	-16.25	-15.75	-16	-15.1	-16.3
1/3/2017-4:00	-16.21	-16.26	-16.29	-15.79	-16.04	-15.13	-16.34
1/3/2017-5:00	-16.26	-16.31	-16.34	-15.83	-16.08	-15.17	-16.39
1/3/2017-6:00	-16.31	-16.36	-16.4	-15.87	-16.12	-15.21	-16.45
1/3/2017-7:00	-16.36	-16.41	-16.45	-15.92	-16.17	-15.25	-16.5
1/3/2017-8:00	-16.41	-16.47	-16.51	-15.96	-16.22	-15.29	-16.55
1/3/2017-9:00	-16.47	-16.52	-16.56	-16.01	-16.28	-15.34	-16.61
1/3/2017-10:00	-16.53	-16.58	-16.62	-16.06	-16.34	-15.39	-16.67
1/3/2017-11:00	-16.58	-16.64	-16.68	-16.12	-16.4	-15.43	-16.73
1/3/2017-12:00	-16.64	-16.7	-16.74	-16.17	-16.45	-15.48	-16.79
1/3/2017-13:00	-16.7	-16.76	-16.8	-16.23	-16.51	-15.53	-16.85
1/3/2017-14:00	-16.75	-16.81	-16.86	-16.28	-16.57	-15.57	-16.9
1/3/2017-15:00	-16.8	-16.86	-16.91	-16.33	-16.61	-15.61	-16.95
1/3/2017-16:00	-16.85	-16.91	-16.95	-16.37	-16.65	-15.64	-17
1/3/2017-17:00	-16.89	-16.94	-16.98	-16.41	-16.66	-15.65	-17.03
1/3/2017-18:00	-16.92	-16.97	-17.01	-16.43	-16.67	-15.65	-17.05
1/3/2017-19:00	-16.94	-16.98	-17.02	-16.45	-16.65	-15.64	-17.06
1/3/2017-20:00	-16.95	-16.99	-17.02	-16.45	-16.62	-15.62	-17.06
1/3/2017-21:00	-16.95	-16.99	-17.02	-16.44	-16.58	-15.59	-17.05
1/3/2017-22:00	-16.95	-16.99	-17.01	-16.42	-16.52	-15.56	-17.04
1/3/2017-23:00	-16.95	-16.98	-17	-16.4	-16.47	-15.52	-17.03
1/4/2017-0:00	-16.94	-16.97	-16.98	-16.37	-16.41	-15.48	-17.01
1/4/2017-1:00	-16.93	-16.95	-16.97	-16.33	-16.35	-15.45	-16.99
1/4/2017-2:00	-16.92	-16.94	-16.95	-16.3	-16.29	-15.41	-16.97
1/4/2017-3:00	-16.91	-16.93	-16.94	-16.26	-16.23	-15.38	-16.96
1/4/2017-4:00	-16.9	-16.91	-16.92	-16.22	-16.18	-15.34	-16.94
1/4/2017-5:00	-16.89	-16.9	-16.91	-16.18	-16.13	-15.31	-16.93
1/4/2017-6:00	-16.88	-16.89	-16.89	-16.14	-16.09	-15.29	-16.91
1/4/2017-7:00	-16.87	-16.88	-16.88	-16.1	-16.04	-15.26	-16.9
1/4/2017-8:00	-16.86	-16.87	-16.87	-16.07	-16	-15.23	-16.89
1/4/2017-9:00	-16.85	-16.86	-16.86	-16.03	-15.97	-15.21	-16.88
1/4/2017-10:00	-16.84	-16.85	-16.85	-16	-15.93	-15.19	-16.87
1/4/2017-11:00	-16.84	-16.84	-16.84	-15.97	-15.9	-15.16	-16.86
1/4/2017-12:00	-16.83	-16.83	-16.83	-15.94	-15.86	-15.14	-16.85
1/4/2017-13:00	-16.82	-16.82	-16.82	-15.9	-15.83	-15.12	-16.84
1/4/2017-14:00	-16.81	-16.81	-16.81	-15.87	-15.79	-15.09	-16.83
1/4/2017-15:00	-16.8	-16.8	-16.79	-15.84	-15.75	-15.06	-16.81
1/4/2017-16:00	-16.78	-16.78	-16.77	-15.8	-15.7	-15.02	-16.79
1/4/2017-17:00	-16.75	-16.75	-16.74	-15.75	-15.64	-14.98	-16.76
1/4/2017-18:00	-16.73	-16.72	-16.71	-15.7	-15.57	-14.92	-16.72
1/4/2017-19:00	-16.69	-16.68	-16.67	-15.64	-15.48	-14.86	-16.68
1/4/2017-20:00	-16.65	-16.63	-16.62	-15.58	-15.39	-14.79	-16.63
1/4/2017-21:00	-16.6	-16.58	-16.56	-15.5	-15.29	-14.71	-16.57
1/4/2017-22:00	-16.55	-16.53	-16.5	-15.42	-15.18	-14.63	-16.52
1/4/2017-23:00	-16.5	-16.47	-16.44	-15.34	-15.07	-14.55	-16.46
1/5/2017-0:00	-16.44	-16.41	-16.38	-15.25	-14.96	-14.48	-16.4
1/5/2017-1:00	-16.39	-16.36	-16.33	-15.16	-14.86	-14.4	-16.34
1/5/2017-2:00	-16.34	-16.3	-16.27	-15.07	-14.76	-14.33	-16.28
1/5/2017-3:00	-16.29	-16.25	-16.22	-14.99	-14.67	-14.27	-16.23
1/5/2017-4:00	-16.24	-16.2	-16.17	-14.91	-14.59	-14.21	-16.18
1/5/2017-5:00	-16.2	-16.16	-16.13	-14.83	-14.51	-14.15	-16.14
1/5/2017-6:00	-16.16	-16.12	-16.09	-14.76	-14.44	-14.1	-16.1

1/5/2017-7:00	-16.13	-16.09	-16.05	-14.69	-14.39	-14.06	-16.07
1/5/2017-8:00	-16.1	-16.06	-16.03	-14.63	-14.34	-14.03	-16.04
1/5/2017-9:00	-16.07	-16.03	-16	-14.58	-14.3	-14	-16.02
1/5/2017-10:00	-16.05	-16.01	-15.99	-14.53	-14.27	-13.98	-16.01
1/5/2017-11:00	-16.04	-16	-15.97	-14.49	-14.26	-13.96	-16
1/5/2017-12:00	-16.03	-15.99	-15.97	-14.46	-14.25	-13.96	-16
1/5/2017-13:00	-16.02	-15.99	-15.97	-14.44	-14.25	-13.95	-16
1/5/2017-14:00	-16.02	-15.99	-15.97	-14.42	-14.25	-13.96	-16.01
1/5/2017-15:00	-16.02	-16	-15.98	-14.41	-14.26	-13.96	-16.01
1/5/2017-16:00	-16.02	-16	-15.98	-14.41	-14.27	-13.96	-16.02
1/5/2017-17:00	-16.02	-16	-15.99	-14.4	-14.28	-13.96	-16.03
1/5/2017-18:00	-16.02	-16	-15.99	-14.39	-14.27	-13.95	-16.03
1/5/2017-19:00	-16.01	-16	-15.98	-14.38	-14.26	-13.94	-16.03
1/5/2017-20:00	-16.01	-15.99	-15.98	-14.37	-14.25	-13.92	-16.02
1/5/2017-21:00	-16	-15.98	-15.97	-14.35	-14.23	-13.9	-16.01
1/5/2017-22:00	-15.99	-15.97	-15.96	-14.34	-14.22	-13.89	-16.01
1/5/2017-23:00	-15.99	-15.97	-15.96	-14.32	-14.2	-13.88	-16.01
1/6/2017-0:00	-15.99	-15.97	-15.96	-14.31	-14.2	-13.87	-16.01
1/6/2017-1:00	-15.99	-15.98	-15.97	-14.3	-14.2	-13.87	-16.01
1/6/2017-2:00	-16	-15.99	-15.98	-14.3	-14.21	-13.88	-16.03
1/6/2017-3:00	-16.01	-16	-16	-14.31	-14.24	-13.9	-16.05
1/6/2017-4:00	-16.03	-16.03	-16.03	-14.32	-14.28	-13.93	-16.08
1/6/2017-5:00	-16.06	-16.06	-16.06	-14.35	-14.33	-13.97	-16.12
1/6/2017-6:00	-16.09	-16.1	-16.1	-14.38	-14.39	-14.01	-16.16
1/6/2017-7:00	-16.13	-16.14	-16.15	-14.42	-14.46	-14.06	-16.21
1/6/2017-8:00	-16.18	-16.19	-16.21	-14.47	-14.54	-14.12	-16.27
1/6/2017-9:00	-16.23	-16.25	-16.27	-14.52	-14.62	-14.19	-16.33
1/6/2017-10:00	-16.29	-16.31	-16.33	-14.59	-14.72	-14.26	-16.4
1/6/2017-11:00	-16.35	-16.37	-16.4	-14.66	-14.82	-14.33	-16.47
1/6/2017-12:00	-16.41	-16.44	-16.47	-14.74	-14.92	-14.4	-16.54
1/6/2017-13:00	-16.48	-16.51	-16.55	-14.82	-15.03	-14.48	-16.62
1/6/2017-14:00	-16.54	-16.59	-16.62	-14.9	-15.14	-14.56	-16.7
1/6/2017-15:00	-16.61	-16.66	-16.7	-14.99	-15.25	-14.64	-16.77
1/6/2017-16:00	-16.68	-16.73	-16.77	-15.08	-15.35	-14.71	-16.84
1/6/2017-17:00	-16.74	-16.79	-16.84	-15.16	-15.44	-14.77	-16.91
1/6/2017-18:00	-16.8	-16.85	-16.9	-15.24	-15.52	-14.82	-16.97
1/6/2017-19:00	-16.86	-16.91	-16.95	-15.31	-15.58	-14.87	-17.02
1/6/2017-20:00	-16.9	-16.96	-17	-15.38	-15.64	-14.91	-17.07
1/6/2017-21:00	-16.95	-17	-17.04	-15.43	-15.68	-14.94	-17.11
1/6/2017-22:00	-16.99	-17.04	-17.08	-15.49	-15.72	-14.97	-17.15
1/6/2017-23:00	-17.03	-17.08	-17.12	-15.54	-15.76	-15	-17.19
1/7/2017-0:00	-17.07	-17.12	-17.16	-15.58	-15.79	-15.03	-17.22
1/7/2017-1:00	-17.11	-17.16	-17.2	-15.62	-15.83	-15.06	-17.26
1/7/2017-2:00	-17.15	-17.19	-17.23	-15.67	-15.86	-15.09	-17.3
1/7/2017-3:00	-17.18	-17.23	-17.27	-15.71	-15.9	-15.13	-17.33
1/7/2017-4:00	-17.22	-17.27	-17.31	-15.75	-15.94	-15.16	-17.37
1/7/2017-5:00	-17.27	-17.32	-17.36	-15.8	-15.99	-15.2	-17.42
1/7/2017-6:00	-17.31	-17.36	-17.4	-15.84	-16.04	-15.24	-17.46
1/7/2017-7:00	-17.36	-17.41	-17.45	-15.89	-16.09	-15.29	-17.51
1/7/2017-8:00	-17.4	-17.46	-17.5	-15.94	-16.15	-15.34	-17.56
1/7/2017-9:00	-17.46	-17.51	-17.55	-15.99	-16.22	-15.39	-17.61
1/7/2017-10:00	-17.51	-17.56	-17.61	-16.05	-16.28	-15.44	-17.67
1/7/2017-11:00	-17.56	-17.62	-17.67	-16.11	-16.36	-15.5	-17.73

1/7/2017-12:00	-17.62	-17.68	-17.73	-16.18	-16.44	-15.56	-17.79
1/7/2017-13:00	-17.68	-17.75	-17.8	-16.25	-16.52	-15.63	-17.86
1/7/2017-14:00	-17.74	-17.81	-17.86	-16.32	-16.6	-15.69	-17.92
1/7/2017-15:00	-17.8	-17.87	-17.92	-16.39	-16.68	-15.75	-17.98
1/7/2017-16:00	-17.86	-17.93	-17.98	-16.46	-16.75	-15.81	-18.04
1/7/2017-17:00	-17.92	-17.98	-18.03	-16.52	-16.81	-15.86	-18.09
1/7/2017-18:00	-17.96	-18.03	-18.08	-16.58	-16.87	-15.9	-18.14
1/7/2017-19:00	-18.01	-18.07	-18.12	-16.63	-16.91	-15.93	-18.18
1/7/2017-20:00	-18.04	-18.11	-18.16	-16.68	-16.94	-15.95	-18.21
1/7/2017-21:00	-18.08	-18.14	-18.19	-16.72	-16.96	-15.97	-18.24
1/7/2017-22:00	-18.11	-18.17	-18.22	-16.76	-16.99	-16	-18.27
1/7/2017-23:00	-18.15	-18.21	-18.25	-16.79	-17.01	-16.02	-18.3
1/8/2017-0:00	-18.18	-18.24	-18.29	-16.83	-17.04	-16.05	-18.34
1/8/2017-1:00	-18.22	-18.28	-18.33	-16.86	-17.08	-16.09	-18.38
1/8/2017-2:00	-18.27	-18.33	-18.37	-16.91	-17.13	-16.13	-18.42
1/8/2017-3:00	-18.32	-18.38	-18.43	-16.95	-17.19	-16.19	-18.47
1/8/2017-4:00	-18.37	-18.44	-18.49	-17.01	-17.26	-16.25	-18.53
1/8/2017-5:00	-18.43	-18.5	-18.55	-17.07	-17.35	-16.32	-18.6
1/8/2017-6:00	-18.5	-18.57	-18.63	-17.14	-17.44	-16.4	-18.68
1/8/2017-7:00	-18.58	-18.65	-18.71	-17.23	-17.55	-16.49	-18.76
1/8/2017-8:00	-18.66	-18.74	-18.8	-17.31	-17.67	-16.59	-18.85
1/8/2017-9:00	-18.74	-18.83	-18.89	-17.41	-17.8	-16.69	-18.95
1/8/2017-10:00	-18.83	-18.92	-18.99	-17.52	-17.94	-16.79	-19.05
1/8/2017-11:00	-18.93	-19.02	-19.09	-17.63	-18.08	-16.9	-19.15
1/8/2017-12:00	-19.03	-19.12	-19.2	-17.75	-18.22	-17.02	-19.26
1/8/2017-13:00	-19.13	-19.23	-19.31	-17.87	-18.37	-17.13	-19.37
1/8/2017-14:00	-19.23	-19.33	-19.42	-17.99	-18.51	-17.24	-19.47
1/8/2017-15:00	-19.33	-19.44	-19.52	-18.12	-18.65	-17.35	-19.58
1/8/2017-16:00	-19.42	-19.53	-19.62	-18.24	-18.78	-17.45	-19.67
1/8/2017-17:00	-19.51	-19.62	-19.71	-18.35	-18.89	-17.53	-19.76
1/8/2017-18:00	-19.59	-19.7	-19.79	-18.46	-18.99	-17.6	-19.84
1/8/2017-19:00	-19.66	-19.77	-19.86	-18.55	-19.07	-17.67	-19.91
1/8/2017-20:00	-19.73	-19.84	-19.92	-18.64	-19.13	-17.72	-19.97
1/8/2017-21:00	-19.79	-19.89	-19.97	-18.71	-19.18	-17.76	-20.02
1/8/2017-22:00	-19.84	-19.94	-20.02	-18.77	-19.21	-17.79	-20.06
1/8/2017-23:00	-19.89	-19.98	-20.06	-18.83	-19.24	-17.82	-20.1
1/9/2017-0:00	-19.93	-20.02	-20.09	-18.88	-19.26	-17.85	-20.13
1/9/2017-1:00	-19.97	-20.06	-20.13	-18.92	-19.28	-17.87	-20.16
1/9/2017-2:00	-20.01	-20.09	-20.16	-18.95	-19.29	-17.89	-20.19
1/9/2017-3:00	-20.04	-20.13	-20.19	-18.99	-19.3	-17.91	-20.22
1/9/2017-4:00	-20.07	-20.16	-20.22	-19.02	-19.32	-17.93	-20.25
1/9/2017-5:00	-20.11	-20.19	-20.25	-19.04	-19.33	-17.96	-20.27
1/9/2017-6:00	-20.14	-20.22	-20.28	-19.07	-19.34	-17.98	-20.3
1/9/2017-7:00	-20.17	-20.25	-20.3	-19.09	-19.36	-18	-20.33
1/9/2017-8:00	-20.2	-20.28	-20.33	-19.12	-19.37	-18.02	-20.35
1/9/2017-9:00	-20.23	-20.31	-20.36	-19.14	-19.39	-18.05	-20.38
1/9/2017-10:00	-20.26	-20.34	-20.39	-19.17	-19.41	-18.07	-20.41
1/9/2017-11:00	-20.29	-20.37	-20.42	-19.19	-19.43	-18.1	-20.44
1/9/2017-12:00	-20.33	-20.4	-20.45	-19.22	-19.45	-18.12	-20.47
1/9/2017-13:00	-20.36	-20.43	-20.48	-19.24	-19.48	-18.15	-20.5
1/9/2017-14:00	-20.39	-20.46	-20.51	-19.27	-19.5	-18.17	-20.53
1/9/2017-15:00	-20.41	-20.48	-20.53	-19.29	-19.52	-18.19	-20.55
1/9/2017-16:00	-20.44	-20.51	-20.55	-19.31	-19.52	-18.2	-20.57

1/9/2017-17:00	-20.45	-20.52	-20.57	-19.32	-19.52	-18.21	-20.58
1/9/2017-18:00	-20.46	-20.53	-20.57	-19.32	-19.5	-18.2	-20.59
1/9/2017-19:00	-20.47	-20.53	-20.57	-19.32	-19.48	-18.19	-20.58
1/9/2017-20:00	-20.47	-20.52	-20.56	-19.31	-19.44	-18.17	-20.57
1/9/2017-21:00	-20.47	-20.52	-20.55	-19.29	-19.4	-18.15	-20.56
1/9/2017-22:00	-20.46	-20.51	-20.54	-19.27	-19.37	-18.13	-20.55
1/9/2017-23:00	-20.46	-20.5	-20.53	-19.25	-19.33	-18.11	-20.54
1/10/2017-0:00	-20.46	-20.5	-20.53	-19.23	-19.3	-18.1	-20.54
1/10/2017-1:00	-20.46	-20.5	-20.53	-19.22	-19.28	-18.1	-20.54
1/10/2017-2:00	-20.47	-20.51	-20.54	-19.21	-19.28	-18.11	-20.55
1/10/2017-3:00	-20.48	-20.53	-20.56	-19.21	-19.29	-18.13	-20.57
1/10/2017-4:00	-20.51	-20.55	-20.59	-19.21	-19.32	-18.16	-20.6
1/10/2017-5:00	-20.54	-20.59	-20.62	-19.23	-19.36	-18.2	-20.64
1/10/2017-6:00	-20.58	-20.63	-20.67	-19.26	-19.42	-18.26	-20.69
1/10/2017-7:00	-20.62	-20.68	-20.73	-19.3	-19.49	-18.32	-20.75
1/10/2017-8:00	-20.68	-20.74	-20.79	-19.36	-19.59	-18.4	-20.82
1/10/2017-9:00	-20.75	-20.82	-20.87	-19.43	-19.69	-18.49	-20.9
1/10/2017-10:00	-20.82	-20.9	-20.96	-19.5	-19.82	-18.59	-20.99
1/10/2017-11:00	-20.91	-20.99	-21.05	-19.6	-19.95	-18.69	-21.08
1/10/2017-12:00	-21	-21.08	-21.15	-19.7	-20.1	-18.81	-21.19
1/10/2017-13:00	-21.1	-21.19	-21.26	-19.81	-20.26	-18.93	-21.3
1/10/2017-14:00	-21.2	-21.3	-21.38	-19.94	-20.42	-19.06	-21.42
1/10/2017-15:00	-21.3	-21.4	-21.49	-20.06	-20.58	-19.18	-21.53
1/10/2017-16:00	-21.4	-21.51	-21.6	-20.19	-20.73	-19.29	-21.64
1/10/2017-17:00	-21.5	-21.61	-21.7	-20.32	-20.87	-19.4	-21.75
1/10/2017-18:00	-21.59	-21.71	-21.8	-20.44	-21	-19.5	-21.84
1/10/2017-19:00	-21.68	-21.79	-21.89	-20.55	-21.11	-19.58	-21.93
1/10/2017-20:00	-21.76	-21.88	-21.97	-20.66	-21.21	-19.66	-22.01
1/10/2017-21:00	-21.83	-21.95	-22.04	-20.75	-21.29	-19.72	-22.08
1/10/2017-22:00	-21.9	-22.02	-22.11	-20.84	-21.36	-19.78	-22.15
1/10/2017-23:00	-21.96	-22.08	-22.17	-20.92	-21.42	-19.83	-22.2
1/11/2017-0:00	-22.02	-22.14	-22.22	-20.99	-21.48	-19.88	-22.26
1/11/2017-1:00	-22.08	-22.19	-22.28	-21.06	-21.52	-19.93	-22.31
1/11/2017-2:00	-22.13	-22.24	-22.32	-21.12	-21.56	-19.97	-22.36
1/11/2017-3:00	-22.18	-22.29	-22.37	-21.18	-21.6	-20.01	-22.4
1/11/2017-4:00	-22.23	-22.33	-22.41	-21.23	-21.63	-20.04	-22.44
1/11/2017-5:00	-22.27	-22.37	-22.45	-21.27	-21.65	-20.07	-22.47
1/11/2017-6:00	-22.3	-22.4	-22.48	-21.31	-21.66	-20.09	-22.5
1/11/2017-7:00	-22.33	-22.43	-22.5	-21.34	-21.67	-20.11	-22.53
1/11/2017-8:00	-22.36	-22.46	-22.52	-21.36	-21.67	-20.12	-22.54
1/11/2017-9:00	-22.38	-22.48	-22.54	-21.38	-21.67	-20.13	-22.56
1/11/2017-10:00	-22.4	-22.49	-22.56	-21.39	-21.66	-20.13	-22.57
1/11/2017-11:00	-22.42	-22.51	-22.57	-21.4	-21.65	-20.14	-22.58
1/11/2017-12:00	-22.44	-22.52	-22.58	-21.41	-21.64	-20.14	-22.59
1/11/2017-13:00	-22.45	-22.53	-22.59	-21.41	-21.62	-20.15	-22.6
1/11/2017-14:00	-22.47	-22.54	-22.6	-21.41	-21.61	-20.15	-22.61
1/11/2017-15:00	-22.48	-22.55	-22.61	-21.41	-21.6	-20.15	-22.62
1/11/2017-16:00	-22.49	-22.56	-22.61	-21.41	-21.58	-20.15	-22.62
1/11/2017-17:00	-22.49	-22.56	-22.61	-21.4	-21.55	-20.14	-22.62
1/11/2017-18:00	-22.49	-22.56	-22.6	-21.39	-21.52	-20.12	-22.61
1/11/2017-19:00	-22.49	-22.55	-22.59	-21.37	-21.48	-20.1	-22.6
1/11/2017-20:00	-22.48	-22.54	-22.58	-21.35	-21.44	-20.08	-22.58
1/11/2017-21:00	-22.47	-22.52	-22.56	-21.32	-21.4	-20.06	-22.57

1/11/2017-22:00	-22.46	-22.51	-22.55	-21.3	-21.35	-20.04	-22.55
1/11/2017-23:00	-22.45	-22.5	-22.54	-21.27	-21.32	-20.03	-22.54
1/12/2017-0:00	-22.45	-22.5	-22.54	-21.25	-21.29	-20.02	-22.54
1/12/2017-1:00	-22.45	-22.5	-22.54	-21.23	-21.28	-20.02	-22.55
1/12/2017-2:00	-22.46	-22.51	-22.55	-21.22	-21.28	-20.04	-22.56
1/12/2017-3:00	-22.48	-22.53	-22.57	-21.22	-21.3	-20.07	-22.58
1/12/2017-4:00	-22.51	-22.56	-22.6	-21.23	-21.34	-20.1	-22.62
1/12/2017-5:00	-22.54	-22.6	-22.65	-21.25	-21.39	-20.16	-22.66
1/12/2017-6:00	-22.59	-22.65	-22.7	-21.29	-21.46	-20.22	-22.72
1/12/2017-7:00	-22.64	-22.7	-22.76	-21.34	-21.54	-20.29	-22.78
1/12/2017-8:00	-22.7	-22.77	-22.82	-21.4	-21.64	-20.37	-22.85
1/12/2017-9:00	-22.76	-22.84	-22.9	-21.46	-21.75	-20.45	-22.93
1/12/2017-10:00	-22.83	-22.91	-22.98	-21.54	-21.86	-20.54	-23.01
1/12/2017-11:00	-22.91	-22.99	-23.06	-21.63	-21.98	-20.64	-23.1
1/12/2017-12:00	-22.98	-23.08	-23.15	-21.72	-22.1	-20.73	-23.19
1/12/2017-13:00	-23.06	-23.16	-23.24	-21.81	-22.23	-20.83	-23.28
1/12/2017-14:00	-23.14	-23.24	-23.32	-21.91	-22.34	-20.92	-23.36
1/12/2017-15:00	-23.22	-23.32	-23.4	-22	-22.45	-21	-23.44
1/12/2017-16:00	-23.29	-23.39	-23.47	-22.09	-22.54	-21.07	-23.51
1/12/2017-17:00	-23.35	-23.45	-23.53	-22.17	-22.61	-21.12	-23.57
1/12/2017-18:00	-23.4	-23.5	-23.58	-22.24	-22.66	-21.16	-23.62
1/12/2017-19:00	-23.44	-23.54	-23.61	-22.3	-22.68	-21.18	-23.65
1/12/2017-20:00	-23.47	-23.56	-23.64	-22.34	-22.69	-21.19	-23.67
1/12/2017-21:00	-23.49	-23.58	-23.65	-22.37	-22.68	-21.19	-23.68
1/12/2017-22:00	-23.5	-23.59	-23.66	-22.38	-22.66	-21.18	-23.68
1/12/2017-23:00	-23.51	-23.6	-23.66	-22.39	-22.63	-21.17	-23.68
1/13/2017-0:00	-23.52	-23.6	-23.66	-22.39	-22.6	-21.15	-23.68
1/13/2017-1:00	-23.52	-23.6	-23.65	-22.38	-22.56	-21.14	-23.67
1/13/2017-2:00	-23.52	-23.6	-23.65	-22.37	-22.52	-21.13	-23.67
1/13/2017-3:00	-23.53	-23.6	-23.65	-22.35	-22.49	-21.11	-23.66
1/13/2017-4:00	-23.53	-23.6	-23.65	-22.34	-22.46	-21.11	-23.66
1/13/2017-5:00	-23.54	-23.6	-23.65	-22.33	-22.44	-21.1	-23.66
1/13/2017-6:00	-23.54	-23.61	-23.65	-22.32	-22.43	-21.11	-23.67
1/13/2017-7:00	-23.55	-23.62	-23.66	-22.31	-22.42	-21.11	-23.68
1/13/2017-8:00	-23.57	-23.63	-23.68	-22.31	-22.42	-21.13	-23.69
1/13/2017-9:00	-23.58	-23.65	-23.69	-22.31	-22.43	-21.14	-23.71
1/13/2017-10:00	-23.6	-23.67	-23.71	-22.32	-22.44	-21.16	-23.73
1/13/2017-11:00	-23.63	-23.69	-23.74	-22.33	-22.46	-21.19	-23.75
1/13/2017-12:00	-23.65	-23.71	-23.76	-22.35	-22.49	-21.21	-23.78
1/13/2017-13:00	-23.67	-23.74	-23.79	-22.36	-22.52	-21.24	-23.81
1/13/2017-14:00	-23.7	-23.77	-23.81	-22.38	-22.54	-21.27	-23.83
1/13/2017-15:00	-23.72	-23.79	-23.84	-22.4	-22.56	-21.29	-23.86
1/13/2017-16:00	-23.74	-23.8	-23.85	-22.42	-22.57	-21.3	-23.87
1/13/2017-17:00	-23.75	-23.81	-23.86	-22.42	-22.57	-21.3	-23.88
1/13/2017-18:00	-23.76	-23.82	-23.86	-22.43	-22.55	-21.29	-23.88
1/13/2017-19:00	-23.75	-23.81	-23.85	-22.42	-22.52	-21.27	-23.87
1/13/2017-20:00	-23.74	-23.8	-23.83	-22.4	-22.48	-21.24	-23.85
1/13/2017-21:00	-23.73	-23.78	-23.81	-22.37	-22.42	-21.2	-23.82
1/13/2017-22:00	-23.71	-23.75	-23.78	-22.34	-22.36	-21.16	-23.79
1/13/2017-23:00	-23.68	-23.73	-23.75	-22.3	-22.29	-21.12	-23.76
1/14/2017-0:00	-23.66	-23.7	-23.72	-22.25	-22.23	-21.08	-23.73
1/14/2017-1:00	-23.64	-23.67	-23.69	-22.21	-22.16	-21.04	-23.7
1/14/2017-2:00	-23.61	-23.65	-23.67	-22.16	-22.1	-21	-23.67

1/14/2017-3:00	-23.59	-23.62	-23.64	-22.12	-22.05	-20.97	-23.65
1/14/2017-4:00	-23.57	-23.6	-23.62	-22.07	-22	-20.94	-23.62
1/14/2017-5:00	-23.55	-23.58	-23.59	-22.03	-21.95	-20.91	-23.6
1/14/2017-6:00	-23.53	-23.55	-23.57	-21.99	-21.9	-20.89	-23.58
1/14/2017-7:00	-23.51	-23.53	-23.55	-21.95	-21.86	-20.86	-23.56
1/14/2017-8:00	-23.49	-23.51	-23.52	-21.91	-21.81	-20.83	-23.53
1/14/2017-9:00	-23.47	-23.49	-23.5	-21.87	-21.77	-20.8	-23.51
1/14/2017-10:00	-23.44	-23.46	-23.47	-21.82	-21.71	-20.76	-23.48
1/14/2017-11:00	-23.41	-23.43	-23.44	-21.77	-21.66	-20.72	-23.45
1/14/2017-12:00	-23.38	-23.39	-23.4	-21.72	-21.59	-20.68	-23.41
1/14/2017-13:00	-23.34	-23.35	-23.35	-21.67	-21.51	-20.62	-23.36
1/14/2017-14:00	-23.29	-23.3	-23.3	-21.6	-21.42	-20.56	-23.31
1/14/2017-15:00	-23.24	-23.24	-23.23	-21.53	-21.32	-20.48	-23.24
1/14/2017-16:00	-23.17	-23.16	-23.16	-21.44	-21.19	-20.38	-23.16
1/14/2017-17:00	-23.09	-23.08	-23.06	-21.34	-21.04	-20.27	-23.07
1/14/2017-18:00	-23	-22.98	-22.96	-21.22	-20.87	-20.14	-22.96
1/14/2017-19:00	-22.89	-22.86	-22.83	-21.08	-20.68	-20	-22.83
1/14/2017-20:00	-22.77	-22.74	-22.7	-20.93	-20.47	-19.84	-22.7
1/14/2017-21:00	-22.65	-22.6	-22.55	-20.76	-20.24	-19.67	-22.55
1/14/2017-22:00	-22.51	-22.45	-22.4	-20.58	-19.99	-19.49	-22.39
1/14/2017-23:00	-22.36	-22.3	-22.24	-20.39	-19.74	-19.31	-22.23
1/15/2017-0:00	-22.21	-22.14	-22.07	-20.18	-19.49	-19.12	-22.07
1/15/2017-1:00	-22.06	-21.98	-21.91	-19.98	-19.23	-18.94	-21.9
1/15/2017-2:00	-21.9	-21.81	-21.74	-19.76	-18.98	-18.75	-21.73
1/15/2017-3:00	-21.75	-21.65	-21.57	-19.55	-18.73	-18.57	-21.56
1/15/2017-4:00	-21.59	-21.49	-21.4	-19.33	-18.48	-18.39	-21.39
1/15/2017-5:00	-21.43	-21.32	-21.23	-19.11	-18.24	-18.21	-21.23
1/15/2017-6:00	-21.28	-21.16	-21.07	-18.9	-18.01	-18.04	-21.07
1/15/2017-7:00	-21.13	-21.01	-20.91	-18.69	-17.79	-17.88	-20.92
1/15/2017-8:00	-20.98	-20.86	-20.76	-18.48	-17.57	-17.72	-20.77
1/15/2017-9:00	-20.83	-20.71	-20.61	-18.28	-17.37	-17.56	-20.62
1/15/2017-10:00	-20.69	-20.56	-20.46	-18.09	-17.18	-17.42	-20.48
1/15/2017-11:00	-20.55	-20.42	-20.32	-17.9	-16.99	-17.27	-20.34
1/15/2017-12:00	-20.41	-20.28	-20.19	-17.71	-16.81	-17.14	-20.21
1/15/2017-13:00	-20.28	-20.15	-20.05	-17.53	-16.64	-17	-20.08
1/15/2017-14:00	-20.15	-20.02	-19.92	-17.36	-16.47	-16.87	-19.95
1/15/2017-15:00	-20.02	-19.89	-19.79	-17.19	-16.3	-16.73	-19.82
1/15/2017-16:00	-19.88	-19.75	-19.65	-17.02	-16.13	-16.59	-19.69
1/15/2017-17:00	-19.75	-19.61	-19.51	-16.84	-15.95	-16.44	-19.55
1/15/2017-18:00	-19.6	-19.46	-19.36	-16.66	-15.75	-16.28	-19.4
1/15/2017-19:00	-19.45	-19.31	-19.2	-16.47	-15.54	-16.11	-19.24
1/15/2017-20:00	-19.29	-19.15	-19.04	-16.28	-15.33	-15.94	-19.08
1/15/2017-21:00	-19.13	-18.98	-18.87	-16.08	-15.1	-15.75	-18.91
1/15/2017-22:00	-18.97	-18.81	-18.69	-15.87	-14.87	-15.57	-18.74
1/15/2017-23:00	-18.8	-18.64	-18.52	-15.66	-14.64	-15.39	-18.57
1/16/2017-0:00	-18.64	-18.47	-18.35	-15.45	-14.41	-15.2	-18.4
1/16/2017-1:00	-18.47	-18.3	-18.18	-15.24	-14.18	-15.02	-18.23
1/16/2017-2:00	-18.31	-18.14	-18.01	-15.03	-13.96	-14.85	-18.07
1/16/2017-3:00	-18.15	-17.98	-17.85	-14.83	-13.75	-14.68	-17.91
1/16/2017-4:00	-17.99	-17.82	-17.69	-14.63	-13.55	-14.52	-17.76
1/16/2017-5:00	-17.84	-17.67	-17.54	-14.43	-13.36	-14.37	-17.61
1/16/2017-6:00	-17.69	-17.52	-17.39	-14.25	-13.18	-14.22	-17.47
1/16/2017-7:00	-17.55	-17.38	-17.25	-14.06	-13.01	-14.08	-17.33

1/16/2017-8:00	-17.41	-17.24	-17.11	-13.89	-12.85	-13.95	-17.2
1/16/2017-9:00	-17.28	-17.11	-16.98	-13.72	-12.7	-13.82	-17.07
1/16/2017-10:00	-17.15	-16.98	-16.86	-13.56	-12.55	-13.7	-16.95
1/16/2017-11:00	-17.03	-16.86	-16.74	-13.41	-12.42	-13.58	-16.83
1/16/2017-12:00	-16.91	-16.74	-16.62	-13.26	-12.29	-13.47	-16.72
1/16/2017-13:00	-16.79	-16.62	-16.5	-13.12	-12.16	-13.35	-16.61
1/16/2017-14:00	-16.67	-16.51	-16.39	-12.98	-12.03	-13.24	-16.49
1/16/2017-15:00	-16.55	-16.39	-16.27	-12.84	-11.9	-13.12	-16.38
1/16/2017-16:00	-16.43	-16.27	-16.15	-12.7	-11.76	-13	-16.26
1/16/2017-17:00	-16.3	-16.14	-16.02	-12.56	-11.61	-12.86	-16.13
1/16/2017-18:00	-16.17	-16	-15.88	-12.41	-11.45	-12.72	-16
1/16/2017-19:00	-16.03	-15.86	-15.74	-12.25	-11.27	-12.56	-15.85
1/16/2017-20:00	-15.88	-15.71	-15.58	-12.08	-11.08	-12.4	-15.7
1/16/2017-21:00	-15.73	-15.55	-15.43	-11.91	-10.89	-12.23	-15.54
1/16/2017-22:00	-15.58	-15.4	-15.26	-11.73	-10.68	-12.06	-15.38
1/16/2017-23:00	-15.42	-15.24	-15.1	-11.55	-10.48	-11.89	-15.22
1/17/2017-0:00	-15.26	-15.08	-14.94	-11.36	-10.28	-11.72	-15.06
1/17/2017-1:00	-15.11	-14.92	-14.78	-11.18	-10.08	-11.56	-14.91
1/17/2017-2:00	-14.96	-14.77	-14.63	-10.99	-9.89	-11.4	-14.75
1/17/2017-3:00	-14.81	-14.62	-14.48	-10.81	-9.7	-11.25	-14.61
1/17/2017-4:00	-14.66	-14.47	-14.33	-10.64	-9.53	-11.1	-14.46
1/17/2017-5:00	-14.52	-14.33	-14.19	-10.47	-9.37	-10.96	-14.33
1/17/2017-6:00	-14.39	-14.19	-14.06	-10.3	-9.22	-10.83	-14.19
1/17/2017-7:00	-14.26	-14.06	-13.93	-10.15	-9.07	-10.7	-14.07
1/17/2017-8:00	-14.13	-13.94	-13.8	-10	-8.94	-10.58	-13.95
1/17/2017-9:00	-14.01	-13.82	-13.69	-9.86	-8.82	-10.47	-13.84
1/17/2017-10:00	-13.9	-13.71	-13.58	-9.72	-8.7	-10.37	-13.73
1/17/2017-11:00	-13.78	-13.6	-13.47	-9.6	-8.6	-10.27	-13.63
1/17/2017-12:00	-13.68	-13.5	-13.37	-9.48	-8.5	-10.17	-13.53
1/17/2017-13:00	-13.58	-13.4	-13.27	-9.36	-8.41	-10.08	-13.44
1/17/2017-14:00	-13.48	-13.3	-13.18	-9.25	-8.32	-9.99	-13.35
1/17/2017-15:00	-13.38	-13.2	-13.08	-9.15	-8.23	-9.9	-13.25
1/17/2017-16:00	-13.28	-13.1	-12.98	-9.04	-8.13	-9.8	-13.16
1/17/2017-17:00	-13.17	-13	-12.88	-8.93	-8.02	-9.69	-13.05
1/17/2017-18:00	-13.06	-12.89	-12.76	-8.82	-7.9	-9.57	-12.94
1/17/2017-19:00	-12.94	-12.77	-12.64	-8.69	-7.77	-9.44	-12.82
1/17/2017-20:00	-12.82	-12.64	-12.52	-8.56	-7.62	-9.31	-12.69
1/17/2017-21:00	-12.69	-12.51	-12.38	-8.43	-7.46	-9.17	-12.56
1/17/2017-22:00	-12.56	-12.38	-12.25	-8.29	-7.31	-9.03	-12.43
1/17/2017-23:00	-12.43	-12.25	-12.12	-8.14	-7.15	-8.89	-12.29
1/18/2017-0:00	-12.31	-12.12	-11.99	-8	-6.99	-8.75	-12.17
1/18/2017-1:00	-12.18	-12	-11.86	-7.86	-6.85	-8.63	-12.04
1/18/2017-2:00	-12.07	-11.88	-11.75	-7.72	-6.72	-8.51	-11.93
1/18/2017-3:00	-11.95	-11.77	-11.64	-7.59	-6.6	-8.4	-11.82
1/18/2017-4:00	-11.85	-11.66	-11.53	-7.47	-6.49	-8.31	-11.72
1/18/2017-5:00	-11.75	-11.57	-11.44	-7.36	-6.4	-8.22	-11.63
1/18/2017-6:00	-11.67	-11.49	-11.36	-7.26	-6.33	-8.15	-11.55
1/18/2017-7:00	-11.59	-11.41	-11.29	-7.17	-6.28	-8.09	-11.49
1/18/2017-8:00	-11.52	-11.35	-11.23	-7.09	-6.24	-8.04	-11.43
1/18/2017-9:00	-11.46	-11.29	-11.18	-7.03	-6.21	-8	-11.38
1/18/2017-10:00	-11.41	-11.25	-11.14	-6.98	-6.21	-7.97	-11.35
1/18/2017-11:00	-11.36	-11.21	-11.11	-6.94	-6.21	-7.96	-11.32
1/18/2017-12:00	-11.33	-11.18	-11.09	-6.91	-6.23	-7.95	-11.3



1/18/2017-13:00	-11.3	-11.16	-11.07	-6.9	-6.26	-7.95	-11.29
1/18/2017-14:00	-11.28	-11.15	-11.06	-6.89	-6.3	-7.95	-11.29
1/18/2017-15:00	-11.27	-11.14	-11.06	-6.9	-6.35	-7.96	-11.28
1/18/2017-16:00	-11.26	-11.13	-11.06	-6.91	-6.39	-7.97	-11.28
1/18/2017-17:00	-11.24	-11.13	-11.05	-6.92	-6.43	-7.97	-11.28
1/18/2017-18:00	-11.23	-11.12	-11.05	-6.93	-6.47	-7.97	-11.27
1/18/2017-19:00	-11.22	-11.11	-11.04	-6.94	-6.5	-7.97	-11.27
1/18/2017-20:00	-11.2	-11.09	-11.03	-6.96	-6.52	-7.96	-11.26
1/18/2017-21:00	-11.19	-11.08	-11.02	-6.97	-6.55	-7.96	-11.25
1/18/2017-22:00	-11.17	-11.07	-11.01	-6.98	-6.57	-7.95	-11.24
1/18/2017-23:00	-11.16	-11.06	-11	-6.99	-6.59	-7.95	-11.23
1/19/2017-0:00	-11.16	-11.06	-11	-7.01	-6.63	-7.96	-11.23
1/19/2017-1:00	-11.15	-11.06	-11.01	-7.03	-6.67	-7.97	-11.24
1/19/2017-2:00	-11.16	-11.07	-11.02	-7.05	-6.72	-7.99	-11.25
1/19/2017-3:00	-11.17	-11.09	-11.04	-7.09	-6.78	-8.02	-11.27
1/19/2017-4:00	-11.19	-11.11	-11.06	-7.13	-6.85	-8.06	-11.3
1/19/2017-5:00	-11.21	-11.14	-11.1	-7.18	-6.93	-8.1	-11.33
1/19/2017-6:00	-11.24	-11.17	-11.14	-7.24	-7.02	-8.16	-11.37
1/19/2017-7:00	-11.28	-11.22	-11.19	-7.31	-7.13	-8.22	-11.42
1/19/2017-8:00	-11.32	-11.27	-11.24	-7.38	-7.24	-8.29	-11.48
1/19/2017-9:00	-11.37	-11.32	-11.3	-7.47	-7.37	-8.36	-11.54
1/19/2017-10:00	-11.43	-11.39	-11.37	-7.56	-7.5	-8.45	-11.61
1/19/2017-11:00	-11.49	-11.45	-11.44	-7.66	-7.64	-8.53	-11.68
1/19/2017-12:00	-11.56	-11.53	-11.52	-7.77	-7.78	-8.63	-11.76
1/19/2017-13:00	-11.63	-11.6	-11.6	-7.88	-7.93	-8.72	-11.84
1/19/2017-14:00	-11.7	-11.68	-11.69	-8	-8.08	-8.81	-11.93
1/19/2017-15:00	-11.77	-11.76	-11.77	-8.12	-8.22	-8.91	-12.01
1/19/2017-16:00	-11.84	-11.84	-11.85	-8.24	-8.36	-8.99	-12.09
1/19/2017-17:00	-11.91	-11.91	-11.92	-8.35	-8.49	-9.07	-12.16
1/19/2017-18:00	-11.97	-11.97	-11.99	-8.46	-8.6	-9.14	-12.22
1/19/2017-19:00	-12.03	-12.03	-12.05	-8.56	-8.7	-9.2	-12.28
1/19/2017-20:00	-12.08	-12.08	-12.1	-8.66	-8.78	-9.25	-12.33
1/19/2017-21:00	-12.13	-12.13	-12.14	-8.74	-8.86	-9.29	-12.37
1/19/2017-22:00	-12.17	-12.17	-12.19	-8.82	-8.92	-9.33	-12.41
1/19/2017-23:00	-12.21	-12.21	-12.23	-8.89	-8.98	-9.36	-12.45
1/20/2017-0:00	-12.25	-12.25	-12.26	-8.96	-9.04	-9.4	-12.48
1/20/2017-1:00	-12.29	-12.29	-12.3	-9.02	-9.09	-9.43	-12.52
1/20/2017-2:00	-12.32	-12.32	-12.33	-9.09	-9.15	-9.47	-12.55
1/20/2017-3:00	-12.36	-12.36	-12.37	-9.14	-9.2	-9.5	-12.58
1/20/2017-4:00	-12.4	-12.4	-12.41	-9.2	-9.26	-9.54	-12.62
1/20/2017-5:00	-12.44	-12.44	-12.45	-9.26	-9.32	-9.58	-12.66
1/20/2017-6:00	-12.48	-12.48	-12.49	-9.32	-9.38	-9.62	-12.7
1/20/2017-7:00	-12.52	-12.52	-12.53	-9.38	-9.44	-9.66	-12.74
1/20/2017-8:00	-12.56	-12.56	-12.57	-9.44	-9.51	-9.71	-12.78
1/20/2017-9:00	-12.6	-12.6	-12.62	-9.5	-9.57	-9.75	-12.82
1/20/2017-10:00	-12.64	-12.65	-12.66	-9.57	-9.65	-9.8	-12.87
1/20/2017-11:00	-12.69	-12.7	-12.71	-9.63	-9.72	-9.85	-12.91
1/20/2017-12:00	-12.73	-12.74	-12.76	-9.7	-9.79	-9.9	-12.96
1/20/2017-13:00	-12.78	-12.79	-12.81	-9.77	-9.87	-9.95	-13.01
1/20/2017-14:00	-12.83	-12.84	-12.86	-9.84	-9.94	-10	-13.06
1/20/2017-15:00	-12.87	-12.89	-12.91	-9.9	-10.02	-10.05	-13.1
1/20/2017-16:00	-12.92	-12.93	-12.95	-9.97	-10.08	-10.09	-13.14
1/20/2017-17:00	-12.95	-12.97	-12.99	-10.03	-10.14	-10.13	-13.18

1/20/2017-18:00	-12.99	-13	-13.02	-10.08	-10.18	-10.16	-13.21
1/20/2017-19:00	-13.01	-13.03	-13.04	-10.13	-10.22	-10.18	-13.23
1/20/2017-20:00	-13.04	-13.05	-13.06	-10.17	-10.25	-10.19	-13.24
1/20/2017-21:00	-13.06	-13.06	-13.08	-10.21	-10.27	-10.2	-13.26
1/20/2017-22:00	-13.07	-13.08	-13.09	-10.24	-10.28	-10.21	-13.27
1/20/2017-23:00	-13.09	-13.09	-13.1	-10.27	-10.3	-10.22	-13.28
1/21/2017-0:00	-13.1	-13.11	-13.12	-10.29	-10.32	-10.23	-13.29
1/21/2017-1:00	-13.12	-13.13	-13.13	-10.32	-10.34	-10.25	-13.31
1/21/2017-2:00	-13.14	-13.15	-13.16	-10.35	-10.37	-10.27	-13.33
1/21/2017-3:00	-13.17	-13.17	-13.18	-10.38	-10.41	-10.3	-13.35
1/21/2017-4:00	-13.2	-13.2	-13.21	-10.42	-10.46	-10.33	-13.38
1/21/2017-5:00	-13.23	-13.24	-13.25	-10.46	-10.52	-10.38	-13.42
1/21/2017-6:00	-13.27	-13.28	-13.29	-10.51	-10.58	-10.43	-13.46
1/21/2017-7:00	-13.31	-13.32	-13.34	-10.56	-10.66	-10.48	-13.51
1/21/2017-8:00	-13.36	-13.37	-13.39	-10.63	-10.75	-10.55	-13.56
1/21/2017-9:00	-13.41	-13.43	-13.45	-10.7	-10.84	-10.62	-13.62
1/21/2017-10:00	-13.47	-13.49	-13.52	-10.77	-10.95	-10.69	-13.69
1/21/2017-11:00	-13.53	-13.56	-13.59	-10.86	-11.06	-10.77	-13.76
1/21/2017-12:00	-13.6	-13.63	-13.66	-10.95	-11.18	-10.86	-13.83
1/21/2017-13:00	-13.67	-13.71	-13.74	-11.05	-11.3	-10.95	-13.91
1/21/2017-14:00	-13.74	-13.78	-13.82	-11.14	-11.42	-11.03	-13.99
1/21/2017-15:00	-13.81	-13.85	-13.9	-11.24	-11.54	-11.11	-14.06
1/21/2017-16:00	-13.88	-13.92	-13.96	-11.34	-11.64	-11.19	-14.13
1/21/2017-17:00	-13.94	-13.98	-14.03	-11.43	-11.73	-11.25	-14.19
1/21/2017-18:00	-13.99	-14.04	-14.08	-11.52	-11.81	-11.3	-14.24
1/21/2017-19:00	-14.04	-14.08	-14.12	-11.59	-11.86	-11.33	-14.28
1/21/2017-20:00	-14.07	-14.11	-14.15	-11.65	-11.9	-11.36	-14.31
1/21/2017-21:00	-14.1	-14.14	-14.18	-11.7	-11.93	-11.38	-14.33
1/21/2017-22:00	-14.13	-14.17	-14.2	-11.75	-11.95	-11.39	-14.35
1/21/2017-23:00	-14.15	-14.19	-14.22	-11.78	-11.97	-11.41	-14.37
1/22/2017-0:00	-14.18	-14.21	-14.24	-11.82	-11.99	-11.43	-14.39
1/22/2017-1:00	-14.21	-14.24	-14.27	-11.86	-12.02	-11.45	-14.41
1/22/2017-2:00	-14.24	-14.27	-14.3	-11.89	-12.06	-11.49	-14.44
1/22/2017-3:00	-14.28	-14.31	-14.34	-11.94	-12.11	-11.53	-14.48
1/22/2017-4:00	-14.32	-14.35	-14.38	-11.99	-12.17	-11.58	-14.53
1/22/2017-5:00	-14.37	-14.4	-14.44	-12.04	-12.24	-11.64	-14.58
1/22/2017-6:00	-14.42	-14.46	-14.5	-12.11	-12.33	-11.71	-14.64
1/22/2017-7:00	-14.48	-14.52	-14.56	-12.18	-12.43	-11.79	-14.71
1/22/2017-8:00	-14.55	-14.59	-14.64	-12.26	-12.53	-11.87	-14.78
1/22/2017-9:00	-14.62	-14.67	-14.72	-12.35	-12.65	-11.96	-14.86
1/22/2017-10:00	-14.7	-14.75	-14.8	-12.45	-12.78	-12.06	-14.95
1/22/2017-11:00	-14.78	-14.84	-14.9	-12.56	-12.92	-12.16	-15.04
1/22/2017-12:00	-14.87	-14.94	-14.99	-12.67	-13.06	-12.27	-15.14
1/22/2017-13:00	-14.96	-15.03	-15.1	-12.79	-13.21	-12.39	-15.24
1/22/2017-14:00	-15.06	-15.13	-15.2	-12.91	-13.36	-12.5	-15.35
1/22/2017-15:00	-15.15	-15.23	-15.29	-13.03	-13.5	-12.6	-15.44
1/22/2017-16:00	-15.23	-15.32	-15.39	-13.16	-13.63	-12.7	-15.53
1/22/2017-17:00	-15.31	-15.4	-15.47	-13.27	-13.75	-12.78	-15.61
1/22/2017-18:00	-15.38	-15.47	-15.54	-13.37	-13.84	-12.84	-15.68
1/22/2017-19:00	-15.44	-15.52	-15.59	-13.46	-13.9	-12.89	-15.73
1/22/2017-20:00	-15.49	-15.57	-15.64	-13.54	-13.95	-12.92	-15.77
1/22/2017-21:00	-15.53	-15.61	-15.67	-13.6	-13.98	-12.95	-15.8
1/22/2017-22:00	-15.57	-15.64	-15.7	-13.65	-14	-12.97	-15.83

1/22/2017-23:00	-15.6	-15.67	-15.73	-13.7	-14.02	-12.99	-15.85
1/23/2017-0:00	-15.63	-15.7	-15.75	-13.74	-14.04	-13.01	-15.88
1/23/2017-1:00	-15.67	-15.73	-15.78	-13.78	-14.06	-13.03	-15.9
1/23/2017-2:00	-15.7	-15.77	-15.82	-13.82	-14.09	-13.07	-15.94
1/23/2017-3:00	-15.74	-15.81	-15.86	-13.86	-14.13	-13.11	-15.98
1/23/2017-4:00	-15.79	-15.85	-15.91	-13.91	-14.19	-13.16	-16.02
1/23/2017-5:00	-15.84	-15.91	-15.96	-13.96	-14.26	-13.22	-16.08
1/23/2017-6:00	-15.9	-15.97	-16.03	-14.03	-14.34	-13.29	-16.14
1/23/2017-7:00	-15.97	-16.04	-16.1	-14.1	-14.43	-13.37	-16.21
1/23/2017-8:00	-16.04	-16.11	-16.17	-14.18	-14.54	-13.46	-16.29
1/23/2017-9:00	-16.11	-16.19	-16.26	-14.27	-14.66	-13.56	-16.38
1/23/2017-10:00	-16.2	-16.28	-16.35	-14.37	-14.78	-13.66	-16.47
1/23/2017-11:00	-16.29	-16.37	-16.44	-14.47	-14.92	-13.76	-16.56
1/23/2017-12:00	-16.38	-16.47	-16.54	-14.59	-15.06	-13.87	-16.66
1/23/2017-13:00	-16.47	-16.57	-16.65	-14.7	-15.2	-13.99	-16.77
1/23/2017-14:00	-16.57	-16.66	-16.75	-14.82	-15.34	-14.09	-16.87
1/23/2017-15:00	-16.66	-16.76	-16.84	-14.94	-15.48	-14.2	-16.96
1/23/2017-16:00	-16.75	-16.85	-16.93	-15.06	-15.6	-14.29	-17.05
1/23/2017-17:00	-16.83	-16.93	-17.01	-15.17	-15.71	-14.37	-17.13
1/23/2017-18:00	-16.9	-17	-17.08	-15.27	-15.79	-14.43	-17.2
1/23/2017-19:00	-16.96	-17.06	-17.14	-15.35	-15.86	-14.48	-17.25
1/23/2017-20:00	-17.01	-17.11	-17.19	-15.43	-15.9	-14.52	-17.29
1/23/2017-21:00	-17.05	-17.15	-17.22	-15.49	-15.93	-14.54	-17.33
1/23/2017-22:00	-17.09	-17.18	-17.25	-15.54	-15.94	-14.56	-17.35
1/23/2017-23:00	-17.11	-17.2	-17.27	-15.57	-15.94	-14.57	-17.37
1/24/2017-0:00	-17.14	-17.22	-17.28	-15.6	-15.94	-14.57	-17.38
1/24/2017-1:00	-17.16	-17.24	-17.3	-15.62	-15.93	-14.58	-17.39
1/24/2017-2:00	-17.18	-17.25	-17.31	-15.64	-15.92	-14.58	-17.4
1/24/2017-3:00	-17.2	-17.27	-17.33	-15.65	-15.91	-14.59	-17.41
1/24/2017-4:00	-17.22	-17.29	-17.34	-15.67	-15.91	-14.6	-17.42
1/24/2017-5:00	-17.24	-17.3	-17.36	-15.68	-15.91	-14.61	-17.44
1/24/2017-6:00	-17.26	-17.32	-17.37	-15.69	-15.91	-14.63	-17.45
1/24/2017-7:00	-17.28	-17.35	-17.4	-15.71	-15.92	-14.65	-17.47
1/24/2017-8:00	-17.31	-17.37	-17.42	-15.72	-15.94	-14.67	-17.5
1/24/2017-9:00	-17.33	-17.4	-17.44	-15.74	-15.96	-14.7	-17.52
1/24/2017-10:00	-17.36	-17.42	-17.47	-15.77	-15.99	-14.73	-17.55
1/24/2017-11:00	-17.39	-17.45	-17.5	-15.79	-16.02	-14.76	-17.58
1/24/2017-12:00	-17.42	-17.49	-17.53	-15.82	-16.05	-14.79	-17.61
1/24/2017-13:00	-17.45	-17.52	-17.56	-15.85	-16.08	-14.82	-17.64
1/24/2017-14:00	-17.48	-17.54	-17.59	-15.88	-16.11	-14.85	-17.67
1/24/2017-15:00	-17.5	-17.56	-17.61	-15.9	-16.13	-14.86	-17.69
1/24/2017-16:00	-17.52	-17.58	-17.62	-15.92	-16.13	-14.87	-17.7
1/24/2017-17:00	-17.53	-17.58	-17.62	-15.93	-16.12	-14.86	-17.7
1/24/2017-18:00	-17.52	-17.57	-17.61	-15.92	-16.08	-14.84	-17.68
1/24/2017-19:00	-17.51	-17.55	-17.59	-15.9	-16.02	-14.79	-17.65
1/24/2017-20:00	-17.48	-17.52	-17.55	-15.87	-15.95	-14.74	-17.61
1/24/2017-21:00	-17.44	-17.48	-17.5	-15.82	-15.85	-14.68	-17.56
1/24/2017-22:00	-17.4	-17.43	-17.44	-15.76	-15.75	-14.6	-17.5
1/24/2017-23:00	-17.35	-17.37	-17.38	-15.69	-15.63	-14.53	-17.44
1/25/2017-0:00	-17.3	-17.31	-17.32	-15.62	-15.52	-14.45	-17.37
1/25/2017-1:00	-17.24	-17.25	-17.25	-15.53	-15.4	-14.37	-17.3
1/25/2017-2:00	-17.18	-17.19	-17.18	-15.45	-15.28	-14.3	-17.23
1/25/2017-3:00	-17.13	-17.12	-17.12	-15.36	-15.17	-14.22	-17.17

1/25/2017-4:00	-17.07	-17.06	-17.06	-15.27	-15.07	-14.15	-17.1
1/25/2017-5:00	-17.01	-17.01	-17	-15.19	-14.97	-14.09	-17.04
1/25/2017-6:00	-16.96	-16.95	-16.94	-15.1	-14.88	-14.03	-16.99
1/25/2017-7:00	-16.91	-16.9	-16.89	-15.02	-14.79	-13.98	-16.94
1/25/2017-8:00	-16.86	-16.85	-16.84	-14.95	-14.71	-13.93	-16.89
1/25/2017-9:00	-16.82	-16.8	-16.79	-14.87	-14.64	-13.88	-16.84
1/25/2017-10:00	-16.78	-16.76	-16.75	-14.81	-14.58	-13.84	-16.8
1/25/2017-11:00	-16.74	-16.72	-16.71	-14.74	-14.52	-13.8	-16.76
1/25/2017-12:00	-16.7	-16.68	-16.67	-14.68	-14.47	-13.76	-16.72
1/25/2017-13:00	-16.66	-16.64	-16.63	-14.62	-14.41	-13.72	-16.69
1/25/2017-14:00	-16.62	-16.6	-16.59	-14.57	-14.36	-13.68	-16.65
1/25/2017-15:00	-16.58	-16.56	-16.55	-14.51	-14.3	-13.64	-16.6
1/25/2017-16:00	-16.53	-16.51	-16.5	-14.45	-14.23	-13.58	-16.56
1/25/2017-17:00	-16.48	-16.46	-16.44	-14.38	-14.15	-13.52	-16.5
1/25/2017-18:00	-16.42	-16.39	-16.37	-14.31	-14.05	-13.45	-16.43
1/25/2017-19:00	-16.35	-16.32	-16.3	-14.22	-13.94	-13.36	-16.36
1/25/2017-20:00	-16.28	-16.24	-16.21	-14.13	-13.82	-13.27	-16.27
1/25/2017-21:00	-16.2	-16.16	-16.12	-14.03	-13.68	-13.16	-16.18
1/25/2017-22:00	-16.11	-16.07	-16.03	-13.92	-13.54	-13.06	-16.09
1/25/2017-23:00	-16.02	-15.97	-15.93	-13.8	-13.39	-12.95	-15.99
1/26/2017-0:00	-15.93	-15.88	-15.83	-13.68	-13.24	-12.84	-15.89
1/26/2017-1:00	-15.84	-15.78	-15.74	-13.56	-13.1	-12.74	-15.79
1/26/2017-2:00	-15.75	-15.69	-15.64	-13.43	-12.96	-12.64	-15.7
1/26/2017-3:00	-15.66	-15.6	-15.55	-13.31	-12.83	-12.54	-15.61
1/26/2017-4:00	-15.57	-15.51	-15.46	-13.19	-12.7	-12.45	-15.52
1/26/2017-5:00	-15.49	-15.42	-15.37	-13.08	-12.58	-12.36	-15.43
1/26/2017-6:00	-15.41	-15.34	-15.29	-12.97	-12.47	-12.28	-15.36
1/26/2017-7:00	-15.34	-15.27	-15.22	-12.86	-12.37	-12.21	-15.28
1/26/2017-8:00	-15.26	-15.19	-15.14	-12.76	-12.28	-12.14	-15.21
1/26/2017-9:00	-15.19	-15.12	-15.07	-12.67	-12.19	-12.07	-15.15
1/26/2017-10:00	-15.13	-15.06	-15.01	-12.58	-12.11	-12.01	-15.08
1/26/2017-11:00	-15.06	-15	-14.95	-12.49	-12.04	-11.95	-15.03
1/26/2017-12:00	-15	-14.94	-14.89	-12.41	-11.97	-11.9	-14.97
1/26/2017-13:00	-14.95	-14.88	-14.83	-12.34	-11.91	-11.84	-14.92
1/26/2017-14:00	-14.89	-14.82	-14.78	-12.26	-11.84	-11.79	-14.86
1/26/2017-15:00	-14.83	-14.76	-14.72	-12.19	-11.77	-11.73	-14.8
1/26/2017-16:00	-14.76	-14.7	-14.65	-12.11	-11.69	-11.66	-14.74
1/26/2017-17:00	-14.69	-14.62	-14.58	-12.03	-11.6	-11.58	-14.66
1/26/2017-18:00	-14.61	-14.54	-14.49	-11.94	-11.48	-11.48	-14.58
1/26/2017-19:00	-14.52	-14.45	-14.4	-11.84	-11.35	-11.38	-14.48
1/26/2017-20:00	-14.43	-14.35	-14.29	-11.72	-11.21	-11.26	-14.38
1/26/2017-21:00	-14.33	-14.24	-14.18	-11.6	-11.06	-11.14	-14.26
1/26/2017-22:00	-14.22	-14.13	-14.06	-11.47	-10.89	-11.01	-14.15
1/26/2017-23:00	-14.11	-14.02	-13.95	-11.34	-10.73	-10.88	-14.03
1/27/2017-0:00	-14	-13.9	-13.83	-11.2	-10.57	-10.76	-13.92
1/27/2017-1:00	-13.89	-13.79	-13.72	-11.06	-10.41	-10.64	-13.8
1/27/2017-2:00	-13.79	-13.69	-13.61	-10.92	-10.27	-10.53	-13.7
1/27/2017-3:00	-13.69	-13.59	-13.51	-10.79	-10.13	-10.43	-13.6
1/27/2017-4:00	-13.6	-13.49	-13.42	-10.67	-10.01	-10.34	-13.51
1/27/2017-5:00	-13.51	-13.4	-13.33	-10.55	-9.9	-10.25	-13.42
1/27/2017-6:00	-13.43	-13.32	-13.25	-10.44	-9.8	-10.18	-13.34
1/27/2017-7:00	-13.35	-13.25	-13.18	-10.34	-9.72	-10.11	-13.27
1/27/2017-8:00	-13.28	-13.18	-13.11	-10.25	-9.65	-10.05	-13.21

1/27/2017-9:00	-13.22	-13.12	-13.05	-10.16	-9.59	-10	-13.16
1/27/2017-10:00	-13.16	-13.06	-13	-10.09	-9.54	-9.95	-13.1
1/27/2017-11:00	-13.1	-13.01	-12.95	-10.02	-9.49	-9.91	-13.06
1/27/2017-12:00	-13.05	-12.96	-12.9	-9.96	-9.45	-9.87	-13.02
1/27/2017-13:00	-13	-12.92	-12.86	-9.9	-9.42	-9.83	-12.97
1/27/2017-14:00	-12.96	-12.87	-12.81	-9.85	-9.38	-9.79	-12.93
1/27/2017-15:00	-12.9	-12.82	-12.76	-9.79	-9.33	-9.74	-12.88
1/27/2017-16:00	-12.85	-12.76	-12.71	-9.73	-9.27	-9.68	-12.83
1/27/2017-17:00	-12.78	-12.7	-12.64	-9.67	-9.2	-9.61	-12.76
1/27/2017-18:00	-12.71	-12.62	-12.56	-9.59	-9.11	-9.52	-12.69
1/27/2017-19:00	-12.63	-12.54	-12.48	-9.51	-9	-9.43	-12.6
1/27/2017-20:00	-12.54	-12.45	-12.38	-9.41	-8.87	-9.32	-12.5
1/27/2017-21:00	-12.45	-12.35	-12.28	-9.31	-8.74	-9.21	-12.4
1/27/2017-22:00	-12.35	-12.25	-12.18	-9.19	-8.59	-9.09	-12.29
1/27/2017-23:00	-12.25	-12.14	-12.07	-9.07	-8.45	-8.97	-12.18
1/28/2017-0:00	-12.15	-12.04	-11.96	-8.95	-8.3	-8.85	-12.07
1/28/2017-1:00	-12.05	-11.93	-11.85	-8.82	-8.16	-8.74	-11.97
1/28/2017-2:00	-11.95	-11.83	-11.75	-8.7	-8.02	-8.63	-11.86
1/28/2017-3:00	-11.85	-11.73	-11.65	-8.58	-7.89	-8.53	-11.76
1/28/2017-4:00	-11.75	-11.64	-11.55	-8.46	-7.77	-8.43	-11.67
1/28/2017-5:00	-11.66	-11.55	-11.46	-8.35	-7.66	-8.34	-11.58
1/28/2017-6:00	-11.58	-11.46	-11.38	-8.24	-7.56	-8.26	-11.5
1/28/2017-7:00	-11.5	-11.38	-11.3	-8.14	-7.47	-8.18	-11.42
1/28/2017-8:00	-11.42	-11.3	-11.22	-8.04	-7.39	-8.11	-11.35
1/28/2017-9:00	-11.35	-11.24	-11.15	-7.96	-7.32	-8.05	-11.28
1/28/2017-10:00	-11.28	-11.17	-11.09	-7.88	-7.26	-8	-11.22
1/28/2017-11:00	-11.22	-11.11	-11.04	-7.8	-7.2	-7.95	-11.17
1/28/2017-12:00	-11.17	-11.06	-10.98	-7.74	-7.16	-7.9	-11.12
1/28/2017-13:00	-11.11	-11.01	-10.94	-7.68	-7.12	-7.86	-11.07
1/28/2017-14:00	-11.06	-10.96	-10.89	-7.62	-7.08	-7.82	-11.03
1/28/2017-15:00	-11.01	-10.91	-10.84	-7.57	-7.04	-7.77	-10.98
1/28/2017-16:00	-10.96	-10.85	-10.78	-7.51	-6.99	-7.71	-10.93
1/28/2017-17:00	-10.89	-10.79	-10.72	-7.45	-6.93	-7.65	-10.87
1/28/2017-18:00	-10.83	-10.72	-10.65	-7.38	-6.85	-7.57	-10.8
1/28/2017-19:00	-10.75	-10.64	-10.57	-7.3	-6.75	-7.48	-10.71
1/28/2017-20:00	-10.66	-10.56	-10.48	-7.22	-6.64	-7.38	-10.62
1/28/2017-21:00	-10.57	-10.46	-10.38	-7.12	-6.52	-7.27	-10.52
1/28/2017-22:00	-10.48	-10.36	-10.28	-7.01	-6.38	-7.16	-10.42
1/28/2017-23:00	-10.38	-10.26	-10.17	-6.9	-6.25	-7.04	-10.31
1/29/2017-0:00	-10.28	-10.16	-10.07	-6.79	-6.11	-6.93	-10.21
1/29/2017-1:00	-10.18	-10.05	-9.96	-6.67	-5.97	-6.82	-10.1
1/29/2017-2:00	-10.08	-9.95	-9.86	-6.55	-5.84	-6.71	-10
1/29/2017-3:00	-9.99	-9.86	-9.76	-6.43	-5.71	-6.61	-9.9
1/29/2017-4:00	-9.89	-9.76	-9.67	-6.32	-5.6	-6.51	-9.81
1/29/2017-5:00	-9.8	-9.67	-9.58	-6.21	-5.49	-6.42	-9.72
1/29/2017-6:00	-9.72	-9.58	-9.49	-6.1	-5.39	-6.34	-9.63
1/29/2017-7:00	-9.63	-9.5	-9.41	-6	-5.3	-6.26	-9.55
1/29/2017-8:00	-9.56	-9.43	-9.33	-5.91	-5.22	-6.18	-9.48
1/29/2017-9:00	-9.48	-9.35	-9.26	-5.82	-5.14	-6.11	-9.41
1/29/2017-10:00	-9.41	-9.28	-9.19	-5.74	-5.07	-6.05	-9.34
1/29/2017-11:00	-9.35	-9.22	-9.13	-5.66	-5.01	-5.99	-9.28
1/29/2017-12:00	-9.28	-9.16	-9.07	-5.59	-4.96	-5.94	-9.22
1/29/2017-13:00	-9.22	-9.1	-9.01	-5.52	-4.91	-5.89	-9.17

1/29/2017-14:00	-9.16	-9.04	-8.95	-5.46	-4.86	-5.83	-9.11
1/29/2017-15:00	-9.1	-8.98	-8.89	-5.4	-4.81	-5.77	-9.05
1/29/2017-16:00	-9.03	-8.91	-8.83	-5.33	-4.74	-5.7	-8.98
1/29/2017-17:00	-8.96	-8.84	-8.75	-5.26	-4.66	-5.63	-8.91
1/29/2017-18:00	-8.88	-8.75	-8.67	-5.18	-4.57	-5.54	-8.82
1/29/2017-19:00	-8.79	-8.66	-8.57	-5.09	-4.46	-5.43	-8.73
1/29/2017-20:00	-8.7	-8.56	-8.47	-4.99	-4.34	-5.32	-8.63
1/29/2017-21:00	-8.59	-8.46	-8.36	-4.88	-4.2	-5.2	-8.52
1/29/2017-22:00	-8.49	-8.35	-8.25	-4.77	-4.06	-5.08	-8.4
1/29/2017-23:00	-8.38	-8.24	-8.13	-4.65	-3.91	-4.96	-8.29
1/30/2017-0:00	-8.27	-8.13	-8.02	-4.52	-3.77	-4.84	-8.17
1/30/2017-1:00	-8.17	-8.02	-7.91	-4.4	-3.64	-4.73	-8.07
1/30/2017-2:00	-8.07	-7.92	-7.81	-4.28	-3.51	-4.62	-7.96
1/30/2017-3:00	-7.97	-7.82	-7.72	-4.17	-3.4	-4.53	-7.87
1/30/2017-4:00	-7.88	-7.74	-7.63	-4.06	-3.31	-4.45	-7.79
1/30/2017-5:00	-7.8	-7.66	-7.56	-3.97	-3.24	-4.38	-7.72
1/30/2017-6:00	-7.73	-7.59	-7.49	-3.88	-3.18	-4.33	-7.65
1/30/2017-7:00	-7.67	-7.53	-7.44	-3.81	-3.13	-4.28	-7.6
1/30/2017-8:00	-7.62	-7.48	-7.39	-3.75	-3.11	-4.25	-7.56
1/30/2017-9:00	-7.58	-7.45	-7.36	-3.7	-3.1	-4.23	-7.53
1/30/2017-10:00	-7.54	-7.42	-7.33	-3.67	-3.11	-4.22	-7.51
1/30/2017-11:00	-7.52	-7.4	-7.32	-3.65	-3.13	-4.23	-7.5
1/30/2017-12:00	-7.5	-7.39	-7.32	-3.64	-3.17	-4.24	-7.5
1/30/2017-13:00	-7.5	-7.39	-7.32	-3.65	-3.22	-4.26	-7.51
1/30/2017-14:00	-7.49	-7.39	-7.33	-3.66	-3.28	-4.28	-7.52
1/30/2017-15:00	-7.5	-7.4	-7.35	-3.69	-3.35	-4.31	-7.54
1/30/2017-16:00	-7.5	-7.41	-7.36	-3.71	-3.41	-4.34	-7.55
1/30/2017-17:00	-7.51	-7.43	-7.38	-3.74	-3.47	-4.36	-7.57
1/30/2017-18:00	-7.51	-7.43	-7.39	-3.78	-3.52	-4.38	-7.58
1/30/2017-19:00	-7.52	-7.44	-7.4	-3.81	-3.57	-4.4	-7.59
1/30/2017-20:00	-7.52	-7.45	-7.4	-3.84	-3.61	-4.41	-7.6
1/30/2017-21:00	-7.52	-7.45	-7.41	-3.87	-3.65	-4.42	-7.61
1/30/2017-22:00	-7.53	-7.46	-7.42	-3.9	-3.69	-4.44	-7.61
1/30/2017-23:00	-7.53	-7.47	-7.43	-3.93	-3.74	-4.45	-7.63
1/31/2017-0:00	-7.55	-7.48	-7.45	-3.96	-3.78	-4.48	-7.64
1/31/2017-1:00	-7.56	-7.5	-7.47	-4	-3.84	-4.51	-7.67
1/31/2017-2:00	-7.59	-7.53	-7.5	-4.05	-3.91	-4.55	-7.7
1/31/2017-3:00	-7.62	-7.56	-7.54	-4.1	-3.99	-4.6	-7.74
1/31/2017-4:00	-7.65	-7.61	-7.59	-4.16	-4.09	-4.66	-7.78
1/31/2017-5:00	-7.7	-7.66	-7.64	-4.23	-4.19	-4.73	-7.84
1/31/2017-6:00	-7.75	-7.72	-7.71	-4.31	-4.31	-4.81	-7.91
1/31/2017-7:00	-7.81	-7.78	-7.78	-4.41	-4.45	-4.9	-7.98
1/31/2017-8:00	-7.88	-7.86	-7.86	-4.51	-4.59	-5	-8.06
1/31/2017-9:00	-7.95	-7.94	-7.94	-4.62	-4.74	-5.1	-8.15
1/31/2017-10:00	-8.03	-8.03	-8.04	-4.74	-4.9	-5.21	-8.24
1/31/2017-11:00	-8.12	-8.12	-8.14	-4.86	-5.06	-5.32	-8.34
1/31/2017-12:00	-8.21	-8.22	-8.24	-5	-5.23	-5.44	-8.44
1/31/2017-13:00	-8.3	-8.32	-8.34	-5.14	-5.4	-5.55	-8.55
1/31/2017-14:00	-8.39	-8.41	-8.44	-5.27	-5.57	-5.67	-8.65
1/31/2017-15:00	-8.48	-8.51	-8.54	-5.41	-5.73	-5.77	-8.74
1/31/2017-16:00	-8.57	-8.59	-8.63	-5.54	-5.87	-5.86	-8.83
1/31/2017-17:00	-8.64	-8.67	-8.7	-5.67	-5.99	-5.94	-8.9
1/31/2017-18:00	-8.7	-8.73	-8.76	-5.78	-6.08	-6	-8.96

1/31/2017-19:00	-8.76	-8.78	-8.81	-5.87	-6.15	-6.04	-9.01
1/31/2017-20:00	-8.8	-8.82	-8.85	-5.96	-6.2	-6.07	-9.04
1/31/2017-21:00	-8.83	-8.85	-8.88	-6.02	-6.24	-6.08	-9.06
1/31/2017-22:00	-8.86	-8.88	-8.9	-6.07	-6.25	-6.09	-9.08
1/31/2017-23:00	-8.88	-8.89	-8.91	-6.12	-6.26	-6.09	-9.09
2/1/2017-0:00	-8.9	-8.91	-8.92	-6.15	-6.27	-6.1	-9.1
2/1/2017-1:00	-8.91	-8.92	-8.93	-6.18	-6.28	-6.1	-9.1
2/1/2017-2:00	-8.93	-8.94	-8.95	-6.21	-6.29	-6.12	-9.12
2/1/2017-3:00	-8.95	-8.96	-8.97	-6.24	-6.31	-6.14	-9.13
2/1/2017-4:00	-8.98	-8.98	-8.99	-6.28	-6.34	-6.16	-9.16
2/1/2017-5:00	-9.01	-9.02	-9.03	-6.31	-6.39	-6.2	-9.19
2/1/2017-6:00	-9.05	-9.05	-9.07	-6.36	-6.45	-6.25	-9.23
2/1/2017-7:00	-9.09	-9.1	-9.12	-6.41	-6.52	-6.3	-9.28
2/1/2017-8:00	-9.14	-9.15	-9.17	-6.47	-6.6	-6.37	-9.33
2/1/2017-9:00	-9.2	-9.22	-9.24	-6.55	-6.7	-6.44	-9.4
2/1/2017-10:00	-9.26	-9.29	-9.31	-6.63	-6.82	-6.53	-9.47
2/1/2017-11:00	-9.33	-9.36	-9.39	-6.72	-6.94	-6.62	-9.55
2/1/2017-12:00	-9.41	-9.44	-9.48	-6.82	-7.07	-6.72	-9.64
2/1/2017-13:00	-9.49	-9.53	-9.56	-6.93	-7.21	-6.82	-9.73
2/1/2017-14:00	-9.58	-9.62	-9.66	-7.04	-7.35	-6.92	-9.82
2/1/2017-15:00	-9.66	-9.7	-9.74	-7.15	-7.49	-7.01	-9.91
2/1/2017-16:00	-9.73	-9.78	-9.82	-7.26	-7.61	-7.1	-9.99
2/1/2017-17:00	-9.8	-9.85	-9.9	-7.36	-7.72	-7.17	-10.06
2/1/2017-18:00	-9.86	-9.91	-9.95	-7.46	-7.8	-7.23	-10.11
2/1/2017-19:00	-9.91	-9.96	-10	-7.54	-7.86	-7.27	-10.16
2/1/2017-20:00	-9.95	-10	-10.04	-7.61	-7.9	-7.29	-10.19
2/1/2017-21:00	-9.98	-10.02	-10.06	-7.66	-7.93	-7.3	-10.21
2/1/2017-22:00	-10.01	-10.04	-10.08	-7.71	-7.94	-7.31	-10.22
2/1/2017-23:00	-10.02	-10.06	-10.09	-7.74	-7.94	-7.31	-10.23
2/2/2017-0:00	-10.04	-10.07	-10.1	-7.77	-7.94	-7.32	-10.24
2/2/2017-1:00	-10.06	-10.08	-10.11	-7.79	-7.94	-7.32	-10.24
2/2/2017-2:00	-10.07	-10.1	-10.12	-7.81	-7.94	-7.33	-10.25
2/2/2017-3:00	-10.09	-10.11	-10.14	-7.83	-7.95	-7.35	-10.27
2/2/2017-4:00	-10.11	-10.14	-10.16	-7.85	-7.98	-7.37	-10.29
2/2/2017-5:00	-10.14	-10.16	-10.18	-7.88	-8.01	-7.4	-10.32
2/2/2017-6:00	-10.17	-10.19	-10.22	-7.91	-8.05	-7.43	-10.35
2/2/2017-7:00	-10.2	-10.23	-10.26	-7.95	-8.1	-7.48	-10.39
2/2/2017-8:00	-10.24	-10.27	-10.3	-8	-8.16	-7.53	-10.43
2/2/2017-9:00	-10.29	-10.32	-10.35	-8.05	-8.23	-7.59	-10.48
2/2/2017-10:00	-10.34	-10.37	-10.4	-8.11	-8.31	-7.65	-10.53
2/2/2017-11:00	-10.39	-10.43	-10.46	-8.18	-8.4	-7.72	-10.59
2/2/2017-12:00	-10.45	-10.49	-10.52	-8.25	-8.49	-7.79	-10.66
2/2/2017-13:00	-10.51	-10.55	-10.59	-8.32	-8.59	-7.86	-10.72
2/2/2017-14:00	-10.57	-10.61	-10.65	-8.4	-8.68	-7.93	-10.78
2/2/2017-15:00	-10.62	-10.67	-10.71	-8.47	-8.76	-7.99	-10.84
2/2/2017-16:00	-10.67	-10.72	-10.76	-8.55	-8.84	-8.04	-10.89
2/2/2017-17:00	-10.72	-10.76	-10.8	-8.61	-8.89	-8.08	-10.93
2/2/2017-18:00	-10.75	-10.79	-10.83	-8.66	-8.93	-8.1	-10.96
2/2/2017-19:00	-10.77	-10.81	-10.85	-8.7	-8.94	-8.11	-10.97
2/2/2017-20:00	-10.79	-10.83	-10.86	-8.73	-8.94	-8.1	-10.98
2/2/2017-21:00	-10.79	-10.83	-10.86	-8.75	-8.92	-8.09	-10.97
2/2/2017-22:00	-10.79	-10.82	-10.85	-8.75	-8.89	-8.07	-10.96
2/2/2017-23:00	-10.79	-10.82	-10.84	-8.75	-8.86	-8.05	-10.95

2/3/2017-0:00	-10.78	-10.81	-10.83	-8.74	-8.82	-8.03	-10.93
2/3/2017-1:00	-10.78	-10.8	-10.82	-8.73	-8.79	-8.01	-10.92
2/3/2017-2:00	-10.77	-10.79	-10.81	-8.72	-8.76	-8	-10.91
2/3/2017-3:00	-10.77	-10.79	-10.81	-8.71	-8.75	-8	-10.91
2/3/2017-4:00	-10.78	-10.79	-10.81	-8.7	-8.74	-8	-10.91
2/3/2017-5:00	-10.79	-10.8	-10.82	-8.7	-8.74	-8.01	-10.92
2/3/2017-6:00	-10.8	-10.82	-10.83	-8.71	-8.76	-8.03	-10.93
2/3/2017-7:00	-10.82	-10.84	-10.86	-8.72	-8.79	-8.06	-10.96
2/3/2017-8:00	-10.85	-10.87	-10.89	-8.75	-8.83	-8.1	-10.99
2/3/2017-9:00	-10.88	-10.9	-10.92	-8.78	-8.89	-8.14	-11.03
2/3/2017-10:00	-10.92	-10.94	-10.97	-8.82	-8.95	-8.2	-11.07
2/3/2017-11:00	-10.96	-10.99	-11.02	-8.87	-9.03	-8.26	-11.13
2/3/2017-12:00	-11.01	-11.04	-11.08	-8.92	-9.12	-8.32	-11.18
2/3/2017-13:00	-11.06	-11.1	-11.13	-8.99	-9.21	-8.39	-11.24
2/3/2017-14:00	-11.12	-11.16	-11.19	-9.05	-9.29	-8.46	-11.3
2/3/2017-15:00	-11.17	-11.21	-11.25	-9.12	-9.38	-8.52	-11.36
2/3/2017-16:00	-11.22	-11.26	-11.3	-9.19	-9.45	-8.57	-11.41
2/3/2017-17:00	-11.25	-11.3	-11.34	-9.24	-9.5	-8.61	-11.45
2/3/2017-18:00	-11.29	-11.33	-11.37	-9.29	-9.54	-8.63	-11.47
2/3/2017-19:00	-11.31	-11.35	-11.38	-9.33	-9.56	-8.64	-11.49
2/3/2017-20:00	-11.32	-11.36	-11.39	-9.36	-9.56	-8.64	-11.49
2/3/2017-21:00	-11.33	-11.36	-11.39	-9.37	-9.54	-8.63	-11.49
2/3/2017-22:00	-11.33	-11.36	-11.39	-9.38	-9.52	-8.62	-11.49
2/3/2017-23:00	-11.33	-11.36	-11.39	-9.38	-9.5	-8.61	-11.48
2/4/2017-0:00	-11.34	-11.36	-11.39	-9.38	-9.48	-8.6	-11.48
2/4/2017-1:00	-11.34	-11.37	-11.39	-9.38	-9.47	-8.6	-11.48
2/4/2017-2:00	-11.35	-11.38	-11.4	-9.38	-9.47	-8.61	-11.49
2/4/2017-3:00	-11.37	-11.39	-11.41	-9.39	-9.49	-8.63	-11.51
2/4/2017-4:00	-11.39	-11.42	-11.44	-9.41	-9.52	-8.66	-11.53
2/4/2017-5:00	-11.42	-11.45	-11.47	-9.44	-9.56	-8.7	-11.57
2/4/2017-6:00	-11.46	-11.49	-11.52	-9.47	-9.62	-8.75	-11.61
2/4/2017-7:00	-11.5	-11.54	-11.57	-9.52	-9.69	-8.82	-11.66
2/4/2017-8:00	-11.55	-11.59	-11.63	-9.57	-9.78	-8.89	-11.73
2/4/2017-9:00	-11.61	-11.66	-11.7	-9.64	-9.88	-8.97	-11.8
2/4/2017-10:00	-11.68	-11.73	-11.77	-9.72	-10	-9.06	-11.87
2/4/2017-11:00	-11.75	-11.81	-11.86	-9.81	-10.12	-9.16	-11.96
2/4/2017-12:00	-11.83	-11.89	-11.95	-9.9	-10.25	-9.26	-12.05
2/4/2017-13:00	-11.91	-11.98	-12.04	-10.01	-10.39	-9.36	-12.14
2/4/2017-14:00	-12	-12.07	-12.13	-10.11	-10.52	-9.46	-12.24
2/4/2017-15:00	-12.08	-12.15	-12.22	-10.22	-10.65	-9.55	-12.32
2/4/2017-16:00	-12.15	-12.23	-12.3	-10.32	-10.76	-9.64	-12.4
2/4/2017-17:00	-12.22	-12.3	-12.37	-10.42	-10.86	-9.71	-12.47
2/4/2017-18:00	-12.28	-12.36	-12.42	-10.51	-10.93	-9.76	-12.53
2/4/2017-19:00	-12.33	-12.41	-12.47	-10.58	-10.99	-9.8	-12.57
2/4/2017-20:00	-12.37	-12.45	-12.51	-10.65	-11.02	-9.83	-12.61
2/4/2017-21:00	-12.41	-12.48	-12.54	-10.7	-11.05	-9.85	-12.63
2/4/2017-22:00	-12.44	-12.51	-12.56	-10.74	-11.06	-9.86	-12.65
2/4/2017-23:00	-12.47	-12.53	-12.58	-10.77	-11.07	-9.88	-12.67
2/5/2017-0:00	-12.49	-12.56	-12.61	-10.8	-11.08	-9.9	-12.69
2/5/2017-1:00	-12.52	-12.58	-12.63	-10.83	-11.1	-9.92	-12.72
2/5/2017-2:00	-12.55	-12.61	-12.66	-10.87	-11.12	-9.95	-12.75
2/5/2017-3:00	-12.59	-12.65	-12.7	-10.9	-11.16	-9.99	-12.79
2/5/2017-4:00	-12.63	-12.7	-12.75	-10.95	-11.21	-10.04	-12.83



2/5/2017-5:00	-12.68	-12.75	-12.8	-11	-11.28	-10.1	-12.89
2/5/2017-6:00	-12.74	-12.81	-12.86	-11.05	-11.36	-10.17	-12.95
2/5/2017-7:00	-12.8	-12.87	-12.93	-11.12	-11.45	-10.25	-13.02
2/5/2017-8:00	-12.87	-12.95	-13.01	-11.2	-11.56	-10.34	-13.1
2/5/2017-9:00	-12.95	-13.03	-13.1	-11.29	-11.68	-10.44	-13.19
2/5/2017-10:00	-13.04	-13.12	-13.19	-11.39	-11.81	-10.55	-13.29
2/5/2017-11:00	-13.13	-13.22	-13.29	-11.5	-11.96	-10.66	-13.39
2/5/2017-12:00	-13.23	-13.32	-13.4	-11.62	-12.11	-10.78	-13.5
2/5/2017-13:00	-13.33	-13.43	-13.51	-11.74	-12.26	-10.91	-13.61
2/5/2017-14:00	-13.43	-13.53	-13.62	-11.87	-12.42	-11.02	-13.72
2/5/2017-15:00	-13.53	-13.64	-13.73	-12	-12.56	-11.13	-13.82
2/5/2017-16:00	-13.62	-13.73	-13.82	-12.12	-12.69	-11.23	-13.92
2/5/2017-17:00	-13.7	-13.82	-13.91	-12.23	-12.8	-11.32	-14
2/5/2017-18:00	-13.78	-13.89	-13.98	-12.34	-12.89	-11.38	-14.07
2/5/2017-19:00	-13.84	-13.95	-14.03	-12.42	-12.95	-11.43	-14.12
2/5/2017-20:00	-13.89	-13.99	-14.08	-12.5	-12.99	-11.46	-14.16
2/5/2017-21:00	-13.93	-14.03	-14.11	-12.55	-13.01	-11.48	-14.19
2/5/2017-22:00	-13.96	-14.06	-14.13	-12.6	-13.01	-11.49	-14.21
2/5/2017-23:00	-13.99	-14.08	-14.15	-12.63	-13.01	-11.5	-14.23
2/6/2017-0:00	-14.01	-14.1	-14.17	-12.66	-13	-11.5	-14.24
2/6/2017-1:00	-14.04	-14.12	-14.19	-12.68	-13	-11.52	-14.26
2/6/2017-2:00	-14.06	-14.15	-14.21	-12.7	-13	-11.54	-14.28
2/6/2017-3:00	-14.1	-14.18	-14.24	-12.73	-13.02	-11.56	-14.31
2/6/2017-4:00	-14.13	-14.21	-14.28	-12.76	-13.05	-11.6	-14.34
2/6/2017-5:00	-14.17	-14.26	-14.32	-12.79	-13.09	-11.65	-14.39
2/6/2017-6:00	-14.22	-14.31	-14.37	-12.84	-13.15	-11.71	-14.44
2/6/2017-7:00	-14.28	-14.36	-14.43	-12.89	-13.22	-11.77	-14.5
2/6/2017-8:00	-14.34	-14.43	-14.5	-12.95	-13.3	-11.85	-14.57
2/6/2017-9:00	-14.41	-14.5	-14.57	-13.02	-13.4	-11.94	-14.65
2/6/2017-10:00	-14.49	-14.58	-14.66	-13.1	-13.51	-12.03	-14.73
2/6/2017-11:00	-14.57	-14.67	-14.75	-13.19	-13.64	-12.13	-14.82
2/6/2017-12:00	-14.65	-14.76	-14.84	-13.29	-13.77	-12.24	-14.92
2/6/2017-13:00	-14.74	-14.85	-14.94	-13.4	-13.9	-12.35	-15.02
2/6/2017-14:00	-14.83	-14.95	-15.03	-13.51	-14.03	-12.45	-15.11
2/6/2017-15:00	-14.92	-15.03	-15.12	-13.61	-14.15	-12.54	-15.2
2/6/2017-16:00	-15	-15.11	-15.2	-13.71	-14.25	-12.62	-15.28
2/6/2017-17:00	-15.07	-15.18	-15.27	-13.81	-14.33	-12.68	-15.35
2/6/2017-18:00	-15.12	-15.23	-15.32	-13.88	-14.39	-12.73	-15.4
2/6/2017-19:00	-15.16	-15.27	-15.36	-13.95	-14.41	-12.75	-15.43
2/6/2017-20:00	-15.19	-15.3	-15.38	-13.99	-14.42	-12.75	-15.45
2/6/2017-21:00	-15.21	-15.31	-15.39	-14.02	-14.4	-12.75	-15.45
2/6/2017-22:00	-15.22	-15.32	-15.39	-14.03	-14.36	-12.73	-15.45
2/6/2017-23:00	-15.23	-15.32	-15.38	-14.03	-14.32	-12.71	-15.44
2/7/2017-0:00	-15.23	-15.31	-15.37	-14.02	-14.27	-12.69	-15.43
2/7/2017-1:00	-15.23	-15.31	-15.37	-14.01	-14.23	-12.67	-15.42
2/7/2017-2:00	-15.24	-15.31	-15.37	-14	-14.2	-12.67	-15.41
2/7/2017-3:00	-15.24	-15.32	-15.37	-13.99	-14.18	-12.67	-15.42
2/7/2017-4:00	-15.26	-15.33	-15.38	-13.99	-14.17	-12.68	-15.43
2/7/2017-5:00	-15.28	-15.35	-15.4	-13.99	-14.18	-12.7	-15.45
2/7/2017-6:00	-15.3	-15.38	-15.43	-14	-14.2	-12.73	-15.48
2/7/2017-7:00	-15.34	-15.41	-15.47	-14.02	-14.23	-12.78	-15.51
2/7/2017-8:00	-15.38	-15.45	-15.51	-14.05	-14.29	-12.83	-15.56
2/7/2017-9:00	-15.42	-15.5	-15.56	-14.09	-14.35	-12.89	-15.61

2/7/2017-10:00	-15.47	-15.56	-15.62	-14.14	-14.42	-12.95	-15.67
2/7/2017-11:00	-15.53	-15.61	-15.68	-14.19	-14.5	-13.02	-15.73
2/7/2017-12:00	-15.59	-15.68	-15.75	-14.26	-14.59	-13.1	-15.8
2/7/2017-13:00	-15.65	-15.74	-15.81	-14.32	-14.68	-13.17	-15.87
2/7/2017-14:00	-15.71	-15.8	-15.88	-14.39	-14.76	-13.24	-15.93
2/7/2017-15:00	-15.77	-15.86	-15.93	-14.46	-14.84	-13.3	-15.99
2/7/2017-16:00	-15.82	-15.91	-15.98	-14.52	-14.9	-13.35	-16.04
2/7/2017-17:00	-15.86	-15.95	-16.02	-14.57	-14.94	-13.38	-16.07
2/7/2017-18:00	-15.89	-15.98	-16.04	-14.61	-14.95	-13.39	-16.09
2/7/2017-19:00	-15.9	-15.99	-16.05	-14.64	-14.94	-13.39	-16.1
2/7/2017-20:00	-15.91	-15.99	-16.05	-14.65	-14.91	-13.37	-16.1
2/7/2017-21:00	-15.91	-15.98	-16.04	-14.64	-14.87	-13.35	-16.08
2/7/2017-22:00	-15.9	-15.97	-16.02	-14.62	-14.81	-13.31	-16.06
2/7/2017-23:00	-15.88	-15.95	-15.99	-14.6	-14.74	-13.27	-16.03
2/8/2017-0:00	-15.86	-15.92	-15.96	-14.56	-14.67	-13.23	-16
2/8/2017-1:00	-15.85	-15.9	-15.94	-14.53	-14.61	-13.2	-15.97
2/8/2017-2:00	-15.83	-15.88	-15.92	-14.49	-14.55	-13.17	-15.95
2/8/2017-3:00	-15.82	-15.87	-15.9	-14.46	-14.51	-13.15	-15.93
2/8/2017-4:00	-15.81	-15.86	-15.89	-14.43	-14.47	-13.14	-15.92
2/8/2017-5:00	-15.81	-15.86	-15.89	-14.4	-14.45	-13.15	-15.92
2/8/2017-6:00	-15.81	-15.86	-15.9	-14.39	-14.45	-13.16	-15.93
2/8/2017-7:00	-15.83	-15.88	-15.91	-14.38	-14.46	-13.18	-15.95
2/8/2017-8:00	-15.85	-15.9	-15.94	-14.39	-14.49	-13.21	-15.97
2/8/2017-9:00	-15.87	-15.92	-15.96	-14.4	-14.52	-13.24	-16
2/8/2017-10:00	-15.9	-15.96	-16	-14.42	-14.57	-13.29	-16.04
2/8/2017-11:00	-15.94	-16	-16.04	-14.45	-14.62	-13.34	-16.08
2/8/2017-12:00	-15.97	-16.04	-16.09	-14.49	-14.68	-13.39	-16.13
2/8/2017-13:00	-16.01	-16.08	-16.13	-14.53	-14.74	-13.44	-16.18
2/8/2017-14:00	-16.05	-16.12	-16.17	-14.57	-14.8	-13.48	-16.22
2/8/2017-15:00	-16.08	-16.15	-16.2	-14.61	-14.84	-13.52	-16.25
2/8/2017-16:00	-16.11	-16.18	-16.23	-14.64	-14.87	-13.54	-16.28
2/8/2017-17:00	-16.13	-16.19	-16.24	-14.67	-14.88	-13.54	-16.29
2/8/2017-18:00	-16.13	-16.19	-16.24	-14.67	-14.86	-13.53	-16.28
2/8/2017-19:00	-16.12	-16.18	-16.22	-14.67	-14.82	-13.5	-16.26
2/8/2017-20:00	-16.1	-16.15	-16.19	-14.65	-14.75	-13.45	-16.23
2/8/2017-21:00	-16.07	-16.12	-16.15	-14.61	-14.67	-13.4	-16.19
2/8/2017-22:00	-16.04	-16.08	-16.1	-14.56	-14.57	-13.33	-16.14
2/8/2017-23:00	-16	-16.03	-16.05	-14.5	-14.47	-13.27	-16.08
2/9/2017-0:00	-15.95	-15.98	-16	-14.44	-14.37	-13.2	-16.03
2/9/2017-1:00	-15.91	-15.93	-15.95	-14.37	-14.27	-13.14	-15.98
2/9/2017-2:00	-15.87	-15.89	-15.9	-14.3	-14.19	-13.09	-15.93
2/9/2017-3:00	-15.83	-15.85	-15.86	-14.24	-14.11	-13.05	-15.89
2/9/2017-4:00	-15.8	-15.82	-15.83	-14.18	-14.05	-13.02	-15.86
2/9/2017-5:00	-15.78	-15.79	-15.8	-14.13	-14.01	-13	-15.84
2/9/2017-6:00	-15.76	-15.78	-15.79	-14.09	-13.98	-12.99	-15.82
2/9/2017-7:00	-15.75	-15.77	-15.78	-14.05	-13.97	-12.99	-15.82
2/9/2017-8:00	-15.75	-15.77	-15.79	-14.03	-13.97	-13	-15.83
2/9/2017-9:00	-15.76	-15.78	-15.8	-14.02	-13.98	-13.02	-15.84
2/9/2017-10:00	-15.77	-15.79	-15.82	-14.02	-14.01	-13.04	-15.86
2/9/2017-11:00	-15.78	-15.81	-15.84	-14.03	-14.05	-13.08	-15.89
2/9/2017-12:00	-15.81	-15.84	-15.87	-14.05	-14.1	-13.12	-15.92
2/9/2017-13:00	-15.83	-15.87	-15.9	-14.07	-14.14	-13.15	-15.95
2/9/2017-14:00	-15.85	-15.89	-15.93	-14.1	-14.19	-13.19	-15.98

2/9/2017-15:00	-15.88	-15.92	-15.95	-14.12	-14.23	-13.21	-16.01
2/9/2017-16:00	-15.89	-15.93	-15.97	-14.15	-14.25	-13.23	-16.03
2/9/2017-17:00	-15.9	-15.94	-15.97	-14.16	-14.25	-13.23	-16.03
2/9/2017-18:00	-15.89	-15.93	-15.97	-14.16	-14.23	-13.21	-16.03
2/9/2017-19:00	-15.88	-15.92	-15.95	-14.15	-14.19	-13.18	-16
2/9/2017-20:00	-15.85	-15.89	-15.91	-14.12	-14.13	-13.13	-15.97
2/9/2017-21:00	-15.82	-15.85	-15.87	-14.08	-14.05	-13.07	-15.92
2/9/2017-22:00	-15.78	-15.8	-15.82	-14.03	-13.96	-13	-15.87
2/9/2017-23:00	-15.73	-15.75	-15.77	-13.97	-13.86	-12.94	-15.82
2/10/2017-0:00	-15.69	-15.7	-15.71	-13.91	-13.77	-12.87	-15.76
2/10/2017-1:00	-15.64	-15.65	-15.66	-13.84	-13.68	-12.81	-15.71
2/10/2017-2:00	-15.6	-15.61	-15.61	-13.77	-13.59	-12.76	-15.66
2/10/2017-3:00	-15.56	-15.57	-15.57	-13.71	-13.52	-12.72	-15.62
2/10/2017-4:00	-15.53	-15.54	-15.54	-13.65	-13.47	-12.69	-15.59
2/10/2017-5:00	-15.51	-15.51	-15.52	-13.6	-13.43	-12.67	-15.57
2/10/2017-6:00	-15.49	-15.5	-15.51	-13.57	-13.41	-12.66	-15.56
2/10/2017-7:00	-15.48	-15.49	-15.5	-13.54	-13.41	-12.67	-15.56
2/10/2017-8:00	-15.49	-15.5	-15.51	-13.53	-13.42	-12.68	-15.57
2/10/2017-9:00	-15.5	-15.51	-15.53	-13.52	-13.45	-12.71	-15.59
2/10/2017-10:00	-15.51	-15.54	-15.56	-13.53	-13.5	-12.75	-15.62
2/10/2017-11:00	-15.54	-15.57	-15.59	-13.55	-13.56	-12.8	-15.66
2/10/2017-12:00	-15.57	-15.6	-15.63	-13.59	-13.63	-12.85	-15.71
2/10/2017-13:00	-15.61	-15.65	-15.68	-13.63	-13.7	-12.91	-15.76
2/10/2017-14:00	-15.65	-15.69	-15.73	-13.67	-13.78	-12.96	-15.8
2/10/2017-15:00	-15.68	-15.73	-15.77	-13.72	-13.84	-13.01	-15.85
2/10/2017-16:00	-15.72	-15.76	-15.8	-13.77	-13.9	-13.04	-15.88
2/10/2017-17:00	-15.74	-15.78	-15.82	-13.8	-13.93	-13.06	-15.91
2/10/2017-18:00	-15.75	-15.79	-15.83	-13.83	-13.94	-13.06	-15.91
2/10/2017-19:00	-15.75	-15.79	-15.83	-13.84	-13.92	-13.04	-15.91
2/10/2017-20:00	-15.74	-15.77	-15.81	-13.83	-13.88	-13.01	-15.88
2/10/2017-21:00	-15.71	-15.75	-15.77	-13.81	-13.82	-12.96	-15.85
2/10/2017-22:00	-15.68	-15.71	-15.73	-13.78	-13.74	-12.9	-15.8
2/10/2017-23:00	-15.64	-15.67	-15.69	-13.73	-13.65	-12.84	-15.75
2/11/2017-0:00	-15.6	-15.62	-15.64	-13.68	-13.56	-12.78	-15.7
2/11/2017-1:00	-15.56	-15.58	-15.59	-13.62	-13.47	-12.72	-15.65
2/11/2017-2:00	-15.53	-15.54	-15.55	-13.56	-13.39	-12.67	-15.61
2/11/2017-3:00	-15.49	-15.5	-15.51	-13.5	-13.33	-12.62	-15.57
2/11/2017-4:00	-15.46	-15.47	-15.48	-13.45	-13.27	-12.59	-15.54
2/11/2017-5:00	-15.44	-15.45	-15.45	-13.4	-13.23	-12.57	-15.52
2/11/2017-6:00	-15.43	-15.43	-15.44	-13.37	-13.21	-12.56	-15.51
2/11/2017-7:00	-15.42	-15.43	-15.44	-13.34	-13.2	-12.56	-15.5
2/11/2017-8:00	-15.42	-15.43	-15.44	-13.33	-13.21	-12.57	-15.51
2/11/2017-9:00	-15.43	-15.44	-15.46	-13.32	-13.23	-12.59	-15.53
2/11/2017-10:00	-15.44	-15.46	-15.48	-13.33	-13.27	-12.63	-15.55
2/11/2017-11:00	-15.47	-15.49	-15.51	-13.35	-13.32	-12.67	-15.58
2/11/2017-12:00	-15.49	-15.52	-15.55	-13.37	-13.38	-12.71	-15.62
2/11/2017-13:00	-15.53	-15.56	-15.58	-13.41	-13.45	-12.76	-15.66
2/11/2017-14:00	-15.56	-15.59	-15.62	-13.45	-13.51	-12.81	-15.7
2/11/2017-15:00	-15.59	-15.63	-15.66	-13.49	-13.57	-12.85	-15.74
2/11/2017-16:00	-15.62	-15.65	-15.69	-13.52	-13.61	-12.88	-15.77
2/11/2017-17:00	-15.64	-15.67	-15.71	-13.56	-13.64	-12.89	-15.79
2/11/2017-18:00	-15.64	-15.68	-15.71	-13.58	-13.65	-12.89	-15.79
2/11/2017-19:00	-15.64	-15.67	-15.7	-13.58	-13.63	-12.87	-15.78

2/11/2017-20:00	-15.63	-15.66	-15.68	-13.58	-13.59	-12.84	-15.76
2/11/2017-21:00	-15.61	-15.63	-15.65	-13.56	-13.54	-12.79	-15.72
2/11/2017-22:00	-15.58	-15.6	-15.61	-13.52	-13.47	-12.74	-15.68
2/11/2017-23:00	-15.54	-15.56	-15.57	-13.48	-13.39	-12.69	-15.64
2/12/2017-0:00	-15.5	-15.51	-15.52	-13.43	-13.31	-12.63	-15.59
2/12/2017-1:00	-15.47	-15.47	-15.48	-13.38	-13.23	-12.58	-15.54
2/12/2017-2:00	-15.43	-15.43	-15.43	-13.33	-13.15	-12.53	-15.5
2/12/2017-3:00	-15.39	-15.39	-15.39	-13.27	-13.08	-12.48	-15.45
2/12/2017-4:00	-15.35	-15.35	-15.35	-13.22	-13.02	-12.44	-15.41
2/12/2017-5:00	-15.32	-15.32	-15.31	-13.16	-12.96	-12.4	-15.38
2/12/2017-6:00	-15.29	-15.28	-15.28	-13.11	-12.9	-12.36	-15.34
2/12/2017-7:00	-15.25	-15.25	-15.24	-13.06	-12.85	-12.33	-15.31
2/12/2017-8:00	-15.22	-15.21	-15.21	-13.02	-12.8	-12.29	-15.28
2/12/2017-9:00	-15.19	-15.18	-15.17	-12.97	-12.75	-12.25	-15.24
2/12/2017-10:00	-15.15	-15.14	-15.14	-12.92	-12.7	-12.22	-15.2
2/12/2017-11:00	-15.12	-15.11	-15.1	-12.87	-12.64	-12.17	-15.16
2/12/2017-12:00	-15.08	-15.06	-15.05	-12.82	-12.58	-12.12	-15.12
2/12/2017-13:00	-15.03	-15.01	-15	-12.76	-12.51	-12.07	-15.07
2/12/2017-14:00	-14.98	-14.96	-14.94	-12.69	-12.42	-12	-15.01
2/12/2017-15:00	-14.91	-14.89	-14.87	-12.62	-12.31	-11.91	-14.93
2/12/2017-16:00	-14.84	-14.8	-14.78	-12.53	-12.18	-11.81	-14.84
2/12/2017-17:00	-14.75	-14.71	-14.68	-12.42	-12.03	-11.69	-14.74
2/12/2017-18:00	-14.64	-14.59	-14.56	-12.3	-11.85	-11.55	-14.61
2/12/2017-19:00	-14.52	-14.46	-14.42	-12.15	-11.64	-11.39	-14.48
2/12/2017-20:00	-14.39	-14.32	-14.27	-11.99	-11.41	-11.22	-14.32
2/12/2017-21:00	-14.24	-14.17	-14.11	-11.81	-11.17	-11.03	-14.16
2/12/2017-22:00	-14.09	-14	-13.94	-11.62	-10.91	-10.84	-13.99
2/12/2017-23:00	-13.93	-13.84	-13.76	-11.41	-10.65	-10.65	-13.81
2/13/2017-0:00	-13.77	-13.67	-13.58	-11.2	-10.39	-10.45	-13.63
2/13/2017-1:00	-13.61	-13.5	-13.41	-10.99	-10.14	-10.26	-13.46
2/13/2017-2:00	-13.45	-13.33	-13.24	-10.77	-9.89	-10.08	-13.29
2/13/2017-3:00	-13.29	-13.17	-13.07	-10.56	-9.65	-9.91	-13.12
2/13/2017-4:00	-13.13	-13.01	-12.91	-10.35	-9.43	-9.75	-12.97
2/13/2017-5:00	-12.99	-12.86	-12.76	-10.15	-9.23	-9.6	-12.82
2/13/2017-6:00	-12.85	-12.72	-12.62	-9.96	-9.04	-9.46	-12.68
2/13/2017-7:00	-12.72	-12.59	-12.49	-9.78	-8.88	-9.33	-12.56
2/13/2017-8:00	-12.59	-12.47	-12.37	-9.61	-8.73	-9.22	-12.44
2/13/2017-9:00	-12.48	-12.36	-12.26	-9.46	-8.61	-9.12	-12.34
2/13/2017-10:00	-12.38	-12.26	-12.17	-9.32	-8.5	-9.04	-12.25
2/13/2017-11:00	-12.29	-12.17	-12.09	-9.2	-8.42	-8.97	-12.18
2/13/2017-12:00	-12.21	-12.1	-12.02	-9.09	-8.36	-8.91	-12.11
2/13/2017-13:00	-12.14	-12.03	-11.96	-9	-8.3	-8.87	-12.06
2/13/2017-14:00	-12.08	-11.97	-11.9	-8.92	-8.26	-8.82	-12.01
2/13/2017-15:00	-12.01	-11.91	-11.84	-8.84	-8.22	-8.77	-11.95
2/13/2017-16:00	-11.95	-11.85	-11.79	-8.77	-8.17	-8.72	-11.9
2/13/2017-17:00	-11.88	-11.79	-11.72	-8.7	-8.11	-8.66	-11.84
2/13/2017-18:00	-11.81	-11.71	-11.65	-8.62	-8.04	-8.58	-11.77
2/13/2017-19:00	-11.73	-11.63	-11.57	-8.54	-7.95	-8.5	-11.69
2/13/2017-20:00	-11.64	-11.54	-11.48	-8.44	-7.84	-8.4	-11.6
2/13/2017-21:00	-11.55	-11.45	-11.38	-8.34	-7.72	-8.29	-11.5
2/13/2017-22:00	-11.45	-11.34	-11.27	-8.23	-7.58	-8.18	-11.4
2/13/2017-23:00	-11.35	-11.24	-11.17	-8.12	-7.45	-8.07	-11.29
2/14/2017-0:00	-11.25	-11.14	-11.07	-8	-7.32	-7.96	-11.19

2/14/2017-1:00	-11.15	-11.04	-10.97	-7.88	-7.19	-7.85	-11.09
2/14/2017-2:00	-11.06	-10.95	-10.87	-7.76	-7.07	-7.75	-11
2/14/2017-3:00	-10.97	-10.86	-10.78	-7.65	-6.96	-7.67	-10.91
2/14/2017-4:00	-10.88	-10.77	-10.7	-7.55	-6.86	-7.58	-10.83
2/14/2017-5:00	-10.81	-10.7	-10.62	-7.45	-6.77	-7.51	-10.75
2/14/2017-6:00	-10.73	-10.63	-10.55	-7.36	-6.7	-7.45	-10.69
2/14/2017-7:00	-10.66	-10.56	-10.49	-7.27	-6.63	-7.39	-10.63
2/14/2017-8:00	-10.6	-10.5	-10.43	-7.2	-6.57	-7.33	-10.57
2/14/2017-9:00	-10.54	-10.44	-10.38	-7.13	-6.53	-7.29	-10.52
2/14/2017-10:00	-10.49	-10.39	-10.33	-7.06	-6.48	-7.24	-10.47
2/14/2017-11:00	-10.44	-10.34	-10.28	-7.01	-6.44	-7.2	-10.42
2/14/2017-12:00	-10.39	-10.29	-10.23	-6.95	-6.41	-7.16	-10.38
2/14/2017-13:00	-10.33	-10.24	-10.18	-6.9	-6.36	-7.11	-10.33
2/14/2017-14:00	-10.28	-10.19	-10.13	-6.84	-6.32	-7.06	-10.28
2/14/2017-15:00	-10.22	-10.13	-10.07	-6.78	-6.25	-6.99	-10.22
2/14/2017-16:00	-10.15	-10.06	-10	-6.72	-6.17	-6.91	-10.15
2/14/2017-17:00	-10.07	-9.98	-9.91	-6.64	-6.07	-6.82	-10.06
2/14/2017-18:00	-9.98	-9.88	-9.81	-6.55	-5.95	-6.7	-9.96
2/14/2017-19:00	-9.88	-9.77	-9.7	-6.44	-5.8	-6.57	-9.84
2/14/2017-20:00	-9.76	-9.65	-9.57	-6.31	-5.63	-6.43	-9.71
2/14/2017-21:00	-9.64	-9.52	-9.43	-6.17	-5.44	-6.27	-9.57
2/14/2017-22:00	-9.5	-9.38	-9.29	-6.02	-5.24	-6.11	-9.42
2/14/2017-23:00	-9.37	-9.23	-9.14	-5.86	-5.03	-5.95	-9.27
2/15/2017-0:00	-9.23	-9.09	-8.99	-5.69	-4.83	-5.79	-9.12
2/15/2017-1:00	-9.09	-8.94	-8.84	-5.52	-4.63	-5.63	-8.98
2/15/2017-2:00	-8.95	-8.8	-8.7	-5.35	-4.44	-5.48	-8.83
2/15/2017-3:00	-8.82	-8.67	-8.56	-5.19	-4.26	-5.34	-8.7
2/15/2017-4:00	-8.69	-8.54	-8.43	-5.03	-4.1	-5.21	-8.57
2/15/2017-5:00	-8.57	-8.42	-8.31	-4.87	-3.95	-5.09	-8.45
2/15/2017-6:00	-8.46	-8.3	-8.19	-4.73	-3.82	-4.98	-8.34
2/15/2017-7:00	-8.35	-8.2	-8.09	-4.59	-3.7	-4.88	-8.24
2/15/2017-8:00	-8.25	-8.1	-7.99	-4.47	-3.6	-4.79	-8.14
2/15/2017-9:00	-8.15	-8.01	-7.9	-4.35	-3.5	-4.71	-8.06
2/15/2017-10:00	-8.07	-7.92	-7.82	-4.25	-3.43	-4.63	-7.98
2/15/2017-11:00	-7.99	-7.84	-7.75	-4.15	-3.36	-4.56	-7.91
2/15/2017-12:00	-7.91	-7.77	-7.67	-4.06	-3.3	-4.5	-7.84
2/15/2017-13:00	-7.84	-7.7	-7.61	-3.98	-3.24	-4.44	-7.77
2/15/2017-14:00	-7.76	-7.63	-7.54	-3.9	-3.18	-4.38	-7.71
2/15/2017-15:00	-7.69	-7.55	-7.46	-3.83	-3.12	-4.3	-7.63
2/15/2017-16:00	-7.61	-7.47	-7.38	-3.75	-3.04	-4.22	-7.55
2/15/2017-17:00	-7.52	-7.38	-7.29	-3.66	-2.94	-4.13	-7.46
2/15/2017-18:00	-7.42	-7.28	-7.19	-3.56	-2.83	-4.02	-7.36
2/15/2017-19:00	-7.31	-7.17	-7.08	-3.45	-2.7	-3.89	-7.25
2/15/2017-20:00	-7.2	-7.05	-6.95	-3.33	-2.54	-3.76	-7.12
2/15/2017-21:00	-7.07	-6.92	-6.82	-3.19	-2.37	-3.61	-6.99
2/15/2017-22:00	-6.94	-6.79	-6.68	-3.05	-2.2	-3.46	-6.85
2/15/2017-23:00	-6.81	-6.65	-6.54	-2.9	-2.01	-3.31	-6.71
2/16/2017-0:00	-6.68	-6.51	-6.4	-2.74	-1.83	-3.16	-6.56
2/16/2017-1:00	-6.55	-6.38	-6.26	-2.59	-1.66	-3.01	-6.43
2/16/2017-2:00	-6.42	-6.25	-6.13	-2.43	-1.49	-2.88	-6.3
2/16/2017-3:00	-6.29	-6.13	-6.01	-2.28	-1.34	-2.75	-6.17
2/16/2017-4:00	-6.18	-6.01	-5.89	-2.14	-1.2	-2.64	-6.06
2/16/2017-5:00	-6.07	-5.9	-5.78	-2.01	-1.08	-2.53	-5.95

2/16/2017-6:00	-5.97	-5.8	-5.68	-1.88	-0.98	-2.44	-5.86
2/16/2017-7:00	-5.87	-5.71	-5.59	-1.77	-0.89	-2.36	-5.77
2/16/2017-8:00	-5.79	-5.63	-5.51	-1.67	-0.81	-2.29	-5.69
2/16/2017-9:00	-5.71	-5.55	-5.44	-1.58	-0.75	-2.22	-5.63
2/16/2017-10:00	-5.64	-5.48	-5.38	-1.5	-0.71	-2.17	-5.56
2/16/2017-11:00	-5.57	-5.42	-5.32	-1.43	-0.67	-2.12	-5.51
2/16/2017-12:00	-5.52	-5.37	-5.27	-1.36	-0.64	-2.08	-5.46
2/16/2017-13:00	-5.46	-5.32	-5.22	-1.31	-0.61	-2.04	-5.42
2/16/2017-14:00	-5.4	-5.26	-5.17	-1.26	-0.59	-2	-5.37
2/16/2017-15:00	-5.35	-5.21	-5.12	-1.21	-0.55	-1.94	-5.31
2/16/2017-16:00	-5.28	-5.14	-5.05	-1.15	-0.5	-1.88	-5.25
2/16/2017-17:00	-5.21	-5.07	-4.98	-1.09	-0.43	-1.8	-5.18
2/16/2017-18:00	-5.13	-4.99	-4.89	-1.02	-0.34	-1.71	-5.09
2/16/2017-19:00	-5.04	-4.89	-4.79	-0.93	-0.23	-1.6	-4.99
2/16/2017-20:00	-4.93	-4.79	-4.68	-0.83	-0.1	-1.48	-4.88
2/16/2017-21:00	-4.82	-4.67	-4.56	-0.72	0.05	-1.34	-4.76
2/16/2017-22:00	-4.7	-4.55	-4.44	-0.59	0.21	-1.2	-4.63
2/16/2017-23:00	-4.58	-4.42	-4.31	-0.46	0.37	-1.06	-4.5
2/17/2017-0:00	-4.47	-4.3	-4.18	-0.32	0.53	-0.93	-4.37
2/17/2017-1:00	-4.35	-4.18	-4.06	-0.19	0.69	-0.8	-4.25
2/17/2017-2:00	-4.24	-4.07	-3.95	-0.06	0.82	-0.69	-4.14
2/17/2017-3:00	-4.13	-3.96	-3.85	0.07	0.94	-0.59	-4.04
2/17/2017-4:00	-4.04	-3.87	-3.76	0.18	1.04	-0.5	-3.95
2/17/2017-5:00	-3.96	-3.79	-3.68	0.28	1.11	-0.43	-3.87
2/17/2017-6:00	-3.89	-3.72	-3.61	0.36	1.16	-0.38	-3.81
2/17/2017-7:00	-3.83	-3.67	-3.57	0.43	1.19	-0.35	-3.77
2/17/2017-8:00	-3.78	-3.63	-3.53	0.48	1.19	-0.33	-3.74
2/17/2017-9:00	-3.75	-3.61	-3.51	0.52	1.17	-0.33	-3.72
2/17/2017-10:00	-3.73	-3.59	-3.51	0.53	1.13	-0.35	-3.72
2/17/2017-11:00	-3.72	-3.6	-3.51	0.53	1.06	-0.37	-3.73
2/17/2017-12:00	-3.73	-3.61	-3.53	0.51	0.98	-0.42	-3.76
2/17/2017-13:00	-3.74	-3.63	-3.56	0.48	0.88	-0.46	-3.79
2/17/2017-14:00	-3.76	-3.66	-3.6	0.43	0.78	-0.52	-3.82
2/17/2017-15:00	-3.78	-3.68	-3.63	0.38	0.68	-0.57	-3.86
2/17/2017-16:00	-3.8	-3.71	-3.66	0.32	0.59	-0.61	-3.89
2/17/2017-17:00	-3.82	-3.73	-3.69	0.26	0.51	-0.65	-3.92
2/17/2017-18:00	-3.83	-3.75	-3.71	0.21	0.44	-0.67	-3.94
2/17/2017-19:00	-3.84	-3.76	-3.72	0.17	0.39	-0.68	-3.95
2/17/2017-20:00	-3.84	-3.76	-3.72	0.13	0.36	-0.68	-3.95
2/17/2017-21:00	-3.83	-3.75	-3.71	0.1	0.34	-0.67	-3.94
2/17/2017-22:00	-3.82	-3.75	-3.7	0.08	0.32	-0.66	-3.93
2/17/2017-23:00	-3.81	-3.73	-3.69	0.07	0.32	-0.65	-3.91
2/18/2017-0:00	-3.8	-3.73	-3.68	0.05	0.31	-0.64	-3.9
2/18/2017-1:00	-3.8	-3.72	-3.68	0.04	0.3	-0.64	-3.9
2/18/2017-2:00	-3.79	-3.72	-3.68	0.02	0.27	-0.65	-3.9
2/18/2017-3:00	-3.8	-3.73	-3.69	0	0.23	-0.66	-3.91
2/18/2017-4:00	-3.81	-3.74	-3.71	-0.03	0.18	-0.69	-3.93
2/18/2017-5:00	-3.83	-3.77	-3.73	-0.07	0.12	-0.73	-3.95
2/18/2017-6:00	-3.86	-3.8	-3.77	-0.12	0.04	-0.78	-3.99
2/18/2017-7:00	-3.89	-3.84	-3.82	-0.18	-0.06	-0.84	-4.04
2/18/2017-8:00	-3.94	-3.89	-3.87	-0.25	-0.17	-0.91	-4.1
2/18/2017-9:00	-3.99	-3.95	-3.94	-0.33	-0.29	-0.99	-4.16
2/18/2017-10:00	-4.05	-4.02	-4.01	-0.43	-0.43	-1.08	-4.24

2/18/2017-11:00	-4.12	-4.1	-4.09	-0.53	-0.58	-1.18	-4.32
2/18/2017-12:00	-4.2	-4.18	-4.18	-0.64	-0.73	-1.28	-4.41
2/18/2017-13:00	-4.27	-4.26	-4.26	-0.76	-0.89	-1.39	-4.49
2/18/2017-14:00	-4.35	-4.34	-4.35	-0.88	-1.04	-1.48	-4.58
2/18/2017-15:00	-4.42	-4.42	-4.43	-1	-1.18	-1.57	-4.66
2/18/2017-16:00	-4.49	-4.49	-4.5	-1.11	-1.3	-1.65	-4.73
2/18/2017-17:00	-4.55	-4.55	-4.56	-1.22	-1.4	-1.71	-4.79
2/18/2017-18:00	-4.59	-4.59	-4.61	-1.31	-1.48	-1.75	-4.83
2/18/2017-19:00	-4.63	-4.63	-4.64	-1.39	-1.53	-1.77	-4.85
2/18/2017-20:00	-4.65	-4.64	-4.65	-1.45	-1.55	-1.77	-4.86
2/18/2017-21:00	-4.66	-4.65	-4.65	-1.49	-1.56	-1.76	-4.86
2/18/2017-22:00	-4.66	-4.65	-4.65	-1.52	-1.54	-1.74	-4.85
2/18/2017-23:00	-4.66	-4.64	-4.63	-1.53	-1.52	-1.71	-4.83
2/19/2017-0:00	-4.65	-4.63	-4.62	-1.54	-1.49	-1.69	-4.81
2/19/2017-1:00	-4.64	-4.62	-4.61	-1.54	-1.46	-1.67	-4.8
2/19/2017-2:00	-4.64	-4.61	-4.59	-1.54	-1.44	-1.65	-4.78
2/19/2017-3:00	-4.63	-4.6	-4.59	-1.54	-1.43	-1.65	-4.78
2/19/2017-4:00	-4.64	-4.61	-4.59	-1.54	-1.44	-1.65	-4.78
2/19/2017-5:00	-4.64	-4.62	-4.6	-1.55	-1.45	-1.66	-4.78
2/19/2017-6:00	-4.66	-4.63	-4.62	-1.57	-1.49	-1.69	-4.8
2/19/2017-7:00	-4.68	-4.66	-4.65	-1.6	-1.54	-1.72	-4.83
2/19/2017-8:00	-4.71	-4.69	-4.69	-1.64	-1.6	-1.77	-4.87
2/19/2017-9:00	-4.75	-4.74	-4.73	-1.69	-1.68	-1.83	-4.92
2/19/2017-10:00	-4.8	-4.79	-4.79	-1.75	-1.77	-1.9	-4.97
2/19/2017-11:00	-4.85	-4.85	-4.85	-1.82	-1.88	-1.97	-5.04
2/19/2017-12:00	-4.91	-4.91	-4.92	-1.9	-2	-2.05	-5.11
2/19/2017-13:00	-4.98	-4.98	-4.99	-1.99	-2.12	-2.13	-5.18
2/19/2017-14:00	-5.04	-5.05	-5.06	-2.08	-2.24	-2.22	-5.25
2/19/2017-15:00	-5.1	-5.11	-5.13	-2.17	-2.35	-2.29	-5.32
2/19/2017-16:00	-5.16	-5.17	-5.19	-2.26	-2.45	-2.35	-5.38
2/19/2017-17:00	-5.21	-5.22	-5.24	-2.34	-2.53	-2.4	-5.43
2/19/2017-18:00	-5.25	-5.26	-5.28	-2.41	-2.6	-2.44	-5.47
2/19/2017-19:00	-5.28	-5.29	-5.31	-2.47	-2.64	-2.46	-5.49
2/19/2017-20:00	-5.3	-5.31	-5.33	-2.52	-2.66	-2.47	-5.5
2/19/2017-21:00	-5.31	-5.32	-5.33	-2.56	-2.66	-2.46	-5.51
2/19/2017-22:00	-5.32	-5.32	-5.33	-2.58	-2.66	-2.45	-5.5
2/19/2017-23:00	-5.32	-5.32	-5.33	-2.6	-2.65	-2.44	-5.5
2/20/2017-0:00	-5.32	-5.32	-5.33	-2.61	-2.63	-2.43	-5.49
2/20/2017-1:00	-5.33	-5.32	-5.32	-2.61	-2.62	-2.43	-5.49
2/20/2017-2:00	-5.33	-5.32	-5.33	-2.62	-2.62	-2.43	-5.49
2/20/2017-3:00	-5.34	-5.33	-5.33	-2.63	-2.63	-2.44	-5.5
2/20/2017-4:00	-5.35	-5.35	-5.35	-2.65	-2.65	-2.46	-5.51
2/20/2017-5:00	-5.37	-5.37	-5.37	-2.67	-2.69	-2.49	-5.53
2/20/2017-6:00	-5.4	-5.4	-5.4	-2.71	-2.74	-2.53	-5.57
2/20/2017-7:00	-5.43	-5.43	-5.44	-2.75	-2.8	-2.58	-5.61
2/20/2017-8:00	-5.48	-5.48	-5.49	-2.8	-2.88	-2.63	-5.65
2/20/2017-9:00	-5.52	-5.53	-5.55	-2.86	-2.97	-2.7	-5.71
2/20/2017-10:00	-5.58	-5.59	-5.61	-2.93	-3.07	-2.78	-5.77
2/20/2017-11:00	-5.64	-5.66	-5.68	-3.01	-3.19	-2.86	-5.85
2/20/2017-12:00	-5.7	-5.73	-5.75	-3.09	-3.31	-2.95	-5.92
2/20/2017-13:00	-5.77	-5.8	-5.83	-3.19	-3.43	-3.03	-6
2/20/2017-14:00	-5.84	-5.87	-5.91	-3.28	-3.55	-3.12	-6.07
2/20/2017-15:00	-5.91	-5.94	-5.98	-3.38	-3.66	-3.2	-6.15

2/20/2017-16:00	-5.97	-6.01	-6.04	-3.47	-3.76	-3.26	-6.21
2/20/2017-17:00	-6.02	-6.06	-6.1	-3.55	-3.84	-3.32	-6.26
2/20/2017-18:00	-6.07	-6.1	-6.14	-3.63	-3.91	-3.36	-6.3
2/20/2017-19:00	-6.1	-6.14	-6.17	-3.69	-3.95	-3.38	-6.33
2/20/2017-20:00	-6.13	-6.16	-6.19	-3.74	-3.97	-3.39	-6.35
2/20/2017-21:00	-6.15	-6.18	-6.21	-3.78	-3.98	-3.4	-6.36
2/20/2017-22:00	-6.16	-6.19	-6.21	-3.81	-3.97	-3.39	-6.36
2/20/2017-23:00	-6.17	-6.19	-6.22	-3.83	-3.97	-3.39	-6.36
2/21/2017-0:00	-6.18	-6.2	-6.22	-3.84	-3.96	-3.39	-6.36
2/21/2017-1:00	-6.19	-6.2	-6.22	-3.85	-3.95	-3.39	-6.36
2/21/2017-2:00	-6.2	-6.21	-6.23	-3.86	-3.95	-3.39	-6.37
2/21/2017-3:00	-6.21	-6.23	-6.24	-3.88	-3.97	-3.41	-6.38
2/21/2017-4:00	-6.23	-6.25	-6.26	-3.9	-3.99	-3.43	-6.4
2/21/2017-5:00	-6.25	-6.27	-6.29	-3.93	-4.02	-3.46	-6.43
2/21/2017-6:00	-6.28	-6.3	-6.32	-3.96	-4.07	-3.5	-6.46
2/21/2017-7:00	-6.32	-6.34	-6.37	-4	-4.13	-3.55	-6.5
2/21/2017-8:00	-6.36	-6.39	-6.41	-4.05	-4.2	-3.61	-6.55
2/21/2017-9:00	-6.41	-6.44	-6.47	-4.1	-4.28	-3.67	-6.61
2/21/2017-10:00	-6.46	-6.5	-6.53	-4.17	-4.37	-3.74	-6.67
2/21/2017-11:00	-6.52	-6.56	-6.59	-4.24	-4.47	-3.82	-6.73
2/21/2017-12:00	-6.58	-6.62	-6.66	-4.32	-4.58	-3.9	-6.8
2/21/2017-13:00	-6.65	-6.69	-6.73	-4.4	-4.68	-3.97	-6.87
2/21/2017-14:00	-6.71	-6.75	-6.79	-4.48	-4.78	-4.04	-6.93
2/21/2017-15:00	-6.76	-6.81	-6.85	-4.56	-4.87	-4.11	-6.99
2/21/2017-16:00	-6.81	-6.86	-6.9	-4.64	-4.94	-4.16	-7.04
2/21/2017-17:00	-6.85	-6.9	-6.94	-4.7	-4.99	-4.19	-7.08
2/21/2017-18:00	-6.88	-6.93	-6.97	-4.75	-5.02	-4.21	-7.1
2/21/2017-19:00	-6.9	-6.94	-6.98	-4.79	-5.02	-4.21	-7.11
2/21/2017-20:00	-6.91	-6.94	-6.98	-4.81	-5.01	-4.19	-7.1
2/21/2017-21:00	-6.91	-6.94	-6.96	-4.82	-4.97	-4.17	-7.09
2/21/2017-22:00	-6.9	-6.92	-6.94	-4.81	-4.93	-4.13	-7.06
2/21/2017-23:00	-6.88	-6.9	-6.92	-4.8	-4.87	-4.1	-7.04
2/22/2017-0:00	-6.87	-6.88	-6.9	-4.78	-4.82	-4.07	-7.01
2/22/2017-1:00	-6.85	-6.86	-6.88	-4.75	-4.77	-4.04	-6.99
2/22/2017-2:00	-6.84	-6.85	-6.86	-4.73	-4.73	-4.02	-6.97
2/22/2017-3:00	-6.83	-6.84	-6.85	-4.71	-4.71	-4.01	-6.96
2/22/2017-4:00	-6.83	-6.84	-6.85	-4.7	-4.69	-4.01	-6.95
2/22/2017-5:00	-6.83	-6.84	-6.85	-4.69	-4.7	-4.02	-6.96
2/22/2017-6:00	-6.84	-6.85	-6.87	-4.69	-4.71	-4.04	-6.97
2/22/2017-7:00	-6.86	-6.87	-6.89	-4.71	-4.75	-4.07	-7
2/22/2017-8:00	-6.89	-6.9	-6.92	-4.73	-4.8	-4.11	-7.03
2/22/2017-9:00	-6.92	-6.94	-6.96	-4.76	-4.86	-4.17	-7.08
2/22/2017-10:00	-6.96	-6.99	-7.01	-4.81	-4.94	-4.23	-7.13
2/22/2017-11:00	-7.01	-7.04	-7.07	-4.86	-5.03	-4.3	-7.19
2/22/2017-12:00	-7.07	-7.1	-7.13	-4.93	-5.12	-4.37	-7.25
2/22/2017-13:00	-7.12	-7.16	-7.19	-4.99	-5.22	-4.44	-7.31
2/22/2017-14:00	-7.18	-7.22	-7.26	-5.07	-5.32	-4.51	-7.38
2/22/2017-15:00	-7.23	-7.27	-7.31	-5.14	-5.41	-4.58	-7.43
2/22/2017-16:00	-7.28	-7.32	-7.36	-5.21	-5.48	-4.63	-7.48
2/22/2017-17:00	-7.32	-7.36	-7.4	-5.27	-5.54	-4.66	-7.52
2/22/2017-18:00	-7.35	-7.39	-7.43	-5.32	-5.57	-4.68	-7.55
2/22/2017-19:00	-7.37	-7.41	-7.44	-5.36	-5.58	-4.69	-7.56
2/22/2017-20:00	-7.37	-7.41	-7.44	-5.38	-5.57	-4.68	-7.55



2/22/2017-21:00	-7.37	-7.4	-7.43	-5.38	-5.54	-4.65	-7.54
2/22/2017-22:00	-7.36	-7.39	-7.41	-5.38	-5.49	-4.62	-7.52
2/22/2017-23:00	-7.35	-7.37	-7.39	-5.36	-5.44	-4.59	-7.49
2/23/2017-0:00	-7.33	-7.35	-7.37	-5.34	-5.39	-4.55	-7.47
2/23/2017-1:00	-7.32	-7.33	-7.35	-5.32	-5.34	-4.53	-7.44
2/23/2017-2:00	-7.3	-7.32	-7.33	-5.29	-5.3	-4.5	-7.42
2/23/2017-3:00	-7.29	-7.31	-7.32	-5.27	-5.27	-4.49	-7.41
2/23/2017-4:00	-7.29	-7.3	-7.31	-5.25	-5.25	-4.49	-7.41
2/23/2017-5:00	-7.3	-7.31	-7.32	-5.25	-5.25	-4.5	-7.41
2/23/2017-6:00	-7.31	-7.32	-7.33	-5.25	-5.27	-4.52	-7.43
2/23/2017-7:00	-7.32	-7.34	-7.36	-5.26	-5.3	-4.55	-7.45
2/23/2017-8:00	-7.35	-7.37	-7.39	-5.28	-5.34	-4.59	-7.49
2/23/2017-9:00	-7.38	-7.41	-7.43	-5.31	-5.41	-4.64	-7.53
2/23/2017-10:00	-7.43	-7.45	-7.48	-5.35	-5.48	-4.7	-7.58
2/23/2017-11:00	-7.47	-7.5	-7.53	-5.4	-5.56	-4.77	-7.64
2/23/2017-12:00	-7.52	-7.56	-7.59	-5.46	-5.66	-4.84	-7.7
2/23/2017-13:00	-7.58	-7.62	-7.65	-5.53	-5.75	-4.91	-7.76
2/23/2017-14:00	-7.63	-7.67	-7.71	-5.6	-5.84	-4.97	-7.82
2/23/2017-15:00	-7.68	-7.73	-7.77	-5.66	-5.92	-5.03	-7.88
2/23/2017-16:00	-7.72	-7.77	-7.81	-5.73	-5.98	-5.07	-7.92
2/23/2017-17:00	-7.76	-7.8	-7.84	-5.78	-6.03	-5.1	-7.95
2/23/2017-18:00	-7.78	-7.82	-7.86	-5.82	-6.04	-5.11	-7.97
2/23/2017-19:00	-7.79	-7.83	-7.87	-5.84	-6.04	-5.1	-7.97
2/23/2017-20:00	-7.79	-7.83	-7.86	-5.85	-6.01	-5.08	-7.96
2/23/2017-21:00	-7.78	-7.81	-7.84	-5.85	-5.97	-5.05	-7.94
2/23/2017-22:00	-7.77	-7.79	-7.82	-5.84	-5.91	-5.01	-7.91
2/23/2017-23:00	-7.75	-7.77	-7.79	-5.81	-5.85	-4.97	-7.88
2/24/2017-0:00	-7.72	-7.74	-7.76	-5.78	-5.79	-4.93	-7.85
2/24/2017-1:00	-7.71	-7.72	-7.73	-5.75	-5.74	-4.9	-7.82
2/24/2017-2:00	-7.69	-7.7	-7.72	-5.72	-5.69	-4.88	-7.8
2/24/2017-3:00	-7.68	-7.69	-7.7	-5.69	-5.67	-4.87	-7.79
2/24/2017-4:00	-7.68	-7.69	-7.7	-5.67	-5.65	-4.87	-7.79
2/24/2017-5:00	-7.68	-7.7	-7.71	-5.66	-5.66	-4.88	-7.8
2/24/2017-6:00	-7.7	-7.71	-7.73	-5.67	-5.68	-4.91	-7.82
2/24/2017-7:00	-7.72	-7.74	-7.76	-5.68	-5.72	-4.94	-7.85
2/24/2017-8:00	-7.75	-7.77	-7.8	-5.71	-5.78	-5	-7.89
2/24/2017-9:00	-7.79	-7.82	-7.84	-5.75	-5.86	-5.06	-7.94
2/24/2017-10:00	-7.84	-7.87	-7.9	-5.8	-5.95	-5.13	-8
2/24/2017-11:00	-7.9	-7.93	-7.97	-5.86	-6.05	-5.21	-8.07
2/24/2017-12:00	-7.96	-8	-8.04	-5.93	-6.16	-5.29	-8.14
2/24/2017-13:00	-8.02	-8.07	-8.11	-6.01	-6.28	-5.38	-8.22
2/24/2017-14:00	-8.09	-8.14	-8.19	-6.1	-6.38	-5.46	-8.29
2/24/2017-15:00	-8.15	-8.2	-8.25	-6.18	-6.48	-5.53	-8.36
2/24/2017-16:00	-8.2	-8.26	-8.31	-6.25	-6.56	-5.59	-8.41
2/24/2017-17:00	-8.24	-8.3	-8.35	-6.32	-6.62	-5.63	-8.46
2/24/2017-18:00	-8.28	-8.33	-8.38	-6.38	-6.66	-5.65	-8.48
2/24/2017-19:00	-8.3	-8.35	-8.4	-6.42	-6.67	-5.65	-8.49
2/24/2017-20:00	-8.31	-8.36	-8.4	-6.44	-6.66	-5.64	-8.49
2/24/2017-21:00	-8.31	-8.35	-8.39	-6.45	-6.63	-5.62	-8.48
2/24/2017-22:00	-8.3	-8.34	-8.37	-6.45	-6.58	-5.59	-8.46
2/24/2017-23:00	-8.29	-8.32	-8.35	-6.43	-6.53	-5.55	-8.44
2/25/2017-0:00	-8.27	-8.3	-8.33	-6.41	-6.48	-5.52	-8.41
2/25/2017-1:00	-8.26	-8.29	-8.31	-6.39	-6.43	-5.5	-8.39

2/25/2017-2:00	-8.25	-8.27	-8.29	-6.36	-6.39	-5.48	-8.37
2/25/2017-3:00	-8.24	-8.26	-8.28	-6.34	-6.36	-5.47	-8.36
2/25/2017-4:00	-8.24	-8.26	-8.28	-6.33	-6.34	-5.47	-8.36
2/25/2017-5:00	-8.24	-8.26	-8.29	-6.32	-6.34	-5.48	-8.37
2/25/2017-6:00	-8.25	-8.28	-8.3	-6.32	-6.36	-5.49	-8.38
2/25/2017-7:00	-8.27	-8.3	-8.32	-6.33	-6.38	-5.52	-8.4
2/25/2017-8:00	-8.29	-8.32	-8.35	-6.35	-6.42	-5.56	-8.43
2/25/2017-9:00	-8.32	-8.35	-8.38	-6.37	-6.47	-5.6	-8.47
2/25/2017-10:00	-8.36	-8.39	-8.42	-6.41	-6.53	-5.66	-8.51
2/25/2017-11:00	-8.4	-8.44	-8.47	-6.45	-6.6	-5.71	-8.56
2/25/2017-12:00	-8.44	-8.48	-8.52	-6.5	-6.68	-5.77	-8.61
2/25/2017-13:00	-8.48	-8.53	-8.56	-6.55	-6.75	-5.82	-8.66
2/25/2017-14:00	-8.52	-8.57	-8.61	-6.6	-6.81	-5.87	-8.7
2/25/2017-15:00	-8.55	-8.6	-8.64	-6.65	-6.86	-5.9	-8.73
2/25/2017-16:00	-8.58	-8.62	-8.66	-6.69	-6.89	-5.92	-8.75
2/25/2017-17:00	-8.59	-8.63	-8.67	-6.71	-6.89	-5.92	-8.76
2/25/2017-18:00	-8.59	-8.63	-8.67	-6.73	-6.87	-5.9	-8.75
2/25/2017-19:00	-8.58	-8.62	-8.65	-6.72	-6.83	-5.87	-8.73
2/25/2017-20:00	-8.56	-8.59	-8.61	-6.7	-6.76	-5.82	-8.69
2/25/2017-21:00	-8.53	-8.55	-8.57	-6.67	-6.68	-5.76	-8.65
2/25/2017-22:00	-8.49	-8.51	-8.52	-6.62	-6.59	-5.7	-8.6
2/25/2017-23:00	-8.45	-8.46	-8.47	-6.57	-6.5	-5.64	-8.55
2/26/2017-0:00	-8.41	-8.42	-8.43	-6.51	-6.42	-5.58	-8.5
2/26/2017-1:00	-8.37	-8.38	-8.39	-6.46	-6.34	-5.54	-8.46
2/26/2017-2:00	-8.34	-8.35	-8.35	-6.41	-6.28	-5.51	-8.43
2/26/2017-3:00	-8.32	-8.33	-8.33	-6.36	-6.24	-5.49	-8.4
2/26/2017-4:00	-8.31	-8.31	-8.32	-6.33	-6.23	-5.49	-8.4
2/26/2017-5:00	-8.31	-8.31	-8.32	-6.31	-6.23	-5.5	-8.4
2/26/2017-6:00	-8.31	-8.33	-8.34	-6.3	-6.25	-5.53	-8.42
2/26/2017-7:00	-8.33	-8.35	-8.36	-6.31	-6.3	-5.57	-8.45
2/26/2017-8:00	-8.36	-8.38	-8.4	-6.34	-6.36	-5.62	-8.49
2/26/2017-9:00	-8.4	-8.43	-8.45	-6.37	-6.45	-5.69	-8.54
2/26/2017-10:00	-8.45	-8.48	-8.51	-6.43	-6.55	-5.77	-8.61
2/26/2017-11:00	-8.51	-8.55	-8.58	-6.49	-6.66	-5.86	-8.68
2/26/2017-12:00	-8.57	-8.62	-8.66	-6.57	-6.78	-5.95	-8.76
2/26/2017-13:00	-8.64	-8.69	-8.74	-6.66	-6.91	-6.04	-8.84
2/26/2017-14:00	-8.71	-8.76	-8.82	-6.75	-7.03	-6.13	-8.92
2/26/2017-15:00	-8.77	-8.83	-8.89	-6.84	-7.14	-6.21	-8.99
2/26/2017-16:00	-8.83	-8.9	-8.95	-6.92	-7.24	-6.27	-9.06
2/26/2017-17:00	-8.88	-8.95	-9	-7	-7.31	-6.32	-9.11
2/26/2017-18:00	-8.92	-8.98	-9.04	-7.06	-7.36	-6.35	-9.14
2/26/2017-19:00	-8.95	-9.01	-9.06	-7.11	-7.38	-6.36	-9.16
2/26/2017-20:00	-8.96	-9.02	-9.06	-7.14	-7.37	-6.35	-9.16
2/26/2017-21:00	-8.96	-9.01	-9.05	-7.15	-7.34	-6.33	-9.15
2/26/2017-22:00	-8.95	-9	-9.04	-7.15	-7.29	-6.3	-9.12
2/26/2017-23:00	-8.94	-8.98	-9.01	-7.14	-7.23	-6.26	-9.1
2/27/2017-0:00	-8.92	-8.96	-8.99	-7.11	-7.17	-6.22	-9.07
2/27/2017-1:00	-8.91	-8.94	-8.97	-7.09	-7.12	-6.19	-9.04
2/27/2017-2:00	-8.9	-8.93	-8.95	-7.06	-7.08	-6.17	-9.03
2/27/2017-3:00	-8.89	-8.92	-8.94	-7.04	-7.05	-6.16	-9.02
2/27/2017-4:00	-8.9	-8.93	-8.95	-7.03	-7.05	-6.17	-9.03
2/27/2017-5:00	-8.91	-8.94	-8.97	-7.03	-7.06	-6.2	-9.05
2/27/2017-6:00	-8.94	-8.97	-9	-7.05	-7.11	-6.24	-9.08

2/27/2017-7:00	-8.98	-9.02	-9.05	-7.08	-7.17	-6.3	-9.13
2/27/2017-8:00	-9.03	-9.07	-9.11	-7.12	-7.26	-6.38	-9.19
2/27/2017-9:00	-9.09	-9.14	-9.18	-7.19	-7.37	-6.47	-9.27
2/27/2017-10:00	-9.16	-9.22	-9.26	-7.26	-7.5	-6.57	-9.35
2/27/2017-11:00	-9.24	-9.3	-9.36	-7.35	-7.64	-6.68	-9.45
2/27/2017-12:00	-9.33	-9.39	-9.45	-7.46	-7.79	-6.79	-9.55
2/27/2017-13:00	-9.41	-9.49	-9.55	-7.57	-7.94	-6.9	-9.65
2/27/2017-14:00	-9.5	-9.58	-9.65	-7.68	-8.08	-7.01	-9.75
2/27/2017-15:00	-9.58	-9.67	-9.74	-7.79	-8.21	-7.1	-9.84
2/27/2017-16:00	-9.66	-9.74	-9.81	-7.89	-8.32	-7.17	-9.91
2/27/2017-17:00	-9.72	-9.8	-9.87	-7.99	-8.4	-7.23	-9.97
2/27/2017-18:00	-9.77	-9.85	-9.92	-8.06	-8.45	-7.27	-10.01
2/27/2017-19:00	-9.8	-9.88	-9.94	-8.12	-8.48	-7.28	-10.04
2/27/2017-20:00	-9.82	-9.9	-9.96	-8.16	-8.47	-7.28	-10.04
2/27/2017-21:00	-9.83	-9.9	-9.95	-8.18	-8.44	-7.26	-10.04
2/27/2017-22:00	-9.83	-9.89	-9.94	-8.19	-8.4	-7.23	-10.02
2/27/2017-23:00	-9.82	-9.88	-9.92	-8.18	-8.35	-7.19	-10
2/28/2017-0:00	-9.81	-9.86	-9.9	-8.16	-8.29	-7.16	-9.98
2/28/2017-1:00	-9.8	-9.85	-9.89	-8.14	-8.24	-7.14	-9.96
2/28/2017-2:00	-9.79	-9.84	-9.87	-8.12	-8.2	-7.12	-9.94
2/28/2017-3:00	-9.79	-9.84	-9.87	-8.11	-8.17	-7.12	-9.94
2/28/2017-4:00	-9.8	-9.84	-9.88	-8.1	-8.16	-7.12	-9.95
2/28/2017-5:00	-9.81	-9.86	-9.89	-8.1	-8.18	-7.15	-9.97
2/28/2017-6:00	-9.84	-9.89	-9.92	-8.11	-8.21	-7.19	-10
2/28/2017-7:00	-9.87	-9.93	-9.97	-8.14	-8.27	-7.24	-10.04
2/28/2017-8:00	-9.92	-9.98	-10.02	-8.18	-8.35	-7.31	-10.1
2/28/2017-9:00	-9.98	-10.04	-10.09	-8.24	-8.45	-7.4	-10.17
2/28/2017-10:00	-10.05	-10.12	-10.17	-8.31	-8.57	-7.49	-10.26
2/28/2017-11:00	-10.13	-10.2	-10.26	-8.4	-8.7	-7.6	-10.35
2/28/2017-12:00	-10.21	-10.29	-10.36	-8.5	-8.85	-7.72	-10.45
2/28/2017-13:00	-10.3	-10.39	-10.46	-8.61	-9	-7.83	-10.56
2/28/2017-14:00	-10.39	-10.48	-10.56	-8.72	-9.15	-7.94	-10.66
2/28/2017-15:00	-10.48	-10.57	-10.65	-8.84	-9.28	-8.04	-10.75
2/28/2017-16:00	-10.55	-10.65	-10.73	-8.94	-9.4	-8.12	-10.83
2/28/2017-17:00	-10.62	-10.72	-10.8	-9.04	-9.49	-8.18	-10.9
2/28/2017-18:00	-10.67	-10.77	-10.85	-9.12	-9.54	-8.22	-10.94
2/28/2017-19:00	-10.71	-10.8	-10.88	-9.18	-9.57	-8.24	-10.97
2/28/2017-20:00	-10.73	-10.82	-10.89	-9.22	-9.57	-8.24	-10.98
2/28/2017-21:00	-10.74	-10.82	-10.89	-9.24	-9.54	-8.21	-10.97
2/28/2017-22:00	-10.74	-10.82	-10.88	-9.25	-9.49	-8.18	-10.95
2/28/2017-23:00	-10.73	-10.8	-10.86	-9.24	-9.43	-8.15	-10.93
3/1/2017-0:00	-10.72	-10.79	-10.84	-9.22	-9.37	-8.11	-10.91
3/1/2017-1:00	-10.71	-10.77	-10.82	-9.2	-9.31	-8.09	-10.89
3/1/2017-2:00	-10.71	-10.77	-10.81	-9.18	-9.27	-8.07	-10.88
3/1/2017-3:00	-10.71	-10.76	-10.81	-9.16	-9.24	-8.07	-10.87
3/1/2017-4:00	-10.72	-10.77	-10.82	-9.15	-9.24	-8.08	-10.88
3/1/2017-5:00	-10.74	-10.8	-10.84	-9.15	-9.26	-8.11	-10.91
3/1/2017-6:00	-10.77	-10.83	-10.88	-9.17	-9.3	-8.15	-10.95
3/1/2017-7:00	-10.81	-10.88	-10.93	-9.2	-9.36	-8.22	-11
3/1/2017-8:00	-10.87	-10.94	-10.99	-9.25	-9.45	-8.3	-11.07
3/1/2017-9:00	-10.94	-11.01	-11.07	-9.32	-9.57	-8.39	-11.15
3/1/2017-10:00	-11.01	-11.1	-11.16	-9.4	-9.7	-8.51	-11.24
3/1/2017-11:00	-11.1	-11.19	-11.27	-9.5	-9.86	-8.63	-11.35

3/1/2017-12:00	-11.2	-11.3	-11.38	-9.61	-10.03	-8.76	-11.47
3/1/2017-13:00	-11.3	-11.41	-11.49	-9.74	-10.2	-8.89	-11.58
3/1/2017-14:00	-11.41	-11.52	-11.61	-9.87	-10.37	-9.02	-11.7
3/1/2017-15:00	-11.51	-11.62	-11.72	-10	-10.53	-9.13	-11.81
3/1/2017-16:00	-11.6	-11.72	-11.82	-10.12	-10.67	-9.24	-11.91
3/1/2017-17:00	-11.69	-11.81	-11.9	-10.24	-10.78	-9.32	-11.99
3/1/2017-18:00	-11.76	-11.87	-11.97	-10.34	-10.87	-9.38	-12.06
3/1/2017-19:00	-11.81	-11.93	-12.02	-10.43	-10.92	-9.42	-12.11
3/1/2017-20:00	-11.85	-11.96	-12.05	-10.49	-10.94	-9.44	-12.13
3/1/2017-21:00	-11.88	-11.98	-12.07	-10.54	-10.94	-9.43	-12.15
3/1/2017-22:00	-11.9	-11.99	-12.07	-10.56	-10.91	-9.42	-12.15
3/1/2017-23:00	-11.9	-12	-12.07	-10.58	-10.87	-9.4	-12.14
3/2/2017-0:00	-11.91	-11.99	-12.06	-10.58	-10.83	-9.38	-12.13
3/2/2017-1:00	-11.91	-11.99	-12.05	-10.57	-10.78	-9.36	-12.12
3/2/2017-2:00	-11.91	-11.99	-12.05	-10.56	-10.74	-9.35	-12.11
3/2/2017-3:00	-11.92	-11.99	-12.05	-10.55	-10.72	-9.34	-12.11
3/2/2017-4:00	-11.93	-12	-12.06	-10.55	-10.71	-9.35	-12.12
3/2/2017-5:00	-11.95	-12.02	-12.08	-10.55	-10.72	-9.38	-12.14
3/2/2017-6:00	-11.98	-12.05	-12.11	-10.57	-10.74	-9.41	-12.17
3/2/2017-7:00	-12.01	-12.09	-12.15	-10.59	-10.79	-9.46	-12.21
3/2/2017-8:00	-12.06	-12.14	-12.2	-10.63	-10.85	-9.53	-12.27
3/2/2017-9:00	-12.12	-12.2	-12.27	-10.68	-10.94	-9.6	-12.33
3/2/2017-10:00	-12.18	-12.27	-12.34	-10.74	-11.04	-9.69	-12.41
3/2/2017-11:00	-12.25	-12.35	-12.42	-10.82	-11.15	-9.78	-12.49
3/2/2017-12:00	-12.33	-12.43	-12.51	-10.9	-11.27	-9.88	-12.58
3/2/2017-13:00	-12.41	-12.51	-12.59	-11	-11.4	-9.98	-12.67
3/2/2017-14:00	-12.49	-12.59	-12.68	-11.09	-11.51	-10.07	-12.75
3/2/2017-15:00	-12.56	-12.67	-12.75	-11.18	-11.62	-10.15	-12.83
3/2/2017-16:00	-12.62	-12.73	-12.82	-11.26	-11.7	-10.21	-12.89
3/2/2017-17:00	-12.67	-12.78	-12.86	-11.33	-11.75	-10.25	-12.93
3/2/2017-18:00	-12.71	-12.81	-12.89	-11.39	-11.77	-10.26	-12.96
3/2/2017-19:00	-12.73	-12.82	-12.9	-11.42	-11.76	-10.25	-12.96
3/2/2017-20:00	-12.73	-12.82	-12.89	-11.43	-11.72	-10.22	-12.95
3/2/2017-21:00	-12.72	-12.8	-12.86	-11.43	-11.65	-10.18	-12.92
3/2/2017-22:00	-12.7	-12.77	-12.83	-11.4	-11.56	-10.12	-12.88
3/2/2017-23:00	-12.67	-12.73	-12.78	-11.36	-11.46	-10.05	-12.83
3/3/2017-0:00	-12.63	-12.69	-12.73	-11.3	-11.35	-9.99	-12.77
3/3/2017-1:00	-12.59	-12.64	-12.68	-11.24	-11.25	-9.92	-12.72
3/3/2017-2:00	-12.55	-12.6	-12.63	-11.17	-11.14	-9.86	-12.67
3/3/2017-3:00	-12.51	-12.56	-12.58	-11.11	-11.05	-9.81	-12.62
3/3/2017-4:00	-12.48	-12.52	-12.54	-11.04	-10.97	-9.76	-12.58
3/3/2017-5:00	-12.45	-12.49	-12.51	-10.98	-10.9	-9.73	-12.55
3/3/2017-6:00	-12.43	-12.46	-12.49	-10.93	-10.85	-9.7	-12.52
3/3/2017-7:00	-12.41	-12.45	-12.47	-10.89	-10.81	-9.69	-12.51
3/3/2017-8:00	-12.4	-12.43	-12.46	-10.85	-10.79	-9.68	-12.5
3/3/2017-9:00	-12.39	-12.43	-12.46	-10.82	-10.78	-9.69	-12.5
3/3/2017-10:00	-12.4	-12.43	-12.46	-10.81	-10.78	-9.7	-12.51
3/3/2017-11:00	-12.4	-12.44	-12.47	-10.8	-10.79	-9.71	-12.52
3/3/2017-12:00	-12.41	-12.45	-12.48	-10.79	-10.81	-9.73	-12.53
3/3/2017-13:00	-12.42	-12.46	-12.49	-10.79	-10.82	-9.75	-12.54
3/3/2017-14:00	-12.43	-12.47	-12.5	-10.79	-10.84	-9.76	-12.56
3/3/2017-15:00	-12.43	-12.47	-12.51	-10.79	-10.84	-9.76	-12.56
3/3/2017-16:00	-12.43	-12.47	-12.5	-10.79	-10.83	-9.75	-12.56

3/3/2017-17:00	-12.42	-12.46	-12.49	-10.78	-10.8	-9.73	-12.54
3/3/2017-18:00	-12.4	-12.43	-12.46	-10.75	-10.75	-9.69	-12.51
3/3/2017-19:00	-12.37	-12.4	-12.42	-10.71	-10.68	-9.64	-12.47
3/3/2017-20:00	-12.33	-12.35	-12.37	-10.67	-10.6	-9.58	-12.42
3/3/2017-21:00	-12.28	-12.3	-12.32	-10.6	-10.5	-9.51	-12.36
3/3/2017-22:00	-12.23	-12.24	-12.25	-10.53	-10.4	-9.44	-12.3
3/3/2017-23:00	-12.17	-12.18	-12.19	-10.46	-10.29	-9.36	-12.24
3/4/2017-0:00	-12.11	-12.12	-12.13	-10.38	-10.18	-9.29	-12.17
3/4/2017-1:00	-12.06	-12.07	-12.07	-10.3	-10.08	-9.23	-12.12
3/4/2017-2:00	-12.02	-12.02	-12.02	-10.22	-10	-9.18	-12.07
3/4/2017-3:00	-11.97	-11.98	-11.98	-10.16	-9.93	-9.14	-12.03
3/4/2017-4:00	-11.94	-11.95	-11.95	-10.1	-9.89	-9.11	-12
3/4/2017-5:00	-11.92	-11.92	-11.93	-10.05	-9.86	-9.1	-11.98
3/4/2017-6:00	-11.91	-11.91	-11.92	-10.01	-9.85	-9.1	-11.98
3/4/2017-7:00	-11.9	-11.91	-11.93	-9.99	-9.86	-9.12	-11.98
3/4/2017-8:00	-11.91	-11.92	-11.94	-9.99	-9.89	-9.15	-12
3/4/2017-9:00	-11.93	-11.95	-11.97	-9.99	-9.94	-9.19	-12.03
3/4/2017-10:00	-11.95	-11.98	-12	-10.01	-10	-9.24	-12.07
3/4/2017-11:00	-11.98	-12.02	-12.05	-10.05	-10.08	-9.3	-12.12
3/4/2017-12:00	-12.02	-12.06	-12.1	-10.09	-10.16	-9.36	-12.17
3/4/2017-13:00	-12.06	-12.11	-12.15	-10.14	-10.25	-9.42	-12.23
3/4/2017-14:00	-12.1	-12.15	-12.19	-10.19	-10.32	-9.48	-12.28
3/4/2017-15:00	-12.14	-12.19	-12.23	-10.24	-10.39	-9.52	-12.32
3/4/2017-16:00	-12.16	-12.21	-12.26	-10.28	-10.43	-9.54	-12.34
3/4/2017-17:00	-12.18	-12.23	-12.27	-10.31	-10.44	-9.55	-12.35
3/4/2017-18:00	-12.18	-12.22	-12.26	-10.33	-10.43	-9.53	-12.35
3/4/2017-19:00	-12.16	-12.2	-12.24	-10.32	-10.38	-9.49	-12.32
3/4/2017-20:00	-12.13	-12.17	-12.2	-10.3	-10.31	-9.43	-12.27
3/4/2017-21:00	-12.09	-12.12	-12.14	-10.25	-10.2	-9.35	-12.21
3/4/2017-22:00	-12.03	-12.06	-12.07	-10.19	-10.08	-9.26	-12.14
3/4/2017-23:00	-11.97	-11.99	-12	-10.11	-9.96	-9.17	-12.07
3/5/2017-0:00	-11.91	-11.92	-11.93	-10.03	-9.83	-9.08	-11.99
3/5/2017-1:00	-11.85	-11.85	-11.85	-9.94	-9.7	-9	-11.92
3/5/2017-2:00	-11.79	-11.79	-11.79	-9.85	-9.59	-8.93	-11.85
3/5/2017-3:00	-11.74	-11.74	-11.74	-9.77	-9.5	-8.87	-11.8
3/5/2017-4:00	-11.7	-11.7	-11.69	-9.7	-9.43	-8.83	-11.76
3/5/2017-5:00	-11.67	-11.66	-11.66	-9.64	-9.38	-8.8	-11.73
3/5/2017-6:00	-11.65	-11.64	-11.65	-9.59	-9.35	-8.79	-11.71
3/5/2017-7:00	-11.64	-11.64	-11.64	-9.56	-9.35	-8.8	-11.71
3/5/2017-8:00	-11.64	-11.64	-11.65	-9.54	-9.37	-8.82	-11.72
3/5/2017-9:00	-11.65	-11.66	-11.67	-9.54	-9.41	-8.86	-11.75
3/5/2017-10:00	-11.67	-11.68	-11.7	-9.55	-9.47	-8.9	-11.78
3/5/2017-11:00	-11.7	-11.72	-11.74	-9.58	-9.54	-8.96	-11.83
3/5/2017-12:00	-11.73	-11.76	-11.79	-9.61	-9.62	-9.02	-11.88
3/5/2017-13:00	-11.77	-11.8	-11.83	-9.66	-9.71	-9.07	-11.93
3/5/2017-14:00	-11.81	-11.84	-11.88	-9.71	-9.78	-9.13	-11.97
3/5/2017-15:00	-11.84	-11.88	-11.91	-9.75	-9.85	-9.16	-12.01
3/5/2017-16:00	-11.86	-11.9	-11.94	-9.79	-9.89	-9.19	-12.04
3/5/2017-17:00	-11.87	-11.91	-11.95	-9.82	-9.9	-9.19	-12.04
3/5/2017-18:00	-11.87	-11.91	-11.94	-9.84	-9.89	-9.17	-12.04
3/5/2017-19:00	-11.86	-11.89	-11.92	-9.83	-9.84	-9.13	-12.01
3/5/2017-20:00	-11.82	-11.85	-11.87	-9.8	-9.77	-9.07	-11.96
3/5/2017-21:00	-11.78	-11.8	-11.82	-9.76	-9.67	-8.99	-11.9

3/5/2017-22:00	-11.73	-11.74	-11.75	-9.7	-9.56	-8.9	-11.83
3/5/2017-23:00	-11.66	-11.67	-11.68	-9.62	-9.43	-8.81	-11.75
3/6/2017-0:00	-11.6	-11.6	-11.6	-9.54	-9.29	-8.71	-11.67
3/6/2017-1:00	-11.53	-11.53	-11.52	-9.45	-9.17	-8.62	-11.59
3/6/2017-2:00	-11.47	-11.46	-11.45	-9.35	-9.05	-8.54	-11.52
3/6/2017-3:00	-11.41	-11.4	-11.39	-9.26	-8.94	-8.48	-11.46
3/6/2017-4:00	-11.36	-11.34	-11.33	-9.18	-8.86	-8.42	-11.41
3/6/2017-5:00	-11.32	-11.3	-11.29	-9.11	-8.79	-8.38	-11.36
3/6/2017-6:00	-11.29	-11.27	-11.26	-9.05	-8.75	-8.36	-11.34
3/6/2017-7:00	-11.26	-11.25	-11.25	-9	-8.73	-8.35	-11.32
3/6/2017-8:00	-11.25	-11.25	-11.24	-8.97	-8.73	-8.36	-11.32
3/6/2017-9:00	-11.26	-11.25	-11.25	-8.96	-8.76	-8.38	-11.34
3/6/2017-10:00	-11.27	-11.27	-11.28	-8.96	-8.81	-8.42	-11.36
3/6/2017-11:00	-11.29	-11.3	-11.31	-8.98	-8.88	-8.47	-11.4
3/6/2017-12:00	-11.33	-11.34	-11.36	-9.01	-8.96	-8.53	-11.45
3/6/2017-13:00	-11.36	-11.38	-11.41	-9.06	-9.05	-8.6	-11.5
3/6/2017-14:00	-11.41	-11.43	-11.46	-9.11	-9.14	-8.66	-11.56
3/6/2017-15:00	-11.45	-11.48	-11.51	-9.17	-9.23	-8.72	-11.61
3/6/2017-16:00	-11.49	-11.52	-11.55	-9.22	-9.31	-8.77	-11.66
3/6/2017-17:00	-11.52	-11.56	-11.59	-9.27	-9.37	-8.81	-11.69
3/6/2017-18:00	-11.55	-11.58	-11.61	-9.32	-9.42	-8.83	-11.72
3/6/2017-19:00	-11.56	-11.6	-11.63	-9.36	-9.44	-8.84	-11.73
3/6/2017-20:00	-11.57	-11.6	-11.63	-9.38	-9.45	-8.84	-11.73
3/6/2017-21:00	-11.57	-11.6	-11.63	-9.39	-9.43	-8.82	-11.73
3/6/2017-22:00	-11.56	-11.59	-11.62	-9.39	-9.41	-8.8	-11.71
3/6/2017-23:00	-11.56	-11.58	-11.6	-9.39	-9.38	-8.78	-11.7
3/7/2017-0:00	-11.55	-11.57	-11.59	-9.38	-9.35	-8.77	-11.68
3/7/2017-1:00	-11.54	-11.56	-11.58	-9.37	-9.33	-8.76	-11.67
3/7/2017-2:00	-11.54	-11.56	-11.58	-9.36	-9.33	-8.76	-11.67
3/7/2017-3:00	-11.55	-11.57	-11.59	-9.37	-9.34	-8.77	-11.68
3/7/2017-4:00	-11.57	-11.59	-11.61	-9.38	-9.37	-8.8	-11.71
3/7/2017-5:00	-11.6	-11.62	-11.65	-9.4	-9.42	-8.85	-11.75
3/7/2017-6:00	-11.64	-11.67	-11.7	-9.44	-9.5	-8.92	-11.8
3/7/2017-7:00	-11.69	-11.73	-11.76	-9.5	-9.6	-9	-11.86
3/7/2017-8:00	-11.75	-11.8	-11.84	-9.57	-9.72	-9.09	-11.94
3/7/2017-9:00	-11.83	-11.88	-11.93	-9.66	-9.86	-9.2	-12.04
3/7/2017-10:00	-11.92	-11.98	-12.03	-9.77	-10.02	-9.33	-12.14
3/7/2017-11:00	-12.02	-12.09	-12.15	-9.89	-10.2	-9.46	-12.26
3/7/2017-12:00	-12.12	-12.2	-12.27	-10.02	-10.39	-9.6	-12.38
3/7/2017-13:00	-12.23	-12.31	-12.39	-10.16	-10.58	-9.73	-12.51
3/7/2017-14:00	-12.33	-12.43	-12.5	-10.3	-10.76	-9.86	-12.62
3/7/2017-15:00	-12.44	-12.53	-12.61	-10.44	-10.92	-9.98	-12.73
3/7/2017-16:00	-12.53	-12.62	-12.71	-10.58	-11.06	-10.08	-12.83
3/7/2017-17:00	-12.6	-12.7	-12.78	-10.7	-11.17	-10.15	-12.9
3/7/2017-18:00	-12.67	-12.76	-12.84	-10.8	-11.24	-10.19	-12.96
3/7/2017-19:00	-12.71	-12.8	-12.88	-10.88	-11.28	-10.21	-12.99
3/7/2017-20:00	-12.74	-12.82	-12.89	-10.93	-11.28	-10.21	-13
3/7/2017-21:00	-12.75	-12.82	-12.89	-10.96	-11.24	-10.18	-12.99
3/7/2017-22:00	-12.74	-12.81	-12.87	-10.97	-11.18	-10.14	-12.96
3/7/2017-23:00	-12.72	-12.79	-12.83	-10.95	-11.1	-10.08	-12.92
3/8/2017-0:00	-12.7	-12.75	-12.79	-10.93	-11.01	-10.02	-12.88
3/8/2017-1:00	-12.67	-12.72	-12.75	-10.88	-10.91	-9.96	-12.83
3/8/2017-2:00	-12.64	-12.68	-12.71	-10.84	-10.82	-9.9	-12.78

3/8/2017-3:00	-12.61	-12.65	-12.67	-10.79	-10.73	-9.85	-12.74
3/8/2017-4:00	-12.59	-12.62	-12.64	-10.74	-10.66	-9.82	-12.71
3/8/2017-5:00	-12.57	-12.6	-12.62	-10.7	-10.61	-9.79	-12.69
3/8/2017-6:00	-12.56	-12.59	-12.61	-10.66	-10.59	-9.79	-12.68
3/8/2017-7:00	-12.57	-12.6	-12.62	-10.64	-10.58	-9.8	-12.69
3/8/2017-8:00	-12.58	-12.61	-12.64	-10.64	-10.61	-9.83	-12.71
3/8/2017-9:00	-12.61	-12.64	-12.67	-10.65	-10.65	-9.87	-12.74
3/8/2017-10:00	-12.65	-12.69	-12.72	-10.68	-10.72	-9.93	-12.79
3/8/2017-11:00	-12.7	-12.74	-12.78	-10.72	-10.81	-10	-12.85
3/8/2017-12:00	-12.75	-12.8	-12.84	-10.77	-10.91	-10.08	-12.92
3/8/2017-13:00	-12.81	-12.86	-12.91	-10.84	-11.02	-10.16	-12.99
3/8/2017-14:00	-12.87	-12.93	-12.98	-10.91	-11.12	-10.24	-13.06
3/8/2017-15:00	-12.93	-12.99	-13.04	-10.99	-11.22	-10.31	-13.12
3/8/2017-16:00	-12.98	-13.04	-13.09	-11.05	-11.29	-10.36	-13.17
3/8/2017-17:00	-13.02	-13.08	-13.13	-11.11	-11.35	-10.39	-13.21
3/8/2017-18:00	-13.04	-13.1	-13.15	-11.16	-11.37	-10.4	-13.23
3/8/2017-19:00	-13.05	-13.11	-13.15	-11.18	-11.36	-10.39	-13.23
3/8/2017-20:00	-13.05	-13.1	-13.14	-11.19	-11.33	-10.36	-13.21
3/8/2017-21:00	-13.03	-13.07	-13.11	-11.18	-11.27	-10.31	-13.18
3/8/2017-22:00	-13	-13.04	-13.07	-11.15	-11.19	-10.25	-13.13
3/8/2017-23:00	-12.97	-13	-13.02	-11.11	-11.1	-10.19	-13.08
3/9/2017-0:00	-12.93	-12.96	-12.97	-11.06	-11	-10.13	-13.03
3/9/2017-1:00	-12.9	-12.91	-12.93	-11	-10.91	-10.07	-12.99
3/9/2017-2:00	-12.86	-12.88	-12.89	-10.95	-10.83	-10.02	-12.94
3/9/2017-3:00	-12.83	-12.85	-12.86	-10.9	-10.77	-9.99	-12.91
3/9/2017-4:00	-12.81	-12.83	-12.83	-10.85	-10.73	-9.97	-12.89
3/9/2017-5:00	-12.81	-12.82	-12.83	-10.82	-10.71	-9.97	-12.89
3/9/2017-6:00	-12.81	-12.82	-12.83	-10.8	-10.72	-9.98	-12.89
3/9/2017-7:00	-12.82	-12.84	-12.85	-10.8	-10.75	-10.01	-12.92
3/9/2017-8:00	-12.85	-12.87	-12.89	-10.81	-10.8	-10.06	-12.96
3/9/2017-9:00	-12.89	-12.91	-12.94	-10.84	-10.88	-10.13	-13.01
3/9/2017-10:00	-12.94	-12.97	-13	-10.89	-10.98	-10.21	-13.08
3/9/2017-11:00	-13	-13.04	-13.08	-10.96	-11.1	-10.31	-13.16
3/9/2017-12:00	-13.07	-13.12	-13.16	-11.04	-11.24	-10.41	-13.24
3/9/2017-13:00	-13.14	-13.2	-13.25	-11.13	-11.38	-10.51	-13.33
3/9/2017-14:00	-13.22	-13.28	-13.33	-11.23	-11.51	-10.61	-13.42
3/9/2017-15:00	-13.29	-13.35	-13.41	-11.32	-11.63	-10.69	-13.49
3/9/2017-16:00	-13.35	-13.42	-13.47	-11.41	-11.73	-10.76	-13.56
3/9/2017-17:00	-13.4	-13.47	-13.52	-11.49	-11.8	-10.8	-13.61
3/9/2017-18:00	-13.43	-13.5	-13.55	-11.55	-11.84	-10.82	-13.64
3/9/2017-19:00	-13.45	-13.51	-13.56	-11.59	-11.84	-10.82	-13.64
3/9/2017-20:00	-13.45	-13.51	-13.55	-11.61	-11.81	-10.79	-13.63
3/9/2017-21:00	-13.44	-13.49	-13.52	-11.61	-11.74	-10.74	-13.6
3/9/2017-22:00	-13.41	-13.45	-13.48	-11.58	-11.66	-10.67	-13.55
3/9/2017-23:00	-13.37	-13.4	-13.43	-11.54	-11.55	-10.6	-13.49
3/10/2017-0:00	-13.33	-13.35	-13.37	-11.48	-11.44	-10.52	-13.43
3/10/2017-1:00	-13.28	-13.3	-13.31	-11.41	-11.32	-10.44	-13.36
3/10/2017-2:00	-13.23	-13.24	-13.25	-11.34	-11.21	-10.37	-13.3
3/10/2017-3:00	-13.19	-13.2	-13.2	-11.27	-11.11	-10.31	-13.25
3/10/2017-4:00	-13.15	-13.16	-13.16	-11.21	-11.04	-10.27	-13.21
3/10/2017-5:00	-13.12	-13.13	-13.13	-11.15	-10.98	-10.24	-13.18
3/10/2017-6:00	-13.11	-13.11	-13.11	-11.11	-10.95	-10.23	-13.16
3/10/2017-7:00	-13.1	-13.11	-13.11	-11.07	-10.94	-10.23	-13.16

3/10/2017-8:00	-13.1	-13.11	-13.12	-11.06	-10.96	-10.26	-13.18
3/10/2017-9:00	-13.12	-13.13	-13.15	-11.06	-11	-10.29	-13.2
3/10/2017-10:00	-13.15	-13.17	-13.18	-11.08	-11.06	-10.35	-13.24
3/10/2017-11:00	-13.19	-13.21	-13.23	-11.11	-11.14	-10.41	-13.3
3/10/2017-12:00	-13.23	-13.26	-13.29	-11.16	-11.23	-10.48	-13.35
3/10/2017-13:00	-13.28	-13.31	-13.34	-11.21	-11.32	-10.55	-13.41
3/10/2017-14:00	-13.33	-13.36	-13.4	-11.27	-11.41	-10.61	-13.47
3/10/2017-15:00	-13.37	-13.41	-13.44	-11.32	-11.48	-10.66	-13.51
3/10/2017-16:00	-13.4	-13.44	-13.47	-11.37	-11.53	-10.68	-13.54
3/10/2017-17:00	-13.41	-13.45	-13.48	-11.4	-11.54	-10.69	-13.55
3/10/2017-18:00	-13.41	-13.45	-13.47	-11.42	-11.52	-10.66	-13.54
3/10/2017-19:00	-13.39	-13.42	-13.44	-11.41	-11.47	-10.61	-13.5
3/10/2017-20:00	-13.36	-13.37	-13.39	-11.38	-11.37	-10.54	-13.45
3/10/2017-21:00	-13.3	-13.31	-13.32	-11.32	-11.25	-10.44	-13.37
3/10/2017-22:00	-13.23	-13.24	-13.23	-11.24	-11.1	-10.33	-13.28
3/10/2017-23:00	-13.16	-13.15	-13.14	-11.15	-10.94	-10.21	-13.18
3/11/2017-0:00	-13.08	-13.06	-13.04	-11.04	-10.77	-10.09	-13.08
3/11/2017-1:00	-12.99	-12.97	-12.94	-10.92	-10.61	-9.98	-12.98
3/11/2017-2:00	-12.91	-12.88	-12.85	-10.81	-10.45	-9.88	-12.89
3/11/2017-3:00	-12.84	-12.8	-12.77	-10.69	-10.32	-9.79	-12.81
3/11/2017-4:00	-12.77	-12.74	-12.71	-10.59	-10.21	-9.72	-12.74
3/11/2017-5:00	-12.72	-12.68	-12.65	-10.5	-10.13	-9.67	-12.69
3/11/2017-6:00	-12.68	-12.64	-12.61	-10.42	-10.07	-9.64	-12.65
3/11/2017-7:00	-12.65	-12.62	-12.59	-10.36	-10.04	-9.63	-12.63
3/11/2017-8:00	-12.64	-12.61	-12.58	-10.32	-10.04	-9.63	-12.63
3/11/2017-9:00	-12.63	-12.61	-12.59	-10.3	-10.07	-9.66	-12.64
3/11/2017-10:00	-12.64	-12.62	-12.61	-10.29	-10.11	-9.7	-12.66
3/11/2017-11:00	-12.66	-12.65	-12.64	-10.3	-10.18	-9.74	-12.7
3/11/2017-12:00	-12.69	-12.68	-12.68	-10.33	-10.25	-9.8	-12.74
3/11/2017-13:00	-12.72	-12.72	-12.72	-10.36	-10.33	-9.85	-12.78
3/11/2017-14:00	-12.75	-12.75	-12.75	-10.4	-10.4	-9.89	-12.82
3/11/2017-15:00	-12.77	-12.77	-12.78	-10.43	-10.45	-9.92	-12.85
3/11/2017-16:00	-12.78	-12.78	-12.79	-10.46	-10.48	-9.93	-12.86
3/11/2017-17:00	-12.78	-12.78	-12.78	-10.47	-10.48	-9.91	-12.85
3/11/2017-18:00	-12.76	-12.76	-12.76	-10.47	-10.44	-9.87	-12.82
3/11/2017-19:00	-12.72	-12.71	-12.71	-10.44	-10.36	-9.81	-12.77
3/11/2017-20:00	-12.67	-12.65	-12.64	-10.39	-10.26	-9.72	-12.7
3/11/2017-21:00	-12.6	-12.58	-12.56	-10.32	-10.12	-9.61	-12.61
3/11/2017-22:00	-12.52	-12.49	-12.46	-10.23	-9.96	-9.49	-12.51
3/11/2017-23:00	-12.43	-12.39	-12.35	-10.12	-9.78	-9.36	-12.4
3/12/2017-0:00	-12.33	-12.28	-12.24	-9.99	-9.6	-9.23	-12.29
3/12/2017-1:00	-12.23	-12.18	-12.14	-9.87	-9.43	-9.1	-12.18
3/12/2017-2:00	-12.14	-12.08	-12.03	-9.74	-9.27	-8.99	-12.08
3/12/2017-3:00	-12.06	-11.99	-11.94	-9.61	-9.13	-8.89	-11.98
3/12/2017-4:00	-11.98	-11.91	-11.86	-9.5	-9.01	-8.81	-11.91
3/12/2017-5:00	-11.91	-11.85	-11.8	-9.39	-8.91	-8.75	-11.84
3/12/2017-6:00	-11.86	-11.8	-11.75	-9.3	-8.85	-8.71	-11.8
3/12/2017-7:00	-11.82	-11.76	-11.72	-9.23	-8.81	-8.69	-11.77
3/12/2017-8:00	-11.8	-11.74	-11.7	-9.18	-8.81	-8.69	-11.76
3/12/2017-9:00	-11.79	-11.74	-11.7	-9.15	-8.83	-8.71	-11.76
3/12/2017-10:00	-11.79	-11.75	-11.72	-9.14	-8.87	-8.74	-11.78
3/12/2017-11:00	-11.8	-11.77	-11.74	-9.15	-8.94	-8.79	-11.81
3/12/2017-12:00	-11.83	-11.8	-11.78	-9.17	-9.02	-8.84	-11.85



3/12/2017-13:00	-11.85	-11.83	-11.82	-9.2	-9.1	-8.9	-11.9
3/12/2017-14:00	-11.88	-11.86	-11.85	-9.24	-9.18	-8.94	-11.94
3/12/2017-15:00	-11.9	-11.89	-11.88	-9.28	-9.24	-8.98	-11.97
3/12/2017-16:00	-11.91	-11.9	-11.9	-9.31	-9.28	-9	-11.99
3/12/2017-17:00	-11.91	-11.9	-11.9	-9.34	-9.3	-8.99	-11.99
3/12/2017-18:00	-11.9	-11.89	-11.88	-9.34	-9.28	-8.96	-11.97
3/12/2017-19:00	-11.87	-11.85	-11.84	-9.33	-9.22	-8.91	-11.92
3/12/2017-20:00	-11.82	-11.8	-11.78	-9.29	-9.14	-8.83	-11.86
3/12/2017-21:00	-11.76	-11.73	-11.71	-9.23	-9.02	-8.74	-11.79
3/12/2017-22:00	-11.69	-11.65	-11.62	-9.15	-8.88	-8.63	-11.69
3/12/2017-23:00	-11.6	-11.56	-11.52	-9.06	-8.73	-8.51	-11.59
3/13/2017-0:00	-11.52	-11.46	-11.42	-8.95	-8.57	-8.39	-11.49
3/13/2017-1:00	-11.42	-11.36	-11.32	-8.84	-8.41	-8.27	-11.38
3/13/2017-2:00	-11.33	-11.27	-11.22	-8.72	-8.26	-8.16	-11.28
3/13/2017-3:00	-11.25	-11.18	-11.13	-8.6	-8.12	-8.06	-11.19
3/13/2017-4:00	-11.17	-11.1	-11.04	-8.49	-7.99	-7.98	-11.11
3/13/2017-5:00	-11.09	-11.02	-10.97	-8.39	-7.88	-7.9	-11.03
3/13/2017-6:00	-11.03	-10.95	-10.9	-8.29	-7.79	-7.84	-10.97
3/13/2017-7:00	-10.97	-10.9	-10.84	-8.2	-7.72	-7.79	-10.91
3/13/2017-8:00	-10.92	-10.85	-10.8	-8.13	-7.67	-7.75	-10.87
3/13/2017-9:00	-10.88	-10.81	-10.76	-8.07	-7.64	-7.72	-10.84
3/13/2017-10:00	-10.84	-10.78	-10.73	-8.02	-7.62	-7.71	-10.82
3/13/2017-11:00	-10.82	-10.75	-10.71	-7.98	-7.61	-7.69	-10.8
3/13/2017-12:00	-10.79	-10.73	-10.7	-7.95	-7.61	-7.69	-10.78
3/13/2017-13:00	-10.77	-10.71	-10.68	-7.92	-7.6	-7.68	-10.77
3/13/2017-14:00	-10.74	-10.69	-10.66	-7.9	-7.6	-7.66	-10.75
3/13/2017-15:00	-10.71	-10.66	-10.63	-7.87	-7.57	-7.63	-10.72
3/13/2017-16:00	-10.68	-10.62	-10.59	-7.83	-7.53	-7.58	-10.68
3/13/2017-17:00	-10.63	-10.57	-10.53	-7.79	-7.46	-7.52	-10.63
3/13/2017-18:00	-10.56	-10.5	-10.46	-7.72	-7.37	-7.43	-10.55
3/13/2017-19:00	-10.48	-10.42	-10.37	-7.64	-7.24	-7.33	-10.46
3/13/2017-20:00	-10.39	-10.32	-10.27	-7.54	-7.09	-7.2	-10.35
3/13/2017-21:00	-10.29	-10.21	-10.15	-7.42	-6.92	-7.06	-10.23
3/13/2017-22:00	-10.17	-10.08	-10.02	-7.29	-6.72	-6.91	-10.1
3/13/2017-23:00	-10.05	-9.95	-9.88	-7.14	-6.52	-6.75	-9.96
3/14/2017-0:00	-9.92	-9.82	-9.74	-6.98	-6.31	-6.59	-9.82
3/14/2017-1:00	-9.8	-9.69	-9.61	-6.82	-6.11	-6.44	-9.68
3/14/2017-2:00	-9.67	-9.56	-9.47	-6.65	-5.92	-6.3	-9.55
3/14/2017-3:00	-9.55	-9.44	-9.35	-6.49	-5.74	-6.16	-9.42
3/14/2017-4:00	-9.44	-9.32	-9.23	-6.34	-5.58	-6.04	-9.31
3/14/2017-5:00	-9.34	-9.22	-9.12	-6.19	-5.43	-5.94	-9.2
3/14/2017-6:00	-9.24	-9.12	-9.03	-6.06	-5.31	-5.85	-9.11
3/14/2017-7:00	-9.16	-9.04	-8.95	-5.94	-5.21	-5.77	-9.03
3/14/2017-8:00	-9.08	-8.96	-8.88	-5.83	-5.14	-5.71	-8.96
3/14/2017-9:00	-9.02	-8.9	-8.82	-5.74	-5.08	-5.66	-8.91
3/14/2017-10:00	-8.96	-8.85	-8.77	-5.66	-5.03	-5.62	-8.86
3/14/2017-11:00	-8.91	-8.8	-8.73	-5.59	-5	-5.59	-8.83
3/14/2017-12:00	-8.87	-8.76	-8.69	-5.53	-4.98	-5.56	-8.79
3/14/2017-13:00	-8.83	-8.73	-8.66	-5.48	-4.96	-5.53	-8.76
3/14/2017-14:00	-8.78	-8.68	-8.62	-5.44	-4.94	-5.5	-8.72
3/14/2017-15:00	-8.74	-8.64	-8.57	-5.39	-4.9	-5.45	-8.68
3/14/2017-16:00	-8.68	-8.58	-8.52	-5.33	-4.85	-5.39	-8.63
3/14/2017-17:00	-8.61	-8.51	-8.45	-5.27	-4.77	-5.31	-8.56

3/14/2017-18:00	-8.54	-8.43	-8.36	-5.19	-4.67	-5.22	-8.47
3/14/2017-19:00	-8.44	-8.34	-8.26	-5.1	-4.54	-5.1	-8.37
3/14/2017-20:00	-8.34	-8.23	-8.15	-4.99	-4.38	-4.97	-8.25
3/14/2017-21:00	-8.23	-8.11	-8.02	-4.86	-4.21	-4.83	-8.13
3/14/2017-22:00	-8.1	-7.98	-7.89	-4.72	-4.02	-4.67	-7.99
3/14/2017-23:00	-7.98	-7.85	-7.75	-4.57	-3.83	-4.52	-7.85
3/15/2017-0:00	-7.85	-7.71	-7.61	-4.41	-3.63	-4.37	-7.71
3/15/2017-1:00	-7.72	-7.58	-7.47	-4.25	-3.44	-4.22	-7.57
3/15/2017-2:00	-7.59	-7.45	-7.34	-4.09	-3.27	-4.08	-7.44
3/15/2017-3:00	-7.47	-7.32	-7.22	-3.94	-3.1	-3.96	-7.32
3/15/2017-4:00	-7.36	-7.21	-7.1	-3.79	-2.96	-3.84	-7.21
3/15/2017-5:00	-7.25	-7.11	-7	-3.66	-2.83	-3.74	-7.11
3/15/2017-6:00	-7.16	-7.01	-6.91	-3.53	-2.73	-3.66	-7.02
3/15/2017-7:00	-7.07	-6.93	-6.82	-3.42	-2.64	-3.58	-6.94
3/15/2017-8:00	-6.99	-6.85	-6.75	-3.32	-2.57	-3.52	-6.87
3/15/2017-9:00	-6.92	-6.78	-6.69	-3.23	-2.51	-3.47	-6.81
3/15/2017-10:00	-6.86	-6.72	-6.63	-3.15	-2.47	-3.42	-6.76
3/15/2017-11:00	-6.8	-6.67	-6.58	-3.09	-2.44	-3.38	-6.71
3/15/2017-12:00	-6.75	-6.62	-6.53	-3.03	-2.41	-3.34	-6.67
3/15/2017-13:00	-6.69	-6.57	-6.49	-2.97	-2.38	-3.3	-6.62
3/15/2017-14:00	-6.64	-6.52	-6.43	-2.92	-2.34	-3.26	-6.57
3/15/2017-15:00	-6.58	-6.46	-6.38	-2.86	-2.29	-3.2	-6.52
3/15/2017-16:00	-6.51	-6.39	-6.31	-2.8	-2.22	-3.13	-6.45
3/15/2017-17:00	-6.43	-6.31	-6.23	-2.73	-2.14	-3.04	-6.37
3/15/2017-18:00	-6.35	-6.22	-6.14	-2.64	-2.03	-2.94	-6.28
3/15/2017-19:00	-6.25	-6.12	-6.03	-2.55	-1.9	-2.82	-6.17
3/15/2017-20:00	-6.14	-6.01	-5.91	-2.43	-1.76	-2.69	-6.05
3/15/2017-21:00	-6.02	-5.89	-5.79	-2.31	-1.59	-2.55	-5.93
3/15/2017-22:00	-5.9	-5.76	-5.66	-2.18	-1.42	-2.41	-5.79
3/15/2017-23:00	-5.78	-5.63	-5.53	-2.04	-1.25	-2.27	-5.66
3/16/2017-0:00	-5.66	-5.51	-5.4	-1.89	-1.08	-2.13	-5.53
3/16/2017-1:00	-5.54	-5.38	-5.27	-1.75	-0.93	-2.01	-5.41
3/16/2017-2:00	-5.43	-5.27	-5.16	-1.62	-0.79	-1.9	-5.3
3/16/2017-3:00	-5.33	-5.17	-5.07	-1.49	-0.67	-1.81	-5.21
3/16/2017-4:00	-5.24	-5.09	-4.98	-1.38	-0.59	-1.73	-5.13
3/16/2017-5:00	-5.17	-5.02	-4.92	-1.29	-0.53	-1.68	-5.07
3/16/2017-6:00	-5.11	-4.96	-4.87	-1.21	-0.5	-1.65	-5.02
3/16/2017-7:00	-5.06	-4.93	-4.84	-1.16	-0.5	-1.64	-5
3/16/2017-8:00	-5.03	-4.91	-4.82	-1.12	-0.52	-1.65	-4.99
3/16/2017-9:00	-5.02	-4.9	-4.83	-1.11	-0.58	-1.67	-5
3/16/2017-10:00	-5.02	-4.91	-4.84	-1.12	-0.65	-1.72	-5.02
3/16/2017-11:00	-5.03	-4.93	-4.87	-1.14	-0.74	-1.77	-5.05
3/16/2017-12:00	-5.05	-4.96	-4.91	-1.18	-0.85	-1.83	-5.1
3/16/2017-13:00	-5.08	-4.99	-4.95	-1.23	-0.96	-1.89	-5.14
3/16/2017-14:00	-5.1	-5.03	-4.99	-1.29	-1.06	-1.94	-5.19
3/16/2017-15:00	-5.13	-5.06	-5.03	-1.35	-1.16	-1.99	-5.22
3/16/2017-16:00	-5.15	-5.08	-5.05	-1.41	-1.23	-2.02	-5.25
3/16/2017-17:00	-5.15	-5.09	-5.06	-1.46	-1.29	-2.04	-5.26
3/16/2017-18:00	-5.15	-5.09	-5.06	-1.49	-1.31	-2.03	-5.26
3/16/2017-19:00	-5.14	-5.08	-5.05	-1.51	-1.31	-2.01	-5.25
3/16/2017-20:00	-5.11	-5.05	-5.02	-1.52	-1.29	-1.97	-5.21
3/16/2017-21:00	-5.08	-5.01	-4.98	-1.5	-1.24	-1.92	-5.17
3/16/2017-22:00	-5.04	-4.97	-4.93	-1.48	-1.18	-1.85	-5.11

3/16/2017-23:00	-4.99	-4.91	-4.87	-1.44	-1.11	-1.79	-5.06
3/17/2017-0:00	-4.94	-4.86	-4.81	-1.4	-1.03	-1.72	-5
3/17/2017-1:00	-4.89	-4.81	-4.76	-1.35	-0.96	-1.67	-4.94
3/17/2017-2:00	-4.84	-4.77	-4.72	-1.3	-0.91	-1.62	-4.9
3/17/2017-3:00	-4.81	-4.73	-4.68	-1.26	-0.87	-1.58	-4.86
3/17/2017-4:00	-4.78	-4.7	-4.65	-1.23	-0.84	-1.56	-4.83
3/17/2017-5:00	-4.76	-4.68	-4.64	-1.21	-0.84	-1.56	-4.82
3/17/2017-6:00	-4.75	-4.68	-4.63	-1.2	-0.86	-1.57	-4.82
3/17/2017-7:00	-4.75	-4.68	-4.64	-1.21	-0.9	-1.59	-4.83
3/17/2017-8:00	-4.76	-4.7	-4.67	-1.23	-0.96	-1.63	-4.86
3/17/2017-9:00	-4.78	-4.73	-4.7	-1.26	-1.04	-1.68	-4.89
3/17/2017-10:00	-4.81	-4.77	-4.74	-1.31	-1.14	-1.74	-4.94
3/17/2017-11:00	-4.85	-4.81	-4.79	-1.37	-1.24	-1.81	-4.99
3/17/2017-12:00	-4.89	-4.86	-4.85	-1.43	-1.35	-1.88	-5.05
3/17/2017-13:00	-4.94	-4.91	-4.9	-1.5	-1.45	-1.94	-5.1
3/17/2017-14:00	-4.97	-4.95	-4.94	-1.58	-1.55	-1.99	-5.14
3/17/2017-15:00	-5.01	-4.98	-4.98	-1.64	-1.62	-2.03	-5.18
3/17/2017-16:00	-5.03	-5	-5	-1.7	-1.67	-2.04	-5.2
3/17/2017-17:00	-5.03	-5.01	-5	-1.74	-1.69	-2.04	-5.2
3/17/2017-18:00	-5.03	-5	-4.99	-1.76	-1.68	-2.01	-5.18
3/17/2017-19:00	-5	-4.97	-4.96	-1.76	-1.64	-1.96	-5.15
3/17/2017-20:00	-4.96	-4.92	-4.9	-1.74	-1.56	-1.89	-5.09
3/17/2017-21:00	-4.91	-4.86	-4.84	-1.7	-1.46	-1.81	-5.02
3/17/2017-22:00	-4.85	-4.79	-4.76	-1.64	-1.34	-1.71	-4.94
3/17/2017-23:00	-4.78	-4.71	-4.68	-1.56	-1.21	-1.6	-4.85
3/18/2017-0:00	-4.7	-4.63	-4.59	-1.48	-1.08	-1.5	-4.76
3/18/2017-1:00	-4.63	-4.55	-4.5	-1.39	-0.95	-1.41	-4.67
3/18/2017-2:00	-4.55	-4.48	-4.43	-1.3	-0.84	-1.32	-4.59
3/18/2017-3:00	-4.49	-4.41	-4.36	-1.21	-0.74	-1.25	-4.52
3/18/2017-4:00	-4.43	-4.35	-4.3	-1.14	-0.66	-1.19	-4.46
3/18/2017-5:00	-4.39	-4.31	-4.25	-1.07	-0.61	-1.15	-4.42
3/18/2017-6:00	-4.35	-4.27	-4.22	-1.02	-0.58	-1.13	-4.39
3/18/2017-7:00	-4.33	-4.25	-4.21	-0.98	-0.57	-1.12	-4.37
3/18/2017-8:00	-4.32	-4.25	-4.2	-0.96	-0.59	-1.13	-4.37
3/18/2017-9:00	-4.32	-4.25	-4.21	-0.95	-0.63	-1.16	-4.38
3/18/2017-10:00	-4.33	-4.27	-4.23	-0.97	-0.69	-1.2	-4.41
3/18/2017-11:00	-4.35	-4.29	-4.26	-0.99	-0.77	-1.24	-4.44
3/18/2017-12:00	-4.37	-4.32	-4.3	-1.03	-0.85	-1.3	-4.48
3/18/2017-13:00	-4.4	-4.36	-4.34	-1.07	-0.94	-1.34	-4.52
3/18/2017-14:00	-4.42	-4.39	-4.37	-1.12	-1.01	-1.39	-4.55
3/18/2017-15:00	-4.44	-4.41	-4.4	-1.17	-1.08	-1.42	-4.58
3/18/2017-16:00	-4.46	-4.43	-4.41	-1.21	-1.13	-1.44	-4.59
3/18/2017-17:00	-4.46	-4.43	-4.42	-1.24	-1.15	-1.44	-4.6
3/18/2017-18:00	-4.46	-4.42	-4.41	-1.26	-1.15	-1.42	-4.58
3/18/2017-19:00	-4.44	-4.4	-4.38	-1.26	-1.13	-1.38	-4.56
3/18/2017-20:00	-4.41	-4.37	-4.34	-1.25	-1.08	-1.33	-4.52
3/18/2017-21:00	-4.37	-4.32	-4.3	-1.22	-1.01	-1.27	-4.47
3/18/2017-22:00	-4.32	-4.27	-4.24	-1.18	-0.94	-1.21	-4.41
3/18/2017-23:00	-4.27	-4.22	-4.18	-1.13	-0.85	-1.14	-4.35
3/19/2017-0:00	-4.22	-4.16	-4.13	-1.08	-0.77	-1.07	-4.29
3/19/2017-1:00	-4.17	-4.11	-4.07	-1.02	-0.7	-1.01	-4.23
3/19/2017-2:00	-4.13	-4.07	-4.02	-0.97	-0.63	-0.97	-4.18
3/19/2017-3:00	-4.09	-4.03	-3.99	-0.92	-0.59	-0.93	-4.14

3/19/2017-4:00	-4.06	-4	-3.96	-0.88	-0.56	-0.91	-4.12
3/19/2017-5:00	-4.04	-3.98	-3.94	-0.86	-0.55	-0.9	-4.1
3/19/2017-6:00	-4.03	-3.97	-3.94	-0.84	-0.57	-0.91	-4.1
3/19/2017-7:00	-4.03	-3.98	-3.95	-0.84	-0.6	-0.94	-4.12
3/19/2017-8:00	-4.05	-4	-3.97	-0.86	-0.66	-0.98	-4.14
3/19/2017-9:00	-4.07	-4.03	-4.01	-0.89	-0.74	-1.03	-4.18
3/19/2017-10:00	-4.1	-4.07	-4.05	-0.93	-0.83	-1.09	-4.23
3/19/2017-11:00	-4.15	-4.12	-4.11	-0.99	-0.94	-1.17	-4.28
3/19/2017-12:00	-4.19	-4.17	-4.17	-1.06	-1.05	-1.24	-4.34
3/19/2017-13:00	-4.24	-4.23	-4.23	-1.14	-1.17	-1.31	-4.4
3/19/2017-14:00	-4.29	-4.28	-4.28	-1.22	-1.28	-1.38	-4.46
3/19/2017-15:00	-4.34	-4.33	-4.34	-1.29	-1.38	-1.44	-4.52
3/19/2017-16:00	-4.38	-4.37	-4.38	-1.37	-1.46	-1.49	-4.56
3/19/2017-17:00	-4.41	-4.41	-4.42	-1.43	-1.53	-1.53	-4.59
3/19/2017-18:00	-4.44	-4.43	-4.44	-1.49	-1.58	-1.55	-4.61
3/19/2017-19:00	-4.45	-4.45	-4.45	-1.54	-1.6	-1.56	-4.62
3/19/2017-20:00	-4.46	-4.45	-4.45	-1.57	-1.61	-1.55	-4.62
3/19/2017-21:00	-4.46	-4.45	-4.45	-1.59	-1.61	-1.54	-4.61
3/19/2017-22:00	-4.46	-4.44	-4.44	-1.6	-1.59	-1.52	-4.6
3/19/2017-23:00	-4.45	-4.43	-4.43	-1.61	-1.58	-1.51	-4.59
3/20/2017-0:00	-4.44	-4.42	-4.42	-1.61	-1.56	-1.5	-4.57
3/20/2017-1:00	-4.44	-4.42	-4.41	-1.62	-1.56	-1.49	-4.57
3/20/2017-2:00	-4.44	-4.43	-4.42	-1.62	-1.57	-1.5	-4.57
3/20/2017-3:00	-4.46	-4.44	-4.43	-1.64	-1.59	-1.52	-4.59
3/20/2017-4:00	-4.47	-4.46	-4.46	-1.66	-1.64	-1.56	-4.61
3/20/2017-5:00	-4.5	-4.49	-4.49	-1.7	-1.7	-1.61	-4.65
3/20/2017-6:00	-4.54	-4.54	-4.54	-1.75	-1.79	-1.67	-4.7
3/20/2017-7:00	-4.59	-4.59	-4.6	-1.81	-1.89	-1.75	-4.76
3/20/2017-8:00	-4.65	-4.66	-4.67	-1.89	-2.01	-1.84	-4.84
3/20/2017-9:00	-4.72	-4.74	-4.76	-1.98	-2.15	-1.94	-4.92
3/20/2017-10:00	-4.8	-4.82	-4.85	-2.09	-2.3	-2.05	-5.02
3/20/2017-11:00	-4.89	-4.92	-4.95	-2.2	-2.47	-2.17	-5.12
3/20/2017-12:00	-4.98	-5.01	-5.05	-2.33	-2.63	-2.29	-5.22
3/20/2017-13:00	-5.07	-5.11	-5.15	-2.45	-2.79	-2.4	-5.32
3/20/2017-14:00	-5.15	-5.2	-5.24	-2.58	-2.94	-2.5	-5.42
3/20/2017-15:00	-5.23	-5.28	-5.33	-2.7	-3.07	-2.59	-5.5
3/20/2017-16:00	-5.3	-5.34	-5.39	-2.81	-3.17	-2.65	-5.56
3/20/2017-17:00	-5.35	-5.4	-5.44	-2.9	-3.24	-2.69	-5.61
3/20/2017-18:00	-5.39	-5.43	-5.47	-2.97	-3.28	-2.71	-5.63
3/20/2017-19:00	-5.4	-5.44	-5.48	-3.02	-3.28	-2.7	-5.63
3/20/2017-20:00	-5.4	-5.44	-5.47	-3.05	-3.25	-2.67	-5.62
3/20/2017-21:00	-5.39	-5.41	-5.44	-3.05	-3.18	-2.62	-5.58
3/20/2017-22:00	-5.36	-5.38	-5.39	-3.03	-3.1	-2.55	-5.53
3/20/2017-23:00	-5.32	-5.33	-5.34	-3	-3	-2.48	-5.48
3/21/2017-0:00	-5.28	-5.28	-5.28	-2.95	-2.89	-2.4	-5.41
3/21/2017-1:00	-5.24	-5.23	-5.23	-2.89	-2.79	-2.33	-5.35
3/21/2017-2:00	-5.19	-5.18	-5.17	-2.83	-2.69	-2.27	-5.3
3/21/2017-3:00	-5.15	-5.14	-5.13	-2.77	-2.61	-2.22	-5.25
3/21/2017-4:00	-5.12	-5.1	-5.09	-2.72	-2.54	-2.18	-5.21
3/21/2017-5:00	-5.1	-5.08	-5.07	-2.67	-2.5	-2.16	-5.19
3/21/2017-6:00	-5.08	-5.06	-5.05	-2.64	-2.47	-2.15	-5.17
3/21/2017-7:00	-5.07	-5.06	-5.05	-2.62	-2.47	-2.15	-5.17
3/21/2017-8:00	-5.08	-5.06	-5.06	-2.61	-2.49	-2.17	-5.18

3/21/2017-9:00	-5.09	-5.08	-5.08	-2.61	-2.53	-2.2	-5.2
3/21/2017-10:00	-5.11	-5.1	-5.1	-2.63	-2.58	-2.24	-5.23
3/21/2017-11:00	-5.13	-5.13	-5.13	-2.65	-2.64	-2.28	-5.27
3/21/2017-12:00	-5.16	-5.16	-5.17	-2.69	-2.7	-2.33	-5.3
3/21/2017-13:00	-5.19	-5.19	-5.2	-2.72	-2.76	-2.37	-5.33
3/21/2017-14:00	-5.21	-5.21	-5.23	-2.76	-2.81	-2.39	-5.36
3/21/2017-15:00	-5.22	-5.23	-5.24	-2.79	-2.83	-2.4	-5.37
3/21/2017-16:00	-5.22	-5.23	-5.24	-2.8	-2.83	-2.39	-5.37
3/21/2017-17:00	-5.21	-5.21	-5.21	-2.8	-2.8	-2.36	-5.34
3/21/2017-18:00	-5.18	-5.17	-5.17	-2.78	-2.74	-2.3	-5.3
3/21/2017-19:00	-5.13	-5.12	-5.11	-2.74	-2.64	-2.21	-5.23
3/21/2017-20:00	-5.06	-5.04	-5.02	-2.67	-2.5	-2.1	-5.14
3/21/2017-21:00	-4.98	-4.94	-4.92	-2.58	-2.34	-1.97	-5.03
3/21/2017-22:00	-4.88	-4.84	-4.8	-2.46	-2.15	-1.83	-4.91
3/21/2017-23:00	-4.77	-4.72	-4.68	-2.33	-1.94	-1.68	-4.78
3/22/2017-0:00	-4.66	-4.59	-4.54	-2.18	-1.73	-1.52	-4.64
3/22/2017-1:00	-4.54	-4.47	-4.41	-2.03	-1.52	-1.37	-4.5
3/22/2017-2:00	-4.42	-4.34	-4.28	-1.87	-1.31	-1.23	-4.37
3/22/2017-3:00	-4.31	-4.22	-4.16	-1.71	-1.13	-1.1	-4.25
3/22/2017-4:00	-4.21	-4.12	-4.05	-1.56	-0.97	-0.98	-4.14
3/22/2017-5:00	-4.11	-4.02	-3.95	-1.42	-0.82	-0.88	-4.04
3/22/2017-6:00	-4.03	-3.94	-3.87	-1.3	-0.71	-0.8	-3.96
3/22/2017-7:00	-3.96	-3.86	-3.8	-1.18	-0.62	-0.74	-3.9
3/22/2017-8:00	-3.89	-3.81	-3.74	-1.09	-0.56	-0.69	-3.84
3/22/2017-9:00	-3.85	-3.76	-3.7	-1.01	-0.52	-0.66	-3.81
3/22/2017-10:00	-3.81	-3.73	-3.67	-0.95	-0.5	-0.65	-3.78
3/22/2017-11:00	-3.78	-3.7	-3.65	-0.9	-0.49	-0.64	-3.76
3/22/2017-12:00	-3.75	-3.68	-3.64	-0.86	-0.5	-0.64	-3.75
3/22/2017-13:00	-3.73	-3.67	-3.62	-0.84	-0.51	-0.63	-3.74
3/22/2017-14:00	-3.71	-3.65	-3.61	-0.82	-0.51	-0.63	-3.73
3/22/2017-15:00	-3.69	-3.63	-3.59	-0.8	-0.51	-0.61	-3.72
3/22/2017-16:00	-3.66	-3.6	-3.57	-0.77	-0.5	-0.59	-3.69
3/22/2017-17:00	-3.63	-3.57	-3.53	-0.74	-0.47	-0.55	-3.66
3/22/2017-18:00	-3.58	-3.52	-3.49	-0.7	-0.42	-0.5	-3.61
3/22/2017-19:00	-3.53	-3.47	-3.43	-0.65	-0.35	-0.43	-3.56
3/22/2017-20:00	-3.47	-3.4	-3.36	-0.59	-0.26	-0.35	-3.49
3/22/2017-21:00	-3.4	-3.33	-3.28	-0.52	-0.15	-0.26	-3.41
3/22/2017-22:00	-3.33	-3.25	-3.2	-0.43	-0.04	-0.17	-3.33
3/22/2017-23:00	-3.25	-3.17	-3.12	-0.34	0.08	-0.07	-3.24
3/23/2017-0:00	-3.17	-3.09	-3.03	-0.25	0.2	0.02	-3.15
3/23/2017-1:00	-3.09	-3.01	-2.95	-0.15	0.31	0.1	-3.07
3/23/2017-2:00	-3.02	-2.94	-2.88	-0.06	0.41	0.18	-3
3/23/2017-3:00	-2.96	-2.87	-2.81	0.02	0.5	0.24	-2.94
3/23/2017-4:00	-2.9	-2.81	-2.76	0.1	0.56	0.29	-2.89
3/23/2017-5:00	-2.85	-2.77	-2.72	0.17	0.61	0.33	-2.84
3/23/2017-6:00	-2.81	-2.74	-2.69	0.22	0.64	0.35	-2.82
3/23/2017-7:00	-2.79	-2.71	-2.67	0.26	0.64	0.36	-2.8
3/23/2017-8:00	-2.77	-2.7	-2.66	0.28	0.63	0.35	-2.8
3/23/2017-9:00	-2.77	-2.7	-2.67	0.29	0.59	0.33	-2.81
3/23/2017-10:00	-2.77	-2.71	-2.68	0.29	0.54	0.3	-2.83
3/23/2017-11:00	-2.78	-2.73	-2.7	0.27	0.48	0.26	-2.85
3/23/2017-12:00	-2.8	-2.75	-2.73	0.25	0.41	0.22	-2.88
3/23/2017-13:00	-2.81	-2.77	-2.76	0.22	0.35	0.18	-2.91

3/23/2017-14:00	-2.83	-2.79	-2.78	0.18	0.29	0.15	-2.94
3/23/2017-15:00	-2.84	-2.8	-2.79	0.15	0.25	0.14	-2.95
3/23/2017-16:00	-2.84	-2.81	-2.79	0.13	0.23	0.14	-2.95
3/23/2017-17:00	-2.83	-2.79	-2.78	0.12	0.23	0.16	-2.94
3/23/2017-18:00	-2.8	-2.77	-2.75	0.13	0.27	0.2	-2.91
3/23/2017-19:00	-2.77	-2.73	-2.71	0.15	0.33	0.26	-2.86
3/23/2017-20:00	-2.71	-2.67	-2.64	0.19	0.42	0.34	-2.79
3/23/2017-21:00	-2.65	-2.6	-2.57	0.25	0.53	0.43	-2.72
3/23/2017-22:00	-2.58	-2.52	-2.49	0.33	0.65	0.53	-2.63
3/23/2017-23:00	-2.5	-2.43	-2.39	0.42	0.79	0.64	-2.53
3/24/2017-0:00	-2.41	-2.35	-2.3	0.51	0.93	0.75	-2.44
3/24/2017-1:00	-2.33	-2.26	-2.21	0.62	1.07	0.85	-2.34
3/24/2017-2:00	-2.25	-2.17	-2.12	0.72	1.2	0.94	-2.26
3/24/2017-3:00	-2.17	-2.09	-2.04	0.82	1.31	1.03	-2.18
3/24/2017-4:00	-2.11	-2.03	-1.97	0.91	1.4	1.1	-2.11
3/24/2017-5:00	-2.05	-1.96	-1.91	0.99	1.48	1.15	-2.05
3/24/2017-6:00	-1.99	-1.92	-1.86	1.07	1.53	1.19	-2
3/24/2017-7:00	-1.95	-1.88	-1.83	1.12	1.57	1.22	-1.97
3/24/2017-8:00	-1.92	-1.85	-1.81	1.17	1.58	1.23	-1.95
3/24/2017-9:00	-1.9	-1.83	-1.79	1.2	1.57	1.23	-1.94
3/24/2017-10:00	-1.89	-1.83	-1.79	1.22	1.55	1.22	-1.94
3/24/2017-11:00	-1.88	-1.83	-1.79	1.22	1.52	1.2	-1.95
3/24/2017-12:00	-1.88	-1.83	-1.8	1.22	1.48	1.18	-1.96
3/24/2017-13:00	-1.88	-1.83	-1.81	1.21	1.44	1.17	-1.97
3/24/2017-14:00	-1.88	-1.83	-1.81	1.21	1.42	1.17	-1.97
3/24/2017-15:00	-1.86	-1.82	-1.79	1.21	1.42	1.18	-1.96
3/24/2017-16:00	-1.84	-1.79	-1.77	1.22	1.44	1.21	-1.93
3/24/2017-17:00	-1.8	-1.75	-1.72	1.24	1.48	1.27	-1.88
3/24/2017-18:00	-1.75	-1.69	-1.66	1.28	1.57	1.35	-1.82
3/24/2017-19:00	-1.68	-1.61	-1.58	1.35	1.68	1.45	-1.73
3/24/2017-20:00	-1.59	-1.52	-1.48	1.44	1.83	1.57	-1.63
3/24/2017-21:00	-1.49	-1.41	-1.36	1.54	2.01	1.72	-1.5
3/24/2017-22:00	-1.37	-1.28	-1.23	1.67	2.2	1.87	-1.37
3/24/2017-23:00	-1.25	-1.15	-1.08	1.82	2.42	2.04	-1.22
3/25/2017-0:00	-1.12	-1.01	-0.94	1.98	2.63	2.2	-1.07
3/25/2017-1:00	-0.99	-0.88	-0.8	2.14	2.84	2.36	-0.93
3/25/2017-2:00	-0.86	-0.74	-0.66	2.31	3.04	2.51	-0.79
3/25/2017-3:00	-0.74	-0.62	-0.53	2.47	3.23	2.65	-0.66
3/25/2017-4:00	-0.63	-0.5	-0.41	2.63	3.39	2.77	-0.54
3/25/2017-5:00	-0.52	-0.4	-0.31	2.77	3.53	2.87	-0.44
3/25/2017-6:00	-0.43	-0.31	-0.22	2.9	3.64	2.95	-0.36
3/25/2017-7:00	-0.36	-0.23	-0.15	3.01	3.72	3.01	-0.29
3/25/2017-8:00	-0.29	-0.17	-0.09	3.1	3.77	3.06	-0.23
3/25/2017-9:00	-0.24	-0.12	-0.05	3.18	3.8	3.09	-0.19
3/25/2017-10:00	-0.2	-0.09	-0.02	3.24	3.81	3.1	-0.17
3/25/2017-11:00	-0.17	-0.07	0	3.28	3.8	3.1	-0.15
3/25/2017-12:00	-0.15	-0.05	0.01	3.31	3.78	3.1	-0.15
3/25/2017-13:00	-0.13	-0.04	0.02	3.32	3.75	3.09	-0.14
3/25/2017-14:00	-0.11	-0.03	0.03	3.33	3.72	3.09	-0.14
3/25/2017-15:00	-0.09	-0.01	0.04	3.34	3.7	3.09	-0.13
3/25/2017-16:00	-0.07	0.01	0.06	3.35	3.7	3.11	-0.11
3/25/2017-17:00	-0.04	0.04	0.08	3.37	3.71	3.14	-0.08
3/25/2017-18:00	0	0.08	0.12	3.39	3.74	3.18	-0.04

3/25/2017-19:00	0.05	0.13	0.18	3.43	3.79	3.24	0.01
3/25/2017-20:00	0.1	0.19	0.24	3.48	3.87	3.32	0.08
3/25/2017-21:00	0.17	0.26	0.32	3.54	3.96	3.4	0.15
3/25/2017-22:00	0.25	0.34	0.4	3.61	4.07	3.5	0.24
3/25/2017-23:00	0.33	0.42	0.48	3.7	4.19	3.6	0.32
3/26/2017-0:00	0.41	0.5	0.57	3.79	4.3	3.69	0.41
3/26/2017-1:00	0.48	0.59	0.65	3.88	4.41	3.78	0.5
3/26/2017-2:00	0.56	0.66	0.73	3.97	4.51	3.86	0.57
3/26/2017-3:00	0.63	0.73	0.8	4.05	4.59	3.92	0.64
3/26/2017-4:00	0.68	0.79	0.85	4.12	4.66	3.98	0.69
3/26/2017-5:00	0.73	0.83	0.9	4.19	4.7	4.01	0.74
3/26/2017-6:00	0.77	0.87	0.93	4.24	4.72	4.03	0.77
3/26/2017-7:00	0.8	0.89	0.95	4.27	4.72	4.04	0.78
3/26/2017-8:00	0.82	0.9	0.96	4.29	4.7	4.03	0.79
3/26/2017-9:00	0.82	0.9	0.95	4.3	4.66	4.01	0.78
3/26/2017-10:00	0.82	0.89	0.94	4.29	4.61	3.98	0.76
3/26/2017-11:00	0.81	0.88	0.92	4.27	4.55	3.95	0.74
3/26/2017-12:00	0.8	0.86	0.89	4.25	4.48	3.91	0.71
3/26/2017-13:00	0.79	0.84	0.87	4.21	4.42	3.88	0.69
3/26/2017-14:00	0.78	0.83	0.86	4.18	4.37	3.86	0.67
3/26/2017-15:00	0.78	0.83	0.85	4.16	4.33	3.85	0.66
3/26/2017-16:00	0.78	0.84	0.86	4.14	4.32	3.87	0.67
3/26/2017-17:00	0.8	0.86	0.88	4.14	4.34	3.9	0.7
3/26/2017-18:00	0.84	0.89	0.92	4.15	4.38	3.95	0.74
3/26/2017-19:00	0.88	0.94	0.98	4.18	4.46	4.02	0.8
3/26/2017-20:00	0.95	1.01	1.05	4.23	4.56	4.11	0.87
3/26/2017-21:00	1.02	1.09	1.14	4.3	4.68	4.22	0.96
3/26/2017-22:00	1.1	1.18	1.23	4.39	4.82	4.33	1.06
3/26/2017-23:00	1.19	1.28	1.33	4.49	4.97	4.45	1.16
3/27/2017-0:00	1.28	1.37	1.44	4.59	5.12	4.56	1.27
3/27/2017-1:00	1.38	1.47	1.54	4.71	5.26	4.67	1.37
3/27/2017-2:00	1.46	1.56	1.63	4.81	5.39	4.77	1.46
3/27/2017-3:00	1.54	1.64	1.71	4.92	5.5	4.86	1.55
3/27/2017-4:00	1.61	1.71	1.78	5.01	5.59	4.93	1.62
3/27/2017-5:00	1.67	1.77	1.84	5.1	5.66	4.97	1.67
3/27/2017-6:00	1.72	1.82	1.88	5.16	5.7	5.01	1.71
3/27/2017-7:00	1.75	1.85	1.91	5.21	5.71	5.02	1.73
3/27/2017-8:00	1.78	1.86	1.92	5.24	5.69	5.01	1.74
3/27/2017-9:00	1.78	1.86	1.91	5.26	5.66	4.99	1.73
3/27/2017-10:00	1.78	1.85	1.9	5.25	5.6	4.96	1.71
3/27/2017-11:00	1.77	1.83	1.87	5.23	5.52	4.91	1.68
3/27/2017-12:00	1.75	1.81	1.84	5.2	5.44	4.86	1.65
3/27/2017-13:00	1.73	1.78	1.81	5.16	5.36	4.82	1.61
3/27/2017-14:00	1.71	1.76	1.78	5.12	5.28	4.78	1.58
3/27/2017-15:00	1.69	1.74	1.76	5.08	5.22	4.75	1.56
3/27/2017-16:00	1.69	1.73	1.74	5.04	5.18	4.74	1.55
3/27/2017-17:00	1.69	1.73	1.75	5.02	5.16	4.75	1.55
3/27/2017-18:00	1.7	1.75	1.77	5.01	5.17	4.78	1.57
3/27/2017-19:00	1.73	1.78	1.8	5.02	5.21	4.82	1.61
3/27/2017-20:00	1.77	1.82	1.85	5.04	5.28	4.89	1.66
3/27/2017-21:00	1.83	1.88	1.91	5.08	5.36	4.97	1.73
3/27/2017-22:00	1.89	1.95	1.99	5.14	5.46	5.05	1.8
3/27/2017-23:00	1.96	2.02	2.06	5.21	5.58	5.14	1.88

3/28/2017-0:00	2.02	2.1	2.14	5.28	5.69	5.23	1.96
3/28/2017-1:00	2.09	2.17	2.22	5.36	5.8	5.32	2.04
3/28/2017-2:00	2.16	2.24	2.29	5.44	5.9	5.39	2.11
3/28/2017-3:00	2.22	2.3	2.35	5.52	5.98	5.46	2.17
3/28/2017-4:00	2.27	2.35	2.4	5.59	6.04	5.5	2.23
3/28/2017-5:00	2.31	2.39	2.44	5.64	6.09	5.54	2.26
3/28/2017-6:00	2.35	2.42	2.47	5.69	6.11	5.56	2.29
3/28/2017-7:00	2.37	2.44	2.48	5.72	6.11	5.56	2.3
3/28/2017-8:00	2.38	2.45	2.48	5.74	6.08	5.55	2.3
3/28/2017-9:00	2.38	2.44	2.47	5.74	6.04	5.52	2.29
3/28/2017-10:00	2.37	2.43	2.46	5.72	5.99	5.49	2.27
3/28/2017-11:00	2.35	2.41	2.43	5.7	5.92	5.45	2.24
3/28/2017-12:00	2.33	2.38	2.4	5.67	5.84	5.4	2.2
3/28/2017-13:00	2.31	2.35	2.37	5.63	5.77	5.36	2.17
3/28/2017-14:00	2.29	2.33	2.34	5.59	5.7	5.33	2.15
3/28/2017-15:00	2.28	2.31	2.33	5.55	5.66	5.31	2.13
3/28/2017-16:00	2.28	2.31	2.32	5.52	5.63	5.31	2.12
3/28/2017-17:00	2.28	2.32	2.33	5.5	5.63	5.32	2.13
3/28/2017-18:00	2.3	2.34	2.36	5.5	5.65	5.36	2.16
3/28/2017-19:00	2.34	2.38	2.4	5.52	5.71	5.42	2.21
3/28/2017-20:00	2.39	2.43	2.46	5.55	5.79	5.5	2.27
3/28/2017-21:00	2.45	2.5	2.53	5.61	5.9	5.59	2.35
3/28/2017-22:00	2.52	2.58	2.61	5.68	6.02	5.69	2.44
3/28/2017-23:00	2.6	2.66	2.71	5.76	6.16	5.8	2.53
3/29/2017-0:00	2.68	2.75	2.8	5.86	6.3	5.91	2.63
3/29/2017-1:00	2.77	2.84	2.9	5.96	6.44	6.02	2.73
3/29/2017-2:00	2.85	2.93	2.99	6.07	6.57	6.12	2.82
3/29/2017-3:00	2.93	3.01	3.07	6.17	6.69	6.21	2.9
3/29/2017-4:00	3	3.09	3.15	6.26	6.8	6.28	2.98
3/29/2017-5:00	3.07	3.15	3.21	6.35	6.88	6.35	3.04
3/29/2017-6:00	3.12	3.21	3.27	6.43	6.95	6.4	3.1
3/29/2017-7:00	3.17	3.25	3.31	6.5	6.99	6.43	3.14
3/29/2017-8:00	3.2	3.29	3.34	6.55	7.01	6.45	3.17
3/29/2017-9:00	3.23	3.31	3.36	6.59	7.02	6.46	3.18
3/29/2017-10:00	3.25	3.32	3.37	6.61	7	6.46	3.19
3/29/2017-11:00	3.26	3.33	3.37	6.63	6.98	6.45	3.19
3/29/2017-12:00	3.27	3.33	3.37	6.63	6.95	6.44	3.19
3/29/2017-13:00	3.27	3.34	3.37	6.63	6.92	6.43	3.18
3/29/2017-14:00	3.28	3.34	3.37	6.63	6.9	6.43	3.19
3/29/2017-15:00	3.3	3.36	3.39	6.64	6.9	6.45	3.2
3/29/2017-16:00	3.33	3.39	3.42	6.65	6.92	6.48	3.23
3/29/2017-17:00	3.37	3.43	3.46	6.67	6.97	6.53	3.28
3/29/2017-18:00	3.42	3.48	3.52	6.72	7.04	6.61	3.34
3/29/2017-19:00	3.48	3.56	3.6	6.78	7.14	6.7	3.42
3/29/2017-20:00	3.57	3.64	3.69	6.86	7.28	6.82	3.52
3/29/2017-21:00	3.66	3.75	3.8	6.96	7.43	6.95	3.63
3/29/2017-22:00	3.77	3.86	3.92	7.07	7.61	7.09	3.75
3/29/2017-23:00	3.88	3.98	4.05	7.2	7.79	7.24	3.88
3/30/2017-0:00	3.99	4.1	4.18	7.34	7.98	7.38	4.02
3/30/2017-1:00	4.11	4.22	4.3	7.49	8.17	7.53	4.15
3/30/2017-2:00	4.23	4.34	4.43	7.64	8.34	7.66	4.27
3/30/2017-3:00	4.33	4.46	4.54	7.78	8.5	7.78	4.38
3/30/2017-4:00	4.43	4.56	4.64	7.91	8.64	7.88	4.49



3/30/2017-5:00	4.52	4.65	4.73	8.04	8.75	7.97	4.58
3/30/2017-6:00	4.6	4.73	4.81	8.15	8.84	8.04	4.65
3/30/2017-7:00	4.67	4.79	4.87	8.24	8.91	8.09	4.71
3/30/2017-8:00	4.72	4.84	4.92	8.32	8.94	8.12	4.75
3/30/2017-9:00	4.76	4.88	4.95	8.38	8.96	8.14	4.78
3/30/2017-10:00	4.8	4.9	4.97	8.42	8.95	8.14	4.8
3/30/2017-11:00	4.82	4.92	4.98	8.45	8.93	8.14	4.8
3/30/2017-12:00	4.84	4.93	4.99	8.46	8.9	8.13	4.81
3/30/2017-13:00	4.85	4.94	4.99	8.47	8.87	8.13	4.81
3/30/2017-14:00	4.87	4.95	5	8.48	8.85	8.13	4.82
3/30/2017-15:00	4.89	4.97	5.02	8.49	8.84	8.15	4.84
3/30/2017-16:00	4.92	5	5.05	8.5	8.85	8.18	4.86
3/30/2017-17:00	4.96	5.04	5.09	8.53	8.89	8.23	4.91
3/30/2017-18:00	5.01	5.1	5.15	8.57	8.95	8.3	4.97
3/30/2017-19:00	5.08	5.17	5.23	8.62	9.04	8.38	5.04
3/30/2017-20:00	5.16	5.25	5.32	8.7	9.16	8.49	5.14
3/30/2017-21:00	5.25	5.35	5.42	8.79	9.3	8.61	5.24
3/30/2017-22:00	5.35	5.46	5.53	8.89	9.45	8.74	5.35
3/30/2017-23:00	5.45	5.57	5.64	9.01	9.61	8.87	5.47
3/31/2017-0:00	5.56	5.68	5.76	9.14	9.78	9	5.59
3/31/2017-1:00	5.67	5.79	5.88	9.26	9.94	9.12	5.71
3/31/2017-2:00	5.77	5.9	5.99	9.39	10.08	9.24	5.82
3/31/2017-3:00	5.87	5.99	6.08	9.51	10.21	9.34	5.92
3/31/2017-4:00	5.95	6.08	6.17	9.63	10.32	9.42	6
3/31/2017-5:00	6.03	6.16	6.24	9.73	10.4	9.49	6.07
3/31/2017-6:00	6.09	6.22	6.3	9.81	10.46	9.54	6.13
3/31/2017-7:00	6.15	6.27	6.35	9.88	10.49	9.57	6.17
3/31/2017-8:00	6.19	6.3	6.38	9.93	10.5	9.58	6.2
3/31/2017-9:00	6.21	6.33	6.4	9.97	10.49	9.58	6.21
3/31/2017-10:00	6.23	6.34	6.4	9.99	10.46	9.57	6.22
3/31/2017-11:00	6.24	6.34	6.4	10	10.42	9.55	6.21
3/31/2017-12:00	6.25	6.34	6.4	9.99	10.36	9.53	6.2
3/31/2017-13:00	6.25	6.34	6.39	9.98	10.31	9.51	6.19
3/31/2017-14:00	6.25	6.34	6.39	9.96	10.27	9.5	6.19
3/31/2017-15:00	6.26	6.34	6.39	9.95	10.24	9.5	6.19
3/31/2017-16:00	6.28	6.36	6.4	9.94	10.23	9.51	6.21
3/31/2017-17:00	6.3	6.38	6.43	9.95	10.23	9.54	6.23
3/31/2017-18:00	6.34	6.42	6.47	9.96	10.27	9.59	6.27
3/31/2017-19:00	6.38	6.47	6.52	9.99	10.32	9.65	6.33
3/31/2017-20:00	6.44	6.53	6.58	10.03	10.4	9.72	6.39
3/31/2017-21:00	6.51	6.6	6.66	10.09	10.5	9.81	6.47
3/31/2017-22:00	6.58	6.68	6.74	10.16	10.6	9.91	6.56
3/31/2017-23:00	6.66	6.76	6.83	10.24	10.72	10	6.65
4/1/2017-0:00	6.74	6.85	6.92	10.33	10.84	10.1	6.74
4/1/2017-1:00	6.82	6.93	7	10.42	10.95	10.19	6.82
4/1/2017-2:00	6.89	7.01	7.08	10.5	11.05	10.27	6.9
4/1/2017-3:00	6.96	7.07	7.15	10.58	11.13	10.34	6.97
4/1/2017-4:00	7.02	7.13	7.21	10.66	11.2	10.39	7.03
4/1/2017-5:00	7.07	7.18	7.25	10.72	11.24	10.43	7.07
4/1/2017-6:00	7.11	7.22	7.29	10.77	11.26	10.45	7.11
4/1/2017-7:00	7.14	7.24	7.31	10.8	11.26	10.46	7.12
4/1/2017-8:00	7.16	7.26	7.32	10.82	11.24	10.45	7.13
4/1/2017-9:00	7.17	7.26	7.31	10.83	11.2	10.43	7.12

4/1/2017-10:00	7.17	7.25	7.3	10.82	11.14	10.4	7.11
4/1/2017-11:00	7.16	7.24	7.28	10.8	11.08	10.37	7.09
4/1/2017-12:00	7.15	7.22	7.26	10.77	11.02	10.34	7.07
4/1/2017-13:00	7.14	7.21	7.25	10.74	10.96	10.31	7.05
4/1/2017-14:00	7.14	7.21	7.24	10.72	10.92	10.3	7.04
4/1/2017-15:00	7.15	7.21	7.25	10.7	10.9	10.31	7.05
4/1/2017-16:00	7.17	7.23	7.27	10.69	10.9	10.33	7.07
4/1/2017-17:00	7.2	7.27	7.31	10.7	10.94	10.38	7.12
4/1/2017-18:00	7.25	7.32	7.37	10.73	11.01	10.46	7.18
4/1/2017-19:00	7.32	7.4	7.45	10.78	11.12	10.56	7.26
4/1/2017-20:00	7.4	7.49	7.55	10.86	11.26	10.68	7.36
4/1/2017-21:00	7.5	7.59	7.66	10.95	11.42	10.81	7.48
4/1/2017-22:00	7.61	7.71	7.79	11.07	11.6	10.96	7.61
4/1/2017-23:00	7.73	7.84	7.92	11.2	11.8	11.12	7.75
4/2/2017-0:00	7.85	7.97	8.06	11.34	12	11.27	7.89
4/2/2017-1:00	7.97	8.1	8.19	11.49	12.19	11.42	8.03
4/2/2017-2:00	8.09	8.22	8.32	11.64	12.37	11.55	8.16
4/2/2017-3:00	8.2	8.34	8.43	11.79	12.52	11.67	8.27
4/2/2017-4:00	8.3	8.44	8.54	11.92	12.66	11.77	8.37
4/2/2017-5:00	8.39	8.53	8.63	12.04	12.76	11.85	8.46
4/2/2017-6:00	8.47	8.6	8.7	12.14	12.84	11.91	8.53
4/2/2017-7:00	8.53	8.66	8.75	12.23	12.89	11.95	8.58
4/2/2017-8:00	8.58	8.7	8.79	12.29	12.91	11.98	8.61
4/2/2017-9:00	8.61	8.73	8.81	12.34	12.9	11.98	8.63
4/2/2017-10:00	8.63	8.75	8.82	12.37	12.87	11.97	8.63
4/2/2017-11:00	8.64	8.75	8.82	12.38	12.83	11.95	8.63
4/2/2017-12:00	8.65	8.75	8.81	12.38	12.77	11.92	8.62
4/2/2017-13:00	8.66	8.75	8.81	12.37	12.72	11.9	8.61
4/2/2017-14:00	8.66	8.75	8.8	12.36	12.68	11.89	8.61
4/2/2017-15:00	8.68	8.76	8.81	12.35	12.66	11.9	8.61
4/2/2017-16:00	8.7	8.79	8.84	12.35	12.66	11.93	8.64
4/2/2017-17:00	8.74	8.82	8.88	12.37	12.69	11.97	8.68
4/2/2017-18:00	8.79	8.88	8.93	12.4	12.75	12.04	8.74
4/2/2017-19:00	8.86	8.95	9.01	12.45	12.85	12.14	8.82
4/2/2017-20:00	8.94	9.04	9.11	12.53	12.98	12.26	8.92
4/2/2017-21:00	9.04	9.15	9.22	12.62	13.13	12.39	9.04
4/2/2017-22:00	9.15	9.27	9.35	12.74	13.31	12.54	9.17
4/2/2017-23:00	9.27	9.4	9.48	12.87	13.5	12.69	9.3
4/3/2017-0:00	9.4	9.53	9.62	13.01	13.7	12.85	9.44
4/3/2017-1:00	9.52	9.66	9.75	13.16	13.89	13	9.58
4/3/2017-2:00	9.64	9.78	9.88	13.31	14.07	13.13	9.71
4/3/2017-3:00	9.75	9.9	10	13.45	14.22	13.25	9.83
4/3/2017-4:00	9.85	10	10.1	13.59	14.36	13.35	9.93
4/3/2017-5:00	9.94	10.09	10.19	13.71	14.46	13.43	10.01
4/3/2017-6:00	10.02	10.16	10.26	13.81	14.53	13.49	10.08
4/3/2017-7:00	10.08	10.22	10.31	13.89	14.57	13.53	10.13
4/3/2017-8:00	10.12	10.25	10.34	13.96	14.58	13.54	10.16
4/3/2017-9:00	10.15	10.28	10.36	14	14.56	13.54	10.17
4/3/2017-10:00	10.17	10.28	10.36	14.01	14.52	13.51	10.16
4/3/2017-11:00	10.17	10.28	10.35	14.02	14.46	13.48	10.15
4/3/2017-12:00	10.17	10.27	10.33	14	14.39	13.45	10.13
4/3/2017-13:00	10.16	10.25	10.31	13.98	14.31	13.41	10.1
4/3/2017-14:00	10.15	10.24	10.29	13.95	14.24	13.38	10.08

4/3/2017-15:00	10.15	10.24	10.29	13.92	14.19	13.37	10.08
4/3/2017-16:00	10.16	10.24	10.29	13.9	14.16	13.37	10.08
4/3/2017-17:00	10.18	10.27	10.31	13.9	14.16	13.4	10.1
4/3/2017-18:00	10.22	10.3	10.35	13.9	14.19	13.45	10.14
4/3/2017-19:00	10.27	10.36	10.41	13.93	14.26	13.52	10.21
4/3/2017-20:00	10.33	10.43	10.48	13.98	14.35	13.61	10.28
4/3/2017-21:00	10.41	10.51	10.58	14.05	14.47	13.72	10.38
4/3/2017-22:00	10.5	10.61	10.68	14.13	14.62	13.85	10.49
4/3/2017-23:00	10.6	10.72	10.79	14.24	14.78	13.98	10.61
4/4/2017-0:00	10.71	10.83	10.91	14.35	14.94	14.11	10.73
4/4/2017-1:00	10.81	10.94	11.02	14.47	15.1	14.23	10.84
4/4/2017-2:00	10.91	11.04	11.13	14.59	15.24	14.34	10.95
4/4/2017-3:00	11	11.13	11.22	14.7	15.36	14.44	11.04
4/4/2017-4:00	11.08	11.21	11.3	14.81	15.46	14.51	11.12
4/4/2017-5:00	11.15	11.28	11.37	14.89	15.53	14.56	11.18
4/4/2017-6:00	11.2	11.33	11.41	14.97	15.56	14.59	11.22
4/4/2017-7:00	11.24	11.36	11.44	15.02	15.57	14.6	11.24
4/4/2017-8:00	11.26	11.37	11.45	15.05	15.54	14.59	11.25
4/4/2017-9:00	11.27	11.37	11.44	15.05	15.49	14.56	11.24
4/4/2017-10:00	11.26	11.36	11.42	15.04	15.42	14.52	11.21
4/4/2017-11:00	11.25	11.34	11.39	15.02	15.33	14.47	11.18
4/4/2017-12:00	11.23	11.31	11.36	14.98	15.25	14.42	11.15
4/4/2017-13:00	11.21	11.29	11.33	14.94	15.16	14.38	11.12
4/4/2017-14:00	11.2	11.27	11.31	14.9	15.09	14.35	11.09
4/4/2017-15:00	11.2	11.27	11.3	14.86	15.05	14.35	11.09
4/4/2017-16:00	11.2	11.27	11.31	14.84	15.03	14.36	11.1
4/4/2017-17:00	11.23	11.3	11.34	14.83	15.05	14.4	11.13
4/4/2017-18:00	11.27	11.35	11.39	14.85	15.11	14.47	11.18
4/4/2017-19:00	11.33	11.42	11.47	14.89	15.21	14.56	11.26
4/4/2017-20:00	11.42	11.51	11.56	14.96	15.34	14.68	11.36
4/4/2017-21:00	11.51	11.61	11.68	15.05	15.51	14.82	11.48
4/4/2017-22:00	11.62	11.73	11.8	15.17	15.69	14.97	11.62
4/4/2017-23:00	11.74	11.86	11.94	15.3	15.89	15.13	11.76
4/5/2017-0:00	11.87	11.99	12.08	15.44	16.1	15.29	11.9
4/5/2017-1:00	11.99	12.12	12.22	15.59	16.3	15.44	12.04
4/5/2017-2:00	12.11	12.25	12.34	15.74	16.48	15.58	12.17
4/5/2017-3:00	12.22	12.36	12.46	15.88	16.63	15.7	12.28
4/5/2017-4:00	12.32	12.46	12.56	16.02	16.76	15.79	12.38
4/5/2017-5:00	12.4	12.54	12.64	16.13	16.85	15.86	12.46
4/5/2017-6:00	12.46	12.6	12.69	16.22	16.91	15.91	12.51
4/5/2017-7:00	12.51	12.65	12.73	16.3	16.93	15.93	12.55
4/5/2017-8:00	12.55	12.67	12.75	16.34	16.92	15.93	12.56
4/5/2017-9:00	12.56	12.68	12.75	16.37	16.88	15.9	12.56
4/5/2017-10:00	12.56	12.67	12.74	16.37	16.82	15.87	12.54
4/5/2017-11:00	12.56	12.66	12.72	16.36	16.74	15.82	12.51
4/5/2017-12:00	12.54	12.64	12.69	16.33	16.65	15.77	12.48
4/5/2017-13:00	12.53	12.61	12.66	16.29	16.56	15.73	12.45
4/5/2017-14:00	12.52	12.6	12.64	16.25	16.49	15.7	12.42
4/5/2017-15:00	12.51	12.59	12.63	16.22	16.43	15.68	12.41
4/5/2017-16:00	12.51	12.59	12.63	16.19	16.4	15.68	12.42
4/5/2017-17:00	12.53	12.61	12.65	16.18	16.4	15.71	12.44
4/5/2017-18:00	12.56	12.64	12.69	16.18	16.43	15.76	12.48
4/5/2017-19:00	12.61	12.69	12.74	16.2	16.49	15.82	12.53

4/5/2017-20:00	12.67	12.76	12.81	16.25	16.58	15.91	12.6
4/5/2017-21:00	12.74	12.83	12.89	16.31	16.69	16.01	12.69
4/5/2017-22:00	12.82	12.92	12.98	16.38	16.81	16.11	12.79
4/5/2017-23:00	12.91	13.01	13.08	16.47	16.94	16.22	12.88
4/6/2017-0:00	12.99	13.1	13.17	16.56	17.08	16.33	12.98
4/6/2017-1:00	13.08	13.19	13.26	16.66	17.2	16.42	13.07
4/6/2017-2:00	13.15	13.27	13.34	16.75	17.3	16.51	13.15
4/6/2017-3:00	13.22	13.34	13.41	16.84	17.39	16.57	13.22
4/6/2017-4:00	13.28	13.39	13.46	16.91	17.44	16.62	13.27
4/6/2017-5:00	13.32	13.43	13.5	16.97	17.47	16.64	13.31
4/6/2017-6:00	13.35	13.46	13.52	17	17.47	16.65	13.33
4/6/2017-7:00	13.37	13.47	13.53	17.02	17.45	16.63	13.33
4/6/2017-8:00	13.37	13.46	13.51	17.03	17.39	16.6	13.31
4/6/2017-9:00	13.35	13.44	13.49	17.01	17.31	16.55	13.28
4/6/2017-10:00	13.33	13.41	13.45	16.97	17.22	16.49	13.24
4/6/2017-11:00	13.3	13.37	13.41	16.92	17.11	16.43	13.19
4/6/2017-12:00	13.27	13.33	13.36	16.86	17	16.36	13.14
4/6/2017-13:00	13.24	13.29	13.32	16.8	16.9	16.31	13.1
4/6/2017-14:00	13.21	13.26	13.28	16.74	16.82	16.27	13.06
4/6/2017-15:00	13.19	13.24	13.26	16.69	16.76	16.24	13.04
4/6/2017-16:00	13.19	13.23	13.26	16.64	16.73	16.24	13.04
4/6/2017-17:00	13.2	13.25	13.27	16.62	16.73	16.27	13.06
4/6/2017-18:00	13.22	13.28	13.31	16.62	16.77	16.32	13.1
4/6/2017-19:00	13.27	13.33	13.37	16.64	16.84	16.4	13.16
4/6/2017-20:00	13.33	13.4	13.45	16.69	16.96	16.5	13.25
4/6/2017-21:00	13.42	13.49	13.54	16.76	17.1	16.62	13.35
4/6/2017-22:00	13.51	13.6	13.66	16.85	17.26	16.75	13.47
4/6/2017-23:00	13.62	13.71	13.78	16.97	17.45	16.9	13.59
4/7/2017-0:00	13.73	13.83	13.9	17.09	17.63	17.04	13.72
4/7/2017-1:00	13.84	13.95	14.02	17.22	17.81	17.18	13.85
4/7/2017-2:00	13.94	14.06	14.14	17.35	17.97	17.3	13.96
4/7/2017-3:00	14.04	14.16	14.24	17.48	18.12	17.4	14.07
4/7/2017-4:00	14.13	14.25	14.33	17.6	18.23	17.49	14.15
4/7/2017-5:00	14.2	14.32	14.4	17.7	18.32	17.55	14.22
4/7/2017-6:00	14.26	14.37	14.45	17.78	18.37	17.59	14.27
4/7/2017-7:00	14.3	14.41	14.49	17.85	18.39	17.61	14.3
4/7/2017-8:00	14.33	14.44	14.5	17.89	18.38	17.61	14.31
4/7/2017-9:00	14.34	14.44	14.5	17.91	18.35	17.59	14.31
4/7/2017-10:00	14.34	14.43	14.49	17.91	18.29	17.55	14.29
4/7/2017-11:00	14.33	14.42	14.47	17.9	18.21	17.51	14.26
4/7/2017-12:00	14.32	14.4	14.44	17.87	18.13	17.46	14.23
4/7/2017-13:00	14.3	14.38	14.41	17.83	18.05	17.42	14.2
4/7/2017-14:00	14.29	14.36	14.39	17.8	17.98	17.39	14.18
4/7/2017-15:00	14.29	14.35	14.38	17.76	17.93	17.38	14.17
4/7/2017-16:00	14.29	14.35	14.38	17.74	17.9	17.38	14.17
4/7/2017-17:00	14.31	14.37	14.4	17.73	17.91	17.4	14.19
4/7/2017-18:00	14.33	14.4	14.43	17.73	17.94	17.45	14.22
4/7/2017-19:00	14.38	14.45	14.48	17.75	18	17.51	14.28
4/7/2017-20:00	14.44	14.51	14.55	17.8	18.09	17.6	14.35
4/7/2017-21:00	14.51	14.59	14.63	17.86	18.2	17.7	14.44
4/7/2017-22:00	14.59	14.67	14.73	17.94	18.33	17.8	14.53
4/7/2017-23:00	14.67	14.76	14.82	18.02	18.47	17.92	14.63
4/8/2017-0:00	14.76	14.86	14.92	18.12	18.6	18.02	14.73

4/8/2017-1:00	14.84	14.94	15.01	18.22	18.73	18.12	14.82
4/8/2017-2:00	14.92	15.02	15.09	18.32	18.84	18.2	14.9
4/8/2017-3:00	14.99	15.09	15.16	18.4	18.92	18.26	14.97
4/8/2017-4:00	15.04	15.14	15.21	18.47	18.98	18.31	15.02
4/8/2017-5:00	15.08	15.18	15.24	18.53	19	18.32	15.05
4/8/2017-6:00	15.11	15.2	15.25	18.56	18.99	18.32	15.05
4/8/2017-7:00	15.11	15.2	15.25	18.58	18.95	18.29	15.04
4/8/2017-8:00	15.1	15.18	15.22	18.57	18.88	18.24	15.01
4/8/2017-9:00	15.08	15.14	15.18	18.53	18.77	18.17	14.97
4/8/2017-10:00	15.04	15.1	15.12	18.48	18.65	18.09	14.91
4/8/2017-11:00	14.99	15.04	15.05	18.41	18.51	18	14.84
4/8/2017-12:00	14.94	14.97	14.98	18.33	18.37	17.91	14.76
4/8/2017-13:00	14.88	14.91	14.91	18.24	18.23	17.82	14.69
4/8/2017-14:00	14.83	14.85	14.85	18.15	18.1	17.75	14.63
4/8/2017-15:00	14.78	14.8	14.8	18.06	18	17.69	14.57
4/8/2017-16:00	14.75	14.77	14.76	17.98	17.91	17.65	14.54
4/8/2017-17:00	14.72	14.74	14.74	17.92	17.86	17.63	14.52
4/8/2017-18:00	14.72	14.74	14.74	17.88	17.85	17.64	14.52
4/8/2017-19:00	14.73	14.75	14.76	17.85	17.87	17.67	14.54
4/8/2017-20:00	14.75	14.78	14.79	17.85	17.92	17.73	14.58
4/8/2017-21:00	14.79	14.83	14.85	17.87	17.99	17.8	14.64
4/8/2017-22:00	14.85	14.89	14.91	17.91	18.09	17.88	14.71
4/8/2017-23:00	14.91	14.96	14.98	17.97	18.21	17.97	14.79
4/9/2017-0:00	14.97	15.03	15.06	18.03	18.32	18.06	14.87
4/9/2017-1:00	15.03	15.09	15.13	18.11	18.43	18.14	14.94
4/9/2017-2:00	15.09	15.16	15.2	18.18	18.52	18.21	15.01
4/9/2017-3:00	15.14	15.21	15.25	18.24	18.6	18.26	15.06
4/9/2017-4:00	15.18	15.25	15.28	18.3	18.64	18.29	15.1
4/9/2017-5:00	15.2	15.27	15.3	18.33	18.66	18.3	15.12
4/9/2017-6:00	15.21	15.27	15.3	18.35	18.64	18.29	15.11
4/9/2017-7:00	15.21	15.26	15.29	18.35	18.6	18.25	15.09
4/9/2017-8:00	15.18	15.23	15.25	18.33	18.52	18.19	15.05
4/9/2017-9:00	15.15	15.19	15.2	18.29	18.41	18.12	15
4/9/2017-10:00	15.1	15.13	15.13	18.23	18.28	18.03	14.93
4/9/2017-11:00	15.04	15.06	15.06	18.15	18.14	17.93	14.85
4/9/2017-12:00	14.98	14.99	14.98	18.06	18	17.84	14.77
4/9/2017-13:00	14.92	14.92	14.91	17.97	17.87	17.75	14.7
4/9/2017-14:00	14.86	14.86	14.85	17.87	17.75	17.68	14.63
4/9/2017-15:00	14.82	14.81	14.8	17.79	17.65	17.63	14.58
4/9/2017-16:00	14.78	14.78	14.76	17.72	17.59	17.6	14.55
4/9/2017-17:00	14.77	14.77	14.75	17.66	17.56	17.6	14.54
4/9/2017-18:00	14.77	14.77	14.76	17.63	17.57	17.62	14.56
4/9/2017-19:00	14.79	14.8	14.8	17.63	17.62	17.68	14.6
4/9/2017-20:00	14.83	14.85	14.85	17.65	17.71	17.76	14.66
4/9/2017-21:00	14.89	14.92	14.93	17.69	17.83	17.86	14.74
4/9/2017-22:00	14.96	15	15.02	17.76	17.98	17.98	14.84
4/9/2017-23:00	15.05	15.1	15.12	17.85	18.14	18.1	14.95
4/10/2017-0:00	15.14	15.2	15.23	17.96	18.31	18.23	15.06
4/10/2017-1:00	15.23	15.3	15.34	18.07	18.48	18.35	15.17
4/10/2017-2:00	15.32	15.39	15.44	18.19	18.64	18.47	15.27
4/10/2017-3:00	15.41	15.48	15.53	18.31	18.78	18.56	15.37
4/10/2017-4:00	15.48	15.56	15.61	18.41	18.89	18.64	15.44
4/10/2017-5:00	15.54	15.62	15.67	18.5	18.97	18.69	15.5

4/10/2017-6:00	15.59	15.66	15.71	18.58	19.02	18.73	15.54
4/10/2017-7:00	15.62	15.69	15.73	18.63	19.04	18.74	15.56
4/10/2017-8:00	15.64	15.7	15.74	18.67	19.03	18.73	15.57
4/10/2017-9:00	15.64	15.7	15.73	18.68	18.99	18.7	15.55
4/10/2017-10:00	15.63	15.68	15.71	18.68	18.93	18.66	15.53
4/10/2017-11:00	15.61	15.66	15.68	18.66	18.85	18.61	15.49
4/10/2017-12:00	15.59	15.63	15.64	18.63	18.77	18.56	15.46
4/10/2017-13:00	15.57	15.6	15.61	18.59	18.69	18.51	15.42
4/10/2017-14:00	15.54	15.57	15.58	18.54	18.62	18.47	15.39
4/10/2017-15:00	15.53	15.55	15.56	18.5	18.56	18.45	15.36
4/10/2017-16:00	15.52	15.54	15.55	18.47	18.53	18.44	15.35
4/10/2017-17:00	15.52	15.55	15.55	18.45	18.52	18.45	15.36
4/10/2017-18:00	15.54	15.56	15.57	18.45	18.53	18.48	15.38
4/10/2017-19:00	15.56	15.59	15.61	18.46	18.57	18.52	15.42
4/10/2017-20:00	15.6	15.64	15.65	18.48	18.64	18.58	15.47
4/10/2017-21:00	15.65	15.69	15.71	18.52	18.72	18.65	15.53
4/10/2017-22:00	15.7	15.75	15.77	18.57	18.81	18.73	15.59
4/10/2017-23:00	15.76	15.81	15.84	18.63	18.91	18.8	15.66
4/11/2017-0:00	15.82	15.87	15.9	18.7	19	18.87	15.72
4/11/2017-1:00	15.87	15.92	15.95	18.76	19.08	18.93	15.78
4/11/2017-2:00	15.91	15.97	16	18.82	19.14	18.97	15.82
4/11/2017-3:00	15.95	16	16.03	18.87	19.17	19	15.85
4/11/2017-4:00	15.97	16.02	16.05	18.9	19.18	19	15.87
4/11/2017-5:00	15.98	16.02	16.05	18.92	19.17	18.99	15.87
4/11/2017-6:00	15.97	16.01	16.03	18.91	19.12	18.95	15.84
4/11/2017-7:00	15.95	15.98	15.99	18.89	19.04	18.89	15.8
4/11/2017-8:00	15.91	15.94	15.94	18.85	18.94	18.82	15.75
4/11/2017-9:00	15.86	15.88	15.87	18.79	18.81	18.73	15.68
4/11/2017-10:00	15.8	15.81	15.8	18.71	18.67	18.63	15.6
4/11/2017-11:00	15.73	15.73	15.71	18.62	18.52	18.52	15.51
4/11/2017-12:00	15.66	15.65	15.63	18.51	18.37	18.42	15.42
4/11/2017-13:00	15.59	15.58	15.55	18.41	18.22	18.33	15.34
4/11/2017-14:00	15.53	15.51	15.47	18.3	18.09	18.25	15.27
4/11/2017-15:00	15.47	15.45	15.42	18.21	17.99	18.19	15.21
4/11/2017-16:00	15.43	15.41	15.38	18.13	17.92	18.15	15.17
4/11/2017-17:00	15.41	15.39	15.36	18.07	17.89	18.14	15.16
4/11/2017-18:00	15.4	15.38	15.36	18.03	17.89	18.16	15.16
4/11/2017-19:00	15.41	15.4	15.38	18.01	17.93	18.2	15.19
4/11/2017-20:00	15.44	15.44	15.42	18.02	18	18.27	15.24
4/11/2017-21:00	15.49	15.49	15.49	18.05	18.11	18.35	15.31
4/11/2017-22:00	15.54	15.56	15.56	18.11	18.24	18.45	15.39
4/11/2017-23:00	15.61	15.64	15.65	18.18	18.38	18.56	15.48
4/12/2017-0:00	15.69	15.72	15.74	18.27	18.53	18.67	15.57
4/12/2017-1:00	15.76	15.8	15.83	18.36	18.67	18.77	15.67
4/12/2017-2:00	15.84	15.88	15.91	18.46	18.8	18.86	15.75
4/12/2017-3:00	15.9	15.95	15.97	18.55	18.91	18.93	15.82
4/12/2017-4:00	15.95	16	16.03	18.63	18.99	18.98	15.87
4/12/2017-5:00	15.99	16.04	16.06	18.69	19.04	19.01	15.9
4/12/2017-6:00	16.01	16.06	16.08	18.74	19.05	19.01	15.92
4/12/2017-7:00	16.02	16.06	16.08	18.76	19.03	18.99	15.91
4/12/2017-8:00	16.01	16.04	16.06	18.77	18.98	18.95	15.89
4/12/2017-9:00	15.99	16.01	16.02	18.75	18.9	18.89	15.84
4/12/2017-10:00	15.95	15.97	15.96	18.71	18.79	18.81	15.79

4/12/2017-11:00	15.9	15.91	15.9	18.65	18.68	18.73	15.72
4/12/2017-12:00	15.85	15.86	15.84	18.59	18.56	18.65	15.66
4/12/2017-13:00	15.81	15.8	15.78	18.52	18.45	18.59	15.6
4/12/2017-14:00	15.77	15.76	15.74	18.45	18.36	18.53	15.55
4/12/2017-15:00	15.74	15.73	15.71	18.39	18.3	18.5	15.52
4/12/2017-16:00	15.72	15.72	15.7	18.35	18.27	18.5	15.51
4/12/2017-17:00	15.73	15.72	15.71	18.32	18.28	18.53	15.53
4/12/2017-18:00	15.75	15.75	15.74	18.32	18.33	18.58	15.57
4/12/2017-19:00	15.79	15.8	15.8	18.35	18.43	18.66	15.63
4/12/2017-20:00	15.86	15.88	15.88	18.41	18.56	18.77	15.72
4/12/2017-21:00	15.94	15.97	15.98	18.49	18.72	18.9	15.82
4/12/2017-22:00	16.04	16.08	16.1	18.6	18.91	19.05	15.95
4/12/2017-23:00	16.14	16.19	16.23	18.73	19.12	19.2	16.08
4/13/2017-0:00	16.26	16.32	16.36	18.87	19.32	19.36	16.21
4/13/2017-1:00	16.37	16.44	16.48	19.01	19.53	19.5	16.34
4/13/2017-2:00	16.48	16.55	16.6	19.16	19.71	19.63	16.46
4/13/2017-3:00	16.58	16.65	16.71	19.3	19.87	19.74	16.57
4/13/2017-4:00	16.66	16.74	16.8	19.43	20.01	19.83	16.66
4/13/2017-5:00	16.74	16.82	16.87	19.55	20.1	19.9	16.73
4/13/2017-6:00	16.79	16.87	16.92	19.64	20.17	19.94	16.78
4/13/2017-7:00	16.83	16.91	16.95	19.71	20.19	19.95	16.8
4/13/2017-8:00	16.85	16.92	16.96	19.76	20.18	19.94	16.81
4/13/2017-9:00	16.86	16.92	16.96	19.79	20.14	19.92	16.8
4/13/2017-10:00	16.85	16.91	16.93	19.79	20.08	19.87	16.77
4/13/2017-11:00	16.84	16.88	16.9	19.77	20	19.82	16.74
4/13/2017-12:00	16.82	16.86	16.87	19.74	19.92	19.77	16.7
4/13/2017-13:00	16.8	16.83	16.84	19.71	19.84	19.73	16.66
4/13/2017-14:00	16.78	16.81	16.81	19.67	19.78	19.69	16.64
4/13/2017-15:00	16.77	16.8	16.8	19.64	19.73	19.68	16.62
4/13/2017-16:00	16.77	16.8	16.8	19.63	19.72	19.69	16.63
4/13/2017-17:00	16.79	16.82	16.82	19.62	19.73	19.72	16.65
4/13/2017-18:00	16.83	16.86	16.87	19.64	19.78	19.77	16.69
4/13/2017-19:00	16.88	16.91	16.93	19.67	19.87	19.85	16.76
4/13/2017-20:00	16.94	16.98	17	19.73	19.98	19.95	16.84
4/13/2017-21:00	17.02	17.07	17.1	19.81	20.12	20.07	16.93
4/13/2017-22:00	17.11	17.17	17.2	19.91	20.28	20.19	17.04
4/13/2017-23:00	17.21	17.27	17.31	20.02	20.45	20.32	17.16
4/14/2017-0:00	17.3	17.37	17.42	20.14	20.61	20.44	17.27
4/14/2017-1:00	17.4	17.47	17.52	20.26	20.77	20.56	17.37
4/14/2017-2:00	17.49	17.57	17.62	20.38	20.9	20.65	17.46
4/14/2017-3:00	17.56	17.64	17.69	20.48	21.01	20.73	17.54
4/14/2017-4:00	17.63	17.71	17.76	20.58	21.09	20.78	17.6
4/14/2017-5:00	17.68	17.75	17.8	20.65	21.13	20.81	17.64
4/14/2017-6:00	17.71	17.78	17.82	20.71	21.14	20.81	17.66
4/14/2017-7:00	17.72	17.79	17.82	20.74	21.12	20.8	17.65
4/14/2017-8:00	17.72	17.77	17.8	20.74	21.06	20.75	17.63
4/14/2017-9:00	17.7	17.75	17.77	20.73	20.98	20.69	17.59
4/14/2017-10:00	17.67	17.71	17.72	20.69	20.87	20.62	17.53
4/14/2017-11:00	17.63	17.66	17.66	20.64	20.75	20.54	17.47
4/14/2017-12:00	17.58	17.6	17.6	20.57	20.62	20.46	17.41
4/14/2017-13:00	17.53	17.55	17.54	20.5	20.5	20.38	17.34
4/14/2017-14:00	17.49	17.5	17.48	20.42	20.39	20.32	17.29
4/14/2017-15:00	17.45	17.45	17.44	20.35	20.3	20.27	17.24

4/14/2017-16:00	17.43	17.43	17.41	20.29	20.24	20.24	17.21
4/14/2017-17:00	17.41	17.41	17.4	20.24	20.2	20.24	17.2
4/14/2017-18:00	17.41	17.42	17.41	20.21	20.2	20.25	17.21
4/14/2017-19:00	17.43	17.44	17.43	20.2	20.24	20.29	17.24
4/14/2017-20:00	17.46	17.48	17.47	20.22	20.3	20.35	17.29
4/14/2017-21:00	17.51	17.53	17.53	20.25	20.39	20.43	17.35
4/14/2017-22:00	17.57	17.59	17.6	20.3	20.5	20.52	17.43
4/14/2017-23:00	17.63	17.67	17.68	20.37	20.62	20.62	17.51
4/15/2017-0:00	17.7	17.74	17.76	20.45	20.75	20.71	17.59
4/15/2017-1:00	17.77	17.81	17.84	20.53	20.86	20.79	17.67
4/15/2017-2:00	17.83	17.88	17.9	20.61	20.97	20.87	17.74
4/15/2017-3:00	17.88	17.93	17.96	20.68	21.04	20.92	17.79
4/15/2017-4:00	17.92	17.97	18	20.74	21.1	20.95	17.83
4/15/2017-5:00	17.95	18	18.02	20.79	21.12	20.96	17.85
4/15/2017-6:00	17.96	18	18.02	20.82	21.11	20.95	17.85
4/15/2017-7:00	17.96	17.99	18.01	20.82	21.07	20.92	17.83
4/15/2017-8:00	17.94	17.97	17.97	20.81	20.99	20.86	17.8
4/15/2017-9:00	17.91	17.93	17.93	20.77	20.9	20.79	17.74
4/15/2017-10:00	17.86	17.87	17.86	20.72	20.78	20.71	17.68
4/15/2017-11:00	17.8	17.81	17.79	20.65	20.64	20.62	17.6
4/15/2017-12:00	17.75	17.74	17.72	20.56	20.51	20.52	17.53
4/15/2017-13:00	17.69	17.68	17.65	20.48	20.38	20.44	17.45
4/15/2017-14:00	17.63	17.62	17.59	20.39	20.26	20.37	17.39
4/15/2017-15:00	17.59	17.57	17.54	20.31	20.17	20.32	17.34
4/15/2017-16:00	17.55	17.53	17.5	20.24	20.1	20.28	17.3
4/15/2017-17:00	17.53	17.51	17.48	20.18	20.07	20.27	17.29
4/15/2017-18:00	17.52	17.51	17.48	20.15	20.06	20.28	17.29
4/15/2017-19:00	17.53	17.52	17.5	20.13	20.09	20.32	17.31
4/15/2017-20:00	17.56	17.55	17.54	20.14	20.15	20.37	17.35
4/15/2017-21:00	17.59	17.59	17.58	20.16	20.23	20.44	17.41
4/15/2017-22:00	17.64	17.65	17.64	20.2	20.33	20.52	17.47
4/15/2017-23:00	17.69	17.7	17.71	20.26	20.43	20.6	17.54
4/16/2017-0:00	17.74	17.76	17.77	20.32	20.54	20.67	17.61
4/16/2017-1:00	17.79	17.82	17.83	20.39	20.64	20.74	17.67
4/16/2017-2:00	17.84	17.87	17.88	20.45	20.72	20.79	17.72
4/16/2017-3:00	17.88	17.91	17.92	20.51	20.78	20.83	17.76
4/16/2017-4:00	17.9	17.93	17.94	20.55	20.81	20.85	17.78
4/16/2017-5:00	17.92	17.94	17.95	20.58	20.82	20.85	17.79
4/16/2017-6:00	17.92	17.94	17.94	20.59	20.79	20.83	17.78
4/16/2017-7:00	17.9	17.92	17.92	20.59	20.74	20.78	17.75
4/16/2017-8:00	17.87	17.88	17.88	20.56	20.67	20.72	17.71
4/16/2017-9:00	17.83	17.84	17.82	20.52	20.56	20.65	17.65
4/16/2017-10:00	17.78	17.77	17.76	20.45	20.44	20.56	17.58
4/16/2017-11:00	17.72	17.7	17.68	20.38	20.3	20.46	17.5
4/16/2017-12:00	17.65	17.63	17.6	20.29	20.16	20.36	17.41
4/16/2017-13:00	17.58	17.55	17.51	20.19	20.02	20.26	17.33
4/16/2017-14:00	17.51	17.47	17.43	20.09	19.88	20.17	17.24
4/16/2017-15:00	17.44	17.4	17.36	19.99	19.75	20.09	17.17
4/16/2017-16:00	17.38	17.34	17.3	19.89	19.65	20.02	17.11
4/16/2017-17:00	17.33	17.29	17.24	19.81	19.56	19.97	17.06
4/16/2017-18:00	17.29	17.25	17.2	19.73	19.5	19.94	17.02
4/16/2017-19:00	17.26	17.22	17.18	19.67	19.47	19.92	17
4/16/2017-20:00	17.24	17.2	17.16	19.63	19.45	19.92	16.99



4/16/2017-21:00	17.23	17.2	17.16	19.6	19.45	19.92	16.99
4/16/2017-22:00	17.23	17.2	17.16	19.58	19.47	19.94	16.99
4/16/2017-23:00	17.23	17.2	17.17	19.56	19.49	19.95	17
4/17/2017-0:00	17.23	17.2	17.18	19.56	19.5	19.96	17.01
4/17/2017-1:00	17.22	17.2	17.17	19.55	19.51	19.96	17.01
4/17/2017-2:00	17.21	17.19	17.16	19.54	19.51	19.95	17
4/17/2017-3:00	17.19	17.17	17.14	19.52	19.48	19.92	16.98
4/17/2017-4:00	17.16	17.14	17.11	19.49	19.43	19.87	16.94
4/17/2017-5:00	17.12	17.09	17.05	19.45	19.35	19.81	16.89
4/17/2017-6:00	17.06	17.02	16.98	19.38	19.24	19.72	16.82
4/17/2017-7:00	16.99	16.94	16.9	19.3	19.1	19.61	16.73
4/17/2017-8:00	16.9	16.85	16.79	19.2	18.94	19.48	16.62
4/17/2017-9:00	16.8	16.74	16.68	19.08	18.75	19.34	16.5
4/17/2017-10:00	16.69	16.62	16.55	18.94	18.55	19.19	16.37
4/17/2017-11:00	16.57	16.49	16.41	18.78	18.34	19.03	16.23
4/17/2017-12:00	16.44	16.35	16.27	18.62	18.12	18.87	16.09
4/17/2017-13:00	16.32	16.22	16.13	18.45	17.91	18.72	15.95
4/17/2017-14:00	16.19	16.1	16	18.28	17.71	18.58	15.82
4/17/2017-15:00	16.08	15.98	15.89	18.12	17.53	18.46	15.71
4/17/2017-16:00	15.98	15.88	15.78	17.97	17.38	18.35	15.61
4/17/2017-17:00	15.89	15.79	15.7	17.83	17.26	18.27	15.53
4/17/2017-18:00	15.82	15.72	15.63	17.72	17.18	18.22	15.46
4/17/2017-19:00	15.76	15.67	15.58	17.62	17.13	18.19	15.42
4/17/2017-20:00	15.73	15.63	15.56	17.55	17.11	18.18	15.4
4/17/2017-21:00	15.7	15.62	15.55	17.5	17.12	18.18	15.4
4/17/2017-22:00	15.69	15.61	15.55	17.47	17.16	18.21	15.41
4/17/2017-23:00	15.69	15.62	15.56	17.46	17.21	18.24	15.42
4/18/2017-0:00	15.69	15.63	15.58	17.46	17.26	18.27	15.44
4/18/2017-1:00	15.7	15.64	15.59	17.47	17.31	18.29	15.46
4/18/2017-2:00	15.7	15.64	15.6	17.48	17.35	18.31	15.47
4/18/2017-3:00	15.69	15.64	15.6	17.49	17.37	18.3	15.47
4/18/2017-4:00	15.67	15.62	15.58	17.48	17.36	18.28	15.46
4/18/2017-5:00	15.64	15.59	15.55	17.47	17.33	18.24	15.42
4/18/2017-6:00	15.6	15.55	15.5	17.43	17.26	18.18	15.37
4/18/2017-7:00	15.54	15.48	15.43	17.38	17.17	18.09	15.3
4/18/2017-8:00	15.47	15.4	15.34	17.3	17.04	17.98	15.21
4/18/2017-9:00	15.38	15.31	15.24	17.21	16.89	17.86	15.11
4/18/2017-10:00	15.28	15.2	15.13	17.1	16.72	17.73	14.99
4/18/2017-11:00	15.18	15.09	15.01	16.97	16.54	17.59	14.87
4/18/2017-12:00	15.07	14.97	14.89	16.84	16.36	17.45	14.75
4/18/2017-13:00	14.96	14.86	14.77	16.7	16.18	17.32	14.63
4/18/2017-14:00	14.86	14.76	14.67	16.56	16.03	17.21	14.53
4/18/2017-15:00	14.78	14.67	14.58	16.44	15.9	17.12	14.44
4/18/2017-16:00	14.7	14.6	14.51	16.33	15.8	17.06	14.37
4/18/2017-17:00	14.65	14.54	14.46	16.24	15.75	17.02	14.32
4/18/2017-18:00	14.61	14.51	14.43	16.17	15.73	17.02	14.3
4/18/2017-19:00	14.59	14.5	14.43	16.13	15.75	17.04	14.31
4/18/2017-20:00	14.6	14.52	14.45	16.12	15.81	17.08	14.33
4/18/2017-21:00	14.62	14.55	14.49	16.13	15.91	17.15	14.38
4/18/2017-22:00	14.66	14.6	14.55	16.17	16.03	17.24	14.44
4/18/2017-23:00	14.7	14.65	14.62	16.23	16.17	17.33	14.52
4/19/2017-0:00	14.76	14.72	14.69	16.31	16.31	17.43	14.6
4/19/2017-1:00	14.82	14.79	14.76	16.39	16.46	17.52	14.67

4/19/2017-2:00	14.87	14.85	14.83	16.48	16.59	17.6	14.74
4/19/2017-3:00	14.92	14.9	14.88	16.56	16.69	17.66	14.8
4/19/2017-4:00	14.95	14.94	14.92	16.63	16.77	17.69	14.84
4/19/2017-5:00	14.98	14.96	14.94	16.69	16.81	17.71	14.85
4/19/2017-6:00	14.98	14.96	14.94	16.73	16.82	17.7	14.85
4/19/2017-7:00	14.97	14.94	14.92	16.74	16.8	17.66	14.83
4/19/2017-8:00	14.94	14.91	14.88	16.73	16.73	17.6	14.78
4/19/2017-9:00	14.89	14.86	14.82	16.7	16.64	17.52	14.72
4/19/2017-10:00	14.84	14.79	14.75	16.65	16.52	17.42	14.64
4/19/2017-11:00	14.77	14.72	14.67	16.58	16.39	17.32	14.56
4/19/2017-12:00	14.7	14.64	14.58	16.5	16.26	17.22	14.47
4/19/2017-13:00	14.63	14.56	14.5	16.41	16.13	17.13	14.39
4/19/2017-14:00	14.56	14.49	14.43	16.32	16.01	17.05	14.31
4/19/2017-15:00	14.51	14.43	14.37	16.24	15.92	16.99	14.25
4/19/2017-16:00	14.46	14.39	14.33	16.17	15.86	16.95	14.21
4/19/2017-17:00	14.43	14.37	14.3	16.12	15.83	16.94	14.19
4/19/2017-18:00	14.42	14.36	14.3	16.09	15.84	16.95	14.19
4/19/2017-19:00	14.43	14.37	14.32	16.08	15.88	16.99	14.21
4/19/2017-20:00	14.45	14.4	14.35	16.1	15.96	17.05	14.25
4/19/2017-21:00	14.49	14.44	14.41	16.13	16.06	17.12	14.31
4/19/2017-22:00	14.54	14.5	14.47	16.19	16.18	17.21	14.38
4/19/2017-23:00	14.59	14.57	14.55	16.26	16.32	17.31	14.46
4/20/2017-0:00	14.66	14.64	14.62	16.35	16.46	17.4	14.54
4/20/2017-1:00	14.72	14.71	14.7	16.44	16.6	17.49	14.62
4/20/2017-2:00	14.78	14.77	14.77	16.53	16.72	17.57	14.69
4/20/2017-3:00	14.83	14.83	14.83	16.62	16.83	17.63	14.75
4/20/2017-4:00	14.88	14.87	14.87	16.69	16.91	17.68	14.79
4/20/2017-5:00	14.91	14.9	14.9	16.76	16.96	17.7	14.82
4/20/2017-6:00	14.92	14.92	14.91	16.8	16.98	17.7	14.82
4/20/2017-7:00	14.92	14.91	14.9	16.83	16.97	17.68	14.81
4/20/2017-8:00	14.91	14.89	14.88	16.84	16.92	17.64	14.78
4/20/2017-9:00	14.88	14.86	14.84	16.82	16.85	17.58	14.74
4/20/2017-10:00	14.84	14.81	14.78	16.79	16.76	17.5	14.68
4/20/2017-11:00	14.79	14.75	14.72	16.74	16.65	17.42	14.61
4/20/2017-12:00	14.73	14.69	14.65	16.68	16.54	17.34	14.54
4/20/2017-13:00	14.68	14.63	14.58	16.61	16.43	17.26	14.47
4/20/2017-14:00	14.62	14.57	14.52	16.54	16.33	17.19	14.41
4/20/2017-15:00	14.58	14.52	14.47	16.47	16.24	17.13	14.35
4/20/2017-16:00	14.54	14.48	14.43	16.41	16.18	17.1	14.32
4/20/2017-17:00	14.51	14.46	14.41	16.36	16.15	17.08	14.29
4/20/2017-18:00	14.5	14.45	14.4	16.33	16.15	17.09	14.29
4/20/2017-19:00	14.51	14.46	14.42	16.32	16.18	17.12	14.31
4/20/2017-20:00	14.52	14.48	14.45	16.33	16.24	17.16	14.34
4/20/2017-21:00	14.56	14.52	14.49	16.36	16.32	17.23	14.39
4/20/2017-22:00	14.6	14.57	14.55	16.41	16.43	17.3	14.45
4/20/2017-23:00	14.65	14.63	14.61	16.47	16.54	17.39	14.52
4/21/2017-0:00	14.7	14.69	14.68	16.54	16.66	17.47	14.58
4/21/2017-1:00	14.76	14.75	14.74	16.61	16.77	17.54	14.65
4/21/2017-2:00	14.81	14.8	14.79	16.69	16.87	17.6	14.7
4/21/2017-3:00	14.85	14.84	14.83	16.75	16.94	17.64	14.74
4/21/2017-4:00	14.87	14.87	14.86	16.81	16.99	17.66	14.77
4/21/2017-5:00	14.89	14.88	14.87	16.85	17.01	17.66	14.78
4/21/2017-6:00	14.89	14.88	14.86	16.87	16.99	17.64	14.76

4/21/2017-7:00	14.87	14.85	14.83	16.87	16.95	17.59	14.73
4/21/2017-8:00	14.84	14.81	14.79	16.85	16.87	17.52	14.68
4/21/2017-9:00	14.79	14.76	14.72	16.81	16.76	17.44	14.61
4/21/2017-10:00	14.73	14.69	14.65	16.75	16.64	17.35	14.53
4/21/2017-11:00	14.66	14.62	14.57	16.67	16.51	17.24	14.45
4/21/2017-12:00	14.59	14.54	14.49	16.58	16.37	17.15	14.36
4/21/2017-13:00	14.53	14.47	14.41	16.49	16.24	17.06	14.28
4/21/2017-14:00	14.46	14.4	14.34	16.4	16.13	16.98	14.21
4/21/2017-15:00	14.41	14.34	14.28	16.32	16.04	16.92	14.15
4/21/2017-16:00	14.37	14.3	14.24	16.25	15.98	16.89	14.11
4/21/2017-17:00	14.34	14.28	14.22	16.2	15.95	16.88	14.1
4/21/2017-18:00	14.33	14.27	14.22	16.17	15.96	16.89	14.1
4/21/2017-19:00	14.34	14.29	14.24	16.16	16	16.93	14.12
4/21/2017-20:00	14.36	14.32	14.27	16.17	16.08	16.99	14.16
4/21/2017-21:00	14.4	14.36	14.33	16.21	16.18	17.06	14.22
4/21/2017-22:00	14.45	14.42	14.39	16.26	16.3	17.15	14.29
4/21/2017-23:00	14.51	14.49	14.47	16.33	16.44	17.25	14.37
4/22/2017-0:00	14.58	14.56	14.54	16.42	16.57	17.34	14.45
4/22/2017-1:00	14.64	14.63	14.62	16.51	16.7	17.43	14.52
4/22/2017-2:00	14.7	14.69	14.68	16.59	16.82	17.5	14.59
4/22/2017-3:00	14.74	14.74	14.73	16.67	16.91	17.55	14.64
4/22/2017-4:00	14.78	14.78	14.77	16.74	16.97	17.59	14.68
4/22/2017-5:00	14.8	14.8	14.79	16.79	17	17.59	14.69
4/22/2017-6:00	14.81	14.8	14.79	16.82	17	17.58	14.69
4/22/2017-7:00	14.8	14.78	14.76	16.83	16.96	17.54	14.66
4/22/2017-8:00	14.77	14.75	14.72	16.82	16.89	17.47	14.61
4/22/2017-9:00	14.72	14.7	14.66	16.78	16.79	17.39	14.55
4/22/2017-10:00	14.67	14.63	14.59	16.73	16.67	17.3	14.47
4/22/2017-11:00	14.6	14.56	14.51	16.66	16.53	17.2	14.39
4/22/2017-12:00	14.54	14.48	14.43	16.57	16.39	17.1	14.31
4/22/2017-13:00	14.47	14.41	14.35	16.48	16.27	17.01	14.23
4/22/2017-14:00	14.41	14.35	14.29	16.4	16.15	16.94	14.15
4/22/2017-15:00	14.36	14.29	14.23	16.32	16.06	16.88	14.1
4/22/2017-16:00	14.32	14.25	14.19	16.25	16.01	16.85	14.06
4/22/2017-17:00	14.29	14.23	14.18	16.2	15.98	16.84	14.05
4/22/2017-18:00	14.29	14.23	14.18	16.18	16	16.87	14.06
4/22/2017-19:00	14.31	14.26	14.21	16.18	16.06	16.92	14.09
4/22/2017-20:00	14.34	14.3	14.26	16.2	16.15	17	14.15
4/22/2017-21:00	14.39	14.36	14.33	16.25	16.28	17.1	14.23
4/22/2017-22:00	14.46	14.44	14.42	16.33	16.44	17.21	14.32
4/22/2017-23:00	14.54	14.53	14.52	16.43	16.62	17.34	14.42
4/23/2017-0:00	14.63	14.63	14.63	16.54	16.8	17.47	14.53
4/23/2017-1:00	14.72	14.73	14.73	16.66	16.98	17.59	14.64
4/23/2017-2:00	14.8	14.82	14.83	16.78	17.14	17.7	14.74
4/23/2017-3:00	14.88	14.9	14.91	16.9	17.28	17.79	14.82
4/23/2017-4:00	14.94	14.96	14.97	17.01	17.39	17.85	14.89
4/23/2017-5:00	14.99	15.01	15.02	17.1	17.46	17.89	14.93
4/23/2017-6:00	15.02	15.04	15.05	17.17	17.5	17.91	14.95
4/23/2017-7:00	15.03	15.05	15.05	17.21	17.49	17.89	14.95
4/23/2017-8:00	15.03	15.03	15.03	17.23	17.45	17.85	14.93
4/23/2017-9:00	15	15	14.99	17.22	17.38	17.79	14.88
4/23/2017-10:00	14.97	14.96	14.94	17.2	17.28	17.71	14.83
4/23/2017-11:00	14.92	14.9	14.88	17.15	17.17	17.63	14.76

4/23/2017-12:00	14.87	14.84	14.81	17.09	17.05	17.55	14.69
4/23/2017-13:00	14.82	14.79	14.75	17.02	16.94	17.48	14.63
4/23/2017-14:00	14.78	14.74	14.7	16.96	16.85	17.42	14.58
4/23/2017-15:00	14.74	14.7	14.66	16.9	16.78	17.38	14.54
4/23/2017-16:00	14.72	14.68	14.64	16.86	16.74	17.37	14.52
4/23/2017-17:00	14.72	14.68	14.65	16.83	16.74	17.38	14.52
4/23/2017-18:00	14.73	14.7	14.67	16.83	16.78	17.42	14.55
4/23/2017-19:00	14.76	14.74	14.71	16.85	16.86	17.49	14.6
4/23/2017-20:00	14.81	14.8	14.78	16.89	16.97	17.58	14.67
4/23/2017-21:00	14.88	14.87	14.86	16.96	17.11	17.69	14.76
4/23/2017-22:00	14.96	14.96	14.96	17.05	17.28	17.82	14.86
4/23/2017-23:00	15.05	15.07	15.07	17.16	17.46	17.95	14.97
4/24/2017-0:00	15.15	15.17	15.18	17.29	17.64	18.08	15.09
4/24/2017-1:00	15.25	15.28	15.3	17.42	17.83	18.21	15.2
4/24/2017-2:00	15.34	15.38	15.4	17.55	17.99	18.33	15.31
4/24/2017-3:00	15.43	15.46	15.49	17.67	18.14	18.42	15.4
4/24/2017-4:00	15.5	15.54	15.57	17.79	18.25	18.5	15.47
4/24/2017-5:00	15.56	15.6	15.62	17.89	18.34	18.55	15.53
4/24/2017-6:00	15.6	15.64	15.66	17.97	18.38	18.57	15.56
4/24/2017-7:00	15.62	15.66	15.67	18.02	18.39	18.57	15.57
4/24/2017-8:00	15.63	15.66	15.67	18.05	18.36	18.54	15.56
4/24/2017-9:00	15.62	15.64	15.64	18.06	18.31	18.49	15.53
4/24/2017-10:00	15.6	15.61	15.61	18.05	18.23	18.43	15.49
4/24/2017-11:00	15.57	15.57	15.56	18.01	18.13	18.37	15.43
4/24/2017-12:00	15.53	15.53	15.51	17.97	18.03	18.3	15.38
4/24/2017-13:00	15.5	15.49	15.46	17.92	17.94	18.25	15.33
4/24/2017-14:00	15.47	15.45	15.43	17.87	17.87	18.2	15.3
4/24/2017-15:00	15.45	15.43	15.41	17.83	17.82	18.18	15.27
4/24/2017-16:00	15.45	15.43	15.4	17.81	17.8	18.19	15.27
4/24/2017-17:00	15.46	15.44	15.42	17.8	17.82	18.22	15.29
4/24/2017-18:00	15.49	15.48	15.46	17.81	17.88	18.28	15.33
4/24/2017-19:00	15.54	15.53	15.52	17.85	17.98	18.36	15.4
4/24/2017-20:00	15.6	15.61	15.61	17.92	18.11	18.47	15.49
4/24/2017-21:00	15.69	15.7	15.71	18.01	18.28	18.6	15.6
4/24/2017-22:00	15.79	15.82	15.83	18.12	18.47	18.75	15.72
4/24/2017-23:00	15.9	15.94	15.96	18.25	18.68	18.91	15.86
4/25/2017-0:00	16.02	16.06	16.1	18.4	18.9	19.07	16
4/25/2017-1:00	16.14	16.19	16.23	18.56	19.11	19.22	16.13
4/25/2017-2:00	16.25	16.32	16.36	18.72	19.31	19.36	16.26
4/25/2017-3:00	16.36	16.43	16.48	18.87	19.49	19.49	16.38
4/25/2017-4:00	16.46	16.53	16.58	19.02	19.64	19.59	16.48
4/25/2017-5:00	16.54	16.61	16.66	19.15	19.75	19.66	16.56
4/25/2017-6:00	16.61	16.67	16.72	19.25	19.83	19.71	16.61
4/25/2017-7:00	16.66	16.72	16.76	19.34	19.87	19.74	16.65
4/25/2017-8:00	16.69	16.74	16.78	19.4	19.88	19.74	16.66
4/25/2017-9:00	16.7	16.75	16.78	19.44	19.85	19.72	16.66
4/25/2017-10:00	16.7	16.74	16.76	19.45	19.8	19.68	16.64
4/25/2017-11:00	16.69	16.73	16.74	19.45	19.73	19.64	16.61
4/25/2017-12:00	16.68	16.71	16.71	19.43	19.66	19.6	16.58
4/25/2017-13:00	16.66	16.68	16.69	19.41	19.59	19.56	16.55
4/25/2017-14:00	16.65	16.67	16.67	19.38	19.53	19.53	16.53
4/25/2017-15:00	16.65	16.66	16.66	19.36	19.5	19.52	16.52
4/25/2017-16:00	16.65	16.67	16.67	19.35	19.49	19.53	16.53

4/25/2017-17:00	16.68	16.69	16.69	19.35	19.51	19.57	16.55
4/25/2017-18:00	16.71	16.73	16.73	19.38	19.56	19.62	16.6
4/25/2017-19:00	16.76	16.79	16.8	19.42	19.65	19.7	16.66
4/25/2017-20:00	16.83	16.86	16.88	19.48	19.76	19.8	16.74
4/25/2017-21:00	16.91	16.95	16.97	19.56	19.91	19.92	16.84
4/25/2017-22:00	17.01	17.05	17.08	19.67	20.07	20.05	16.96
4/25/2017-23:00	17.11	17.16	17.2	19.79	20.25	20.19	17.08
4/26/2017-0:00	17.21	17.28	17.32	19.92	20.44	20.33	17.2
4/26/2017-1:00	17.32	17.39	17.44	20.05	20.61	20.46	17.32
4/26/2017-2:00	17.42	17.49	17.54	20.19	20.77	20.57	17.43
4/26/2017-3:00	17.51	17.59	17.64	20.31	20.91	20.67	17.52
4/26/2017-4:00	17.59	17.67	17.72	20.43	21.02	20.75	17.6
4/26/2017-5:00	17.66	17.73	17.78	20.53	21.1	20.8	17.66
4/26/2017-6:00	17.71	17.78	17.83	20.61	21.14	20.83	17.7
4/26/2017-7:00	17.74	17.81	17.85	20.67	21.15	20.83	17.72
4/26/2017-8:00	17.76	17.82	17.85	20.7	21.13	20.82	17.72
4/26/2017-9:00	17.76	17.81	17.84	20.71	21.08	20.78	17.7
4/26/2017-10:00	17.75	17.79	17.81	20.71	21.01	20.74	17.67
4/26/2017-11:00	17.73	17.77	17.78	20.68	20.92	20.68	17.63
4/26/2017-12:00	17.71	17.74	17.75	20.65	20.84	20.63	17.59
4/26/2017-13:00	17.69	17.71	17.71	20.61	20.76	20.59	17.55
4/26/2017-14:00	17.67	17.69	17.69	20.57	20.69	20.55	17.53
4/26/2017-15:00	17.66	17.68	17.68	20.54	20.65	20.54	17.52
4/26/2017-16:00	17.66	17.68	17.68	20.52	20.63	20.55	17.52
4/26/2017-17:00	17.68	17.7	17.7	20.51	20.65	20.58	17.55
4/26/2017-18:00	17.72	17.74	17.75	20.53	20.71	20.64	17.59
4/26/2017-19:00	17.77	17.8	17.81	20.57	20.8	20.73	17.66
4/26/2017-20:00	17.84	17.88	17.9	20.63	20.92	20.83	17.75
4/26/2017-21:00	17.93	17.97	18	20.72	21.08	20.96	17.86
4/26/2017-22:00	18.02	18.08	18.11	20.83	21.25	21.1	17.98
4/26/2017-23:00	18.13	18.2	18.24	20.95	21.45	21.25	18.11
4/27/2017-0:00	18.25	18.32	18.37	21.09	21.64	21.4	18.24
4/27/2017-1:00	18.36	18.44	18.5	21.23	21.84	21.54	18.37
4/27/2017-2:00	18.47	18.56	18.62	21.38	22.02	21.67	18.49
4/27/2017-3:00	18.58	18.66	18.72	21.52	22.17	21.78	18.6
4/27/2017-4:00	18.67	18.75	18.82	21.65	22.3	21.87	18.69
4/27/2017-5:00	18.74	18.83	18.89	21.76	22.39	21.94	18.76
4/27/2017-6:00	18.8	18.88	18.94	21.85	22.45	21.98	18.81
4/27/2017-7:00	18.84	18.92	18.97	21.92	22.47	21.99	18.84
4/27/2017-8:00	18.86	18.94	18.98	21.97	22.46	21.98	18.84
4/27/2017-9:00	18.87	18.94	18.98	21.99	22.42	21.96	18.83
4/27/2017-10:00	18.87	18.93	18.96	21.99	22.35	21.91	18.8
4/27/2017-11:00	18.85	18.9	18.93	21.97	22.27	21.86	18.77
4/27/2017-12:00	18.84	18.88	18.9	21.94	22.18	21.81	18.73
4/27/2017-13:00	18.82	18.85	18.87	21.91	22.1	21.77	18.7
4/27/2017-14:00	18.8	18.83	18.84	21.87	22.04	21.74	18.68
4/27/2017-15:00	18.79	18.82	18.83	21.84	21.99	21.73	18.67
4/27/2017-16:00	18.8	18.83	18.84	21.82	21.98	21.74	18.67
4/27/2017-17:00	18.82	18.86	18.87	21.82	22	21.78	18.7
4/27/2017-18:00	18.86	18.9	18.92	21.84	22.06	21.85	18.75
4/27/2017-19:00	18.92	18.97	18.99	21.89	22.16	21.94	18.83
4/27/2017-20:00	19	19.05	19.08	21.96	22.3	22.06	18.93
4/27/2017-21:00	19.1	19.16	19.2	22.06	22.47	22.2	19.05

4/27/2017-22:00	19.21	19.28	19.33	22.18	22.67	22.36	19.18
4/27/2017-23:00	19.33	19.41	19.46	22.31	22.88	22.52	19.32
4/28/2017-0:00	19.46	19.54	19.61	22.47	23.09	22.68	19.47
4/28/2017-1:00	19.58	19.68	19.75	22.63	23.31	22.84	19.62
4/28/2017-2:00	19.71	19.81	19.88	22.79	23.5	22.99	19.75
4/28/2017-3:00	19.82	19.93	20	22.94	23.67	23.11	19.87
4/28/2017-4:00	19.92	20.03	20.1	23.08	23.82	23.21	19.97
4/28/2017-5:00	20.01	20.11	20.19	23.21	23.92	23.29	20.05
4/28/2017-6:00	20.07	20.18	20.25	23.31	23.99	23.34	20.11
4/28/2017-7:00	20.12	20.22	20.29	23.4	24.02	23.36	20.15
4/28/2017-8:00	20.16	20.25	20.31	23.45	24.02	23.36	20.16
4/28/2017-9:00	20.17	20.26	20.31	23.48	23.98	23.34	20.16
4/28/2017-10:00	20.18	20.25	20.3	23.49	23.92	23.3	20.14
4/28/2017-11:00	20.17	20.24	20.28	23.48	23.85	23.26	20.11
4/28/2017-12:00	20.16	20.22	20.25	23.46	23.77	23.22	20.08
4/28/2017-13:00	20.15	20.2	20.23	23.43	23.69	23.18	20.05
4/28/2017-14:00	20.14	20.19	20.21	23.41	23.64	23.16	20.03
4/28/2017-15:00	20.14	20.19	20.21	23.38	23.6	23.15	20.03
4/28/2017-16:00	20.15	20.2	20.22	23.37	23.59	23.17	20.04
4/28/2017-17:00	20.18	20.23	20.25	23.38	23.62	23.21	20.08
4/28/2017-18:00	20.23	20.28	20.31	23.4	23.68	23.28	20.13
4/28/2017-19:00	20.29	20.35	20.38	23.45	23.78	23.38	20.21
4/28/2017-20:00	20.37	20.44	20.48	23.53	23.92	23.5	20.31
4/28/2017-21:00	20.47	20.54	20.59	23.62	24.08	23.63	20.43
4/28/2017-22:00	20.57	20.66	20.71	23.74	24.27	23.78	20.56
4/28/2017-23:00	20.69	20.78	20.85	23.87	24.47	23.94	20.69
4/29/2017-0:00	20.81	20.91	20.98	24.02	24.67	24.09	20.83
4/29/2017-1:00	20.93	21.04	21.11	24.17	24.86	24.24	20.97
4/29/2017-2:00	21.05	21.16	21.24	24.32	25.04	24.37	21.09
4/29/2017-3:00	21.15	21.27	21.35	24.46	25.2	24.49	21.2
4/29/2017-4:00	21.25	21.36	21.44	24.59	25.32	24.58	21.29
4/29/2017-5:00	21.32	21.43	21.51	24.71	25.41	24.64	21.36
4/29/2017-6:00	21.38	21.49	21.56	24.8	25.46	24.68	21.41
4/29/2017-7:00	21.42	21.53	21.59	24.86	25.47	24.69	21.44
4/29/2017-8:00	21.45	21.54	21.6	24.9	25.45	24.68	21.44
4/29/2017-9:00	21.45	21.54	21.59	24.92	25.4	24.64	21.43
4/29/2017-10:00	21.45	21.53	21.57	24.92	25.32	24.6	21.4
4/29/2017-11:00	21.43	21.5	21.54	24.89	25.23	24.54	21.36
4/29/2017-12:00	21.41	21.47	21.5	24.86	25.13	24.49	21.32
4/29/2017-13:00	21.39	21.44	21.47	24.82	25.04	24.44	21.28
4/29/2017-14:00	21.37	21.42	21.44	24.77	24.97	24.41	21.25
4/29/2017-15:00	21.36	21.41	21.43	24.73	24.91	24.39	21.24
4/29/2017-16:00	21.36	21.41	21.43	24.71	24.88	24.39	21.24
4/29/2017-17:00	21.38	21.43	21.45	24.7	24.89	24.42	21.26
4/29/2017-18:00	21.41	21.46	21.49	24.7	24.93	24.48	21.3
4/29/2017-19:00	21.46	21.52	21.55	24.73	25.01	24.55	21.37
4/29/2017-20:00	21.53	21.59	21.63	24.79	25.12	24.65	21.45
4/29/2017-21:00	21.61	21.68	21.72	24.86	25.26	24.77	21.55
4/29/2017-22:00	21.7	21.78	21.83	24.96	25.42	24.91	21.67
4/29/2017-23:00	21.81	21.89	21.95	25.07	25.6	25.05	21.79
4/30/2017-0:00	21.92	22.01	22.07	25.2	25.78	25.19	21.92
4/30/2017-1:00	22.02	22.12	22.19	25.33	25.95	25.32	22.04
4/30/2017-2:00	22.13	22.23	22.3	25.46	26.11	25.44	22.15

4/30/2017-3:00	22.22	22.33	22.4	25.58	26.25	25.54	22.25
4/30/2017-4:00	22.3	22.41	22.48	25.7	26.35	25.61	22.33
4/30/2017-5:00	22.37	22.47	22.54	25.79	26.42	25.67	22.38
4/30/2017-6:00	22.41	22.52	22.58	25.86	26.46	25.69	22.42
4/30/2017-7:00	22.44	22.54	22.6	25.91	26.45	25.69	22.44
4/30/2017-8:00	22.46	22.54	22.6	25.94	26.42	25.67	22.43
4/30/2017-9:00	22.45	22.53	22.58	25.94	26.35	25.62	22.4
4/30/2017-10:00	22.44	22.51	22.55	25.92	26.26	25.57	22.37
4/30/2017-11:00	22.41	22.47	22.51	25.89	26.16	25.5	22.32
4/30/2017-12:00	22.38	22.44	22.46	25.84	26.05	25.44	22.27
4/30/2017-13:00	22.35	22.4	22.42	25.78	25.95	25.39	22.23
4/30/2017-14:00	22.33	22.37	22.39	25.73	25.87	25.35	22.2
4/30/2017-15:00	22.32	22.36	22.38	25.69	25.81	25.33	22.18
4/30/2017-16:00	22.31	22.36	22.37	25.65	25.79	25.34	22.18
4/30/2017-17:00	22.33	22.37	22.39	25.64	25.79	25.36	22.2
4/30/2017-18:00	22.35	22.4	22.42	25.64	25.83	25.41	22.24
4/30/2017-19:00	22.4	22.45	22.48	25.66	25.89	25.48	22.29
4/30/2017-20:00	22.45	22.51	22.54	25.7	25.98	25.56	22.36
4/30/2017-21:00	22.52	22.58	22.62	25.76	26.09	25.66	22.45
4/30/2017-22:00	22.59	22.66	22.71	25.83	26.22	25.76	22.54
4/30/2017-23:00	22.67	22.74	22.79	25.92	26.35	25.86	22.63
5/1/2017-0:00	22.75	22.83	22.88	26.01	26.48	25.96	22.72
5/1/2017-1:00	22.82	22.91	22.96	26.1	26.59	26.05	22.8
5/1/2017-2:00	22.89	22.98	23.04	26.19	26.69	26.12	22.87
5/1/2017-3:00	22.95	23.04	23.09	26.26	26.76	26.17	22.93
5/1/2017-4:00	22.99	23.08	23.13	26.33	26.8	26.2	22.97
5/1/2017-5:00	23.02	23.1	23.15	26.37	26.81	26.21	22.99
5/1/2017-6:00	23.04	23.11	23.16	26.39	26.79	26.2	22.98
5/1/2017-7:00	23.03	23.1	23.14	26.4	26.74	26.16	22.96
5/1/2017-8:00	23.01	23.07	23.11	26.38	26.65	26.1	22.92
5/1/2017-9:00	22.98	23.03	23.06	26.34	26.54	26.03	22.87
5/1/2017-10:00	22.94	22.98	22.99	26.28	26.42	25.94	22.81
5/1/2017-11:00	22.89	22.92	22.93	26.2	26.28	25.85	22.73
5/1/2017-12:00	22.83	22.86	22.86	26.12	26.15	25.77	22.66
5/1/2017-13:00	22.78	22.8	22.8	26.03	26.02	25.7	22.6
5/1/2017-14:00	22.74	22.75	22.75	25.95	25.92	25.64	22.55
5/1/2017-15:00	22.7	22.71	22.71	25.88	25.84	25.6	22.51
5/1/2017-16:00	22.68	22.69	22.69	25.82	25.79	25.59	22.49
5/1/2017-17:00	22.68	22.69	22.69	25.78	25.78	25.6	22.5
5/1/2017-18:00	22.69	22.71	22.71	25.76	25.81	25.64	22.52
5/1/2017-19:00	22.72	22.75	22.76	25.77	25.87	25.7	22.57
5/1/2017-20:00	22.77	22.81	22.82	25.8	25.97	25.79	22.64
5/1/2017-21:00	22.84	22.88	22.91	25.86	26.1	25.9	22.73
5/1/2017-22:00	22.92	22.97	23	25.94	26.25	26.02	22.84
5/1/2017-23:00	23.01	23.07	23.11	26.04	26.42	26.15	22.95
5/2/2017-0:00	23.11	23.18	23.22	26.15	26.59	26.28	23.06
5/2/2017-1:00	23.2	23.28	23.33	26.27	26.76	26.4	23.17
5/2/2017-2:00	23.29	23.38	23.43	26.38	26.91	26.51	23.28
5/2/2017-3:00	23.38	23.46	23.52	26.5	27.04	26.6	23.37
5/2/2017-4:00	23.45	23.53	23.59	26.6	27.14	26.67	23.44
5/2/2017-5:00	23.5	23.59	23.64	26.68	27.2	26.72	23.49
5/2/2017-6:00	23.54	23.62	23.67	26.75	27.23	26.73	23.51
5/2/2017-7:00	23.56	23.64	23.68	26.79	27.22	26.72	23.52

5/2/2017-8:00	23.57	23.63	23.67	26.8	27.18	26.69	23.51
5/2/2017-9:00	23.55	23.61	23.64	26.8	27.1	26.64	23.47
5/2/2017-10:00	23.53	23.58	23.6	26.77	27	26.57	23.42
5/2/2017-11:00	23.49	23.53	23.55	26.72	26.89	26.5	23.37
5/2/2017-12:00	23.45	23.48	23.49	26.66	26.77	26.42	23.31
5/2/2017-13:00	23.41	23.43	23.44	26.59	26.65	26.35	23.25
5/2/2017-14:00	23.37	23.39	23.39	26.52	26.55	26.3	23.2
5/2/2017-15:00	23.34	23.36	23.36	26.46	26.47	26.26	23.16
5/2/2017-16:00	23.32	23.34	23.34	26.41	26.42	26.24	23.15
5/2/2017-17:00	23.31	23.33	23.33	26.37	26.4	26.24	23.15
5/2/2017-18:00	23.32	23.35	23.35	26.36	26.41	26.27	23.17
5/2/2017-19:00	23.35	23.38	23.39	26.36	26.46	26.33	23.21
5/2/2017-20:00	23.4	23.43	23.45	26.39	26.55	26.41	23.27
5/2/2017-21:00	23.46	23.5	23.52	26.44	26.66	26.5	23.35
5/2/2017-22:00	23.53	23.58	23.61	26.51	26.8	26.61	23.44
5/2/2017-23:00	23.61	23.67	23.71	26.59	26.95	26.73	23.54
5/3/2017-0:00	23.7	23.76	23.81	26.69	27.1	26.85	23.65
5/3/2017-1:00	23.79	23.86	23.91	26.8	27.25	26.96	23.75
5/3/2017-2:00	23.87	23.95	24	26.91	27.39	27.06	23.84
5/3/2017-3:00	23.95	24.02	24.07	27.01	27.5	27.14	23.92
5/3/2017-4:00	24.01	24.08	24.14	27.1	27.58	27.2	23.98
5/3/2017-5:00	24.05	24.13	24.18	27.17	27.63	27.23	24.02
5/3/2017-6:00	24.08	24.15	24.2	27.22	27.65	27.23	24.04
5/3/2017-7:00	24.09	24.16	24.2	27.25	27.62	27.21	24.03
5/3/2017-8:00	24.09	24.15	24.18	27.25	27.56	27.17	24.01
5/3/2017-9:00	24.07	24.12	24.14	27.23	27.47	27.11	23.97
5/3/2017-10:00	24.03	24.07	24.09	27.19	27.36	27.03	23.91
5/3/2017-11:00	23.99	24.02	24.03	27.13	27.24	26.95	23.85
5/3/2017-12:00	23.94	23.96	23.96	27.06	27.11	26.87	23.78
5/3/2017-13:00	23.89	23.9	23.9	26.99	26.99	26.79	23.72
5/3/2017-14:00	23.84	23.85	23.85	26.91	26.88	26.73	23.66
5/3/2017-15:00	23.81	23.82	23.81	26.84	26.79	26.68	23.62
5/3/2017-16:00	23.78	23.79	23.78	26.78	26.73	26.66	23.6
5/3/2017-17:00	23.77	23.78	23.77	26.73	26.71	26.66	23.59
5/3/2017-18:00	23.77	23.79	23.79	26.71	26.72	26.68	23.6
5/3/2017-19:00	23.8	23.81	23.82	26.7	26.76	26.73	23.64
5/3/2017-20:00	23.83	23.86	23.86	26.72	26.83	26.8	23.69
5/3/2017-21:00	23.88	23.92	23.93	26.76	26.93	26.89	23.76
5/3/2017-22:00	23.95	23.99	24.01	26.82	27.06	26.99	23.85
5/3/2017-23:00	24.02	24.07	24.1	26.9	27.2	27.1	23.94
5/4/2017-0:00	24.1	24.16	24.19	26.99	27.34	27.21	24.04
5/4/2017-1:00	24.19	24.25	24.29	27.09	27.49	27.32	24.14
5/4/2017-2:00	24.26	24.33	24.38	27.19	27.62	27.41	24.23
5/4/2017-3:00	24.34	24.41	24.45	27.29	27.74	27.49	24.3
5/4/2017-4:00	24.4	24.47	24.52	27.38	27.83	27.55	24.37
5/4/2017-5:00	24.45	24.52	24.56	27.45	27.89	27.59	24.41
5/4/2017-6:00	24.48	24.55	24.59	27.51	27.91	27.61	24.44
5/4/2017-7:00	24.5	24.56	24.6	27.54	27.9	27.6	24.44
5/4/2017-8:00	24.5	24.55	24.59	27.56	27.87	27.57	24.43
5/4/2017-9:00	24.49	24.53	24.56	27.55	27.8	27.53	24.4
5/4/2017-10:00	24.46	24.5	24.52	27.53	27.72	27.47	24.36
5/4/2017-11:00	24.43	24.47	24.48	27.49	27.62	27.41	24.31
5/4/2017-12:00	24.4	24.43	24.43	27.44	27.52	27.34	24.26



5/4/2017-13:00	24.36	24.39	24.39	27.38	27.43	27.29	24.22
5/4/2017-14:00	24.34	24.36	24.36	27.33	27.36	27.25	24.18
5/4/2017-15:00	24.32	24.34	24.34	27.29	27.31	27.23	24.16
5/4/2017-16:00	24.31	24.33	24.34	27.25	27.29	27.24	24.16
5/4/2017-17:00	24.32	24.35	24.35	27.24	27.3	27.26	24.18
5/4/2017-18:00	24.35	24.37	24.38	27.24	27.34	27.31	24.22
5/4/2017-19:00	24.39	24.42	24.44	27.27	27.41	27.38	24.27
5/4/2017-20:00	24.45	24.49	24.51	27.32	27.52	27.47	24.35
5/4/2017-21:00	24.52	24.57	24.6	27.39	27.66	27.59	24.45
5/4/2017-22:00	24.61	24.67	24.7	27.48	27.82	27.71	24.55
5/4/2017-23:00	24.71	24.77	24.82	27.59	27.99	27.85	24.67
5/5/2017-0:00	24.81	24.88	24.93	27.71	28.17	27.98	24.79
5/5/2017-1:00	24.91	24.99	25.05	27.84	28.34	28.11	24.91
5/5/2017-2:00	25.01	25.1	25.16	27.96	28.5	28.23	25.02
5/5/2017-3:00	25.1	25.19	25.25	28.09	28.64	28.32	25.11
5/5/2017-4:00	25.18	25.27	25.33	28.19	28.75	28.4	25.19
5/5/2017-5:00	25.24	25.33	25.39	28.29	28.82	28.44	25.24
5/5/2017-6:00	25.28	25.37	25.42	28.36	28.85	28.47	25.28
5/5/2017-7:00	25.31	25.39	25.44	28.41	28.85	28.46	25.29
5/5/2017-8:00	25.32	25.39	25.43	28.43	28.81	28.43	25.28
5/5/2017-9:00	25.31	25.38	25.41	28.43	28.75	28.39	25.25
5/5/2017-10:00	25.29	25.35	25.38	28.41	28.66	28.33	25.21
5/5/2017-11:00	25.27	25.31	25.33	28.38	28.56	28.26	25.16
5/5/2017-12:00	25.23	25.27	25.28	28.33	28.45	28.2	25.11
5/5/2017-13:00	25.2	25.23	25.24	28.27	28.35	28.13	25.06
5/5/2017-14:00	25.17	25.19	25.2	28.21	28.26	28.09	25.02
5/5/2017-15:00	25.14	25.17	25.17	28.16	28.19	28.05	24.99
5/5/2017-16:00	25.13	25.15	25.15	28.12	28.14	28.04	24.97
5/5/2017-17:00	25.13	25.15	25.15	28.09	28.13	28.04	24.98
5/5/2017-18:00	25.14	25.17	25.17	28.07	28.14	28.07	25
5/5/2017-19:00	25.17	25.2	25.21	28.08	28.18	28.12	25.03
5/5/2017-20:00	25.21	25.24	25.26	28.1	28.26	28.19	25.09
5/5/2017-21:00	25.26	25.3	25.32	28.15	28.36	28.27	25.16
5/5/2017-22:00	25.33	25.37	25.4	28.21	28.47	28.37	25.24
5/5/2017-23:00	25.4	25.45	25.48	28.28	28.6	28.47	25.33
5/6/2017-0:00	25.47	25.53	25.57	28.37	28.72	28.56	25.41
5/6/2017-1:00	25.55	25.61	25.65	28.46	28.84	28.65	25.49
5/6/2017-2:00	25.61	25.68	25.72	28.54	28.95	28.73	25.57
5/6/2017-3:00	25.67	25.74	25.78	28.62	29.03	28.79	25.63
5/6/2017-4:00	25.72	25.78	25.82	28.69	29.08	28.82	25.67
5/6/2017-5:00	25.75	25.81	25.85	28.74	29.11	28.84	25.69
5/6/2017-6:00	25.76	25.82	25.86	28.77	29.1	28.83	25.69
5/6/2017-7:00	25.76	25.82	25.84	28.78	29.06	28.79	25.68
5/6/2017-8:00	25.75	25.79	25.81	28.76	28.99	28.74	25.64
5/6/2017-9:00	25.72	25.75	25.77	28.73	28.89	28.67	25.59
5/6/2017-10:00	25.67	25.7	25.71	28.68	28.77	28.59	25.53
5/6/2017-11:00	25.62	25.64	25.63	28.61	28.63	28.49	25.45
5/6/2017-12:00	25.56	25.57	25.56	28.52	28.49	28.4	25.37
5/6/2017-13:00	25.49	25.5	25.48	28.43	28.34	28.3	25.29
5/6/2017-14:00	25.43	25.43	25.41	28.33	28.21	28.22	25.22
5/6/2017-15:00	25.37	25.37	25.34	28.24	28.09	28.14	25.15
5/6/2017-16:00	25.33	25.31	25.29	28.15	27.99	28.09	25.1
5/6/2017-17:00	25.29	25.28	25.25	28.07	27.92	28.06	25.07

5/6/2017-18:00	25.27	25.26	25.23	28.02	27.89	28.05	25.05
5/6/2017-19:00	25.26	25.25	25.24	27.98	27.89	28.06	25.05
5/6/2017-20:00	25.27	25.27	25.26	27.96	27.92	28.1	25.08
5/6/2017-21:00	25.3	25.3	25.3	27.97	27.99	28.16	25.13
5/6/2017-22:00	25.34	25.35	25.35	28	28.08	28.24	25.19
5/6/2017-23:00	25.39	25.41	25.42	28.05	28.19	28.33	25.26
5/7/2017-0:00	25.45	25.48	25.49	28.11	28.32	28.42	25.34
5/7/2017-1:00	25.52	25.55	25.57	28.19	28.45	28.51	25.42
5/7/2017-2:00	25.58	25.62	25.64	28.27	28.57	28.6	25.5
5/7/2017-3:00	25.64	25.68	25.71	28.35	28.67	28.67	25.56
5/7/2017-4:00	25.69	25.73	25.76	28.42	28.76	28.73	25.62
5/7/2017-5:00	25.73	25.77	25.8	28.49	28.81	28.76	25.66
5/7/2017-6:00	25.75	25.8	25.83	28.54	28.84	28.78	25.68
5/7/2017-7:00	25.77	25.81	25.83	28.57	28.85	28.78	25.69
5/7/2017-8:00	25.77	25.81	25.83	28.58	28.82	28.75	25.67
5/7/2017-9:00	25.76	25.79	25.8	28.58	28.77	28.71	25.65
5/7/2017-10:00	25.73	25.76	25.77	28.56	28.7	28.67	25.61
5/7/2017-11:00	25.71	25.73	25.73	28.53	28.62	28.61	25.57
5/7/2017-12:00	25.67	25.69	25.69	28.48	28.54	28.56	25.53
5/7/2017-13:00	25.64	25.66	25.65	28.44	28.46	28.51	25.49
5/7/2017-14:00	25.62	25.63	25.62	28.39	28.4	28.47	25.46
5/7/2017-15:00	25.6	25.61	25.6	28.35	28.35	28.45	25.43
5/7/2017-16:00	25.59	25.6	25.59	28.32	28.32	28.45	25.43
5/7/2017-17:00	25.59	25.6	25.6	28.3	28.33	28.47	25.44
5/7/2017-18:00	25.61	25.62	25.62	28.3	28.36	28.5	25.46
5/7/2017-19:00	25.64	25.66	25.66	28.32	28.41	28.55	25.5
5/7/2017-20:00	25.68	25.7	25.71	28.35	28.49	28.63	25.56
5/7/2017-21:00	25.74	25.77	25.78	28.41	28.6	28.71	25.63
5/7/2017-22:00	25.8	25.84	25.86	28.47	28.72	28.8	25.71
5/7/2017-23:00	25.87	25.91	25.94	28.55	28.85	28.9	25.8
5/8/2017-0:00	25.94	25.99	26.02	28.64	28.97	29	25.88
5/8/2017-1:00	26.01	26.07	26.1	28.73	29.1	29.09	25.96
5/8/2017-2:00	26.08	26.14	26.17	28.82	29.2	29.16	26.03
5/8/2017-3:00	26.14	26.19	26.23	28.9	29.28	29.21	26.09
5/8/2017-4:00	26.18	26.23	26.27	28.96	29.33	29.24	26.13
5/8/2017-5:00	26.21	26.26	26.29	29.01	29.35	29.25	26.15
5/8/2017-6:00	26.22	26.26	26.29	29.04	29.33	29.24	26.14
5/8/2017-7:00	26.21	26.25	26.27	29.04	29.28	29.19	26.12
5/8/2017-8:00	26.18	26.22	26.23	29.03	29.2	29.13	26.07
5/8/2017-9:00	26.15	26.17	26.17	28.98	29.09	29.05	26.01
5/8/2017-10:00	26.1	26.11	26.11	28.92	28.96	28.96	25.94
5/8/2017-11:00	26.04	26.05	26.04	28.85	28.83	28.87	25.87
5/8/2017-12:00	25.98	25.98	25.96	28.77	28.69	28.78	25.79
5/8/2017-13:00	25.93	25.92	25.9	28.68	28.57	28.7	25.72
5/8/2017-14:00	25.88	25.87	25.84	28.6	28.47	28.64	25.67
5/8/2017-15:00	25.84	25.83	25.8	28.53	28.39	28.6	25.63
5/8/2017-16:00	25.82	25.81	25.78	28.47	28.35	28.59	25.61
5/8/2017-17:00	25.81	25.8	25.78	28.43	28.35	28.61	25.61
5/8/2017-18:00	25.83	25.82	25.81	28.42	28.39	28.65	25.64
5/8/2017-19:00	25.86	25.86	25.86	28.44	28.46	28.72	25.7
5/8/2017-20:00	25.91	25.93	25.93	28.48	28.58	28.82	25.77
5/8/2017-21:00	25.99	26.01	26.02	28.54	28.73	28.93	25.87
5/8/2017-22:00	26.07	26.11	26.12	28.64	28.9	29.07	25.98

5/8/2017-23:00	26.17	26.21	26.24	28.75	29.09	29.22	26.1
5/9/2017-0:00	26.28	26.33	26.37	28.88	29.29	29.36	26.23
5/9/2017-1:00	26.38	26.44	26.49	29.02	29.49	29.5	26.36
5/9/2017-2:00	26.49	26.55	26.6	29.16	29.67	29.63	26.47
5/9/2017-3:00	26.58	26.65	26.7	29.29	29.83	29.74	26.58
5/9/2017-4:00	26.66	26.74	26.79	29.42	29.96	29.82	26.66
5/9/2017-5:00	26.73	26.81	26.86	29.52	30.05	29.89	26.73
5/9/2017-6:00	26.78	26.86	26.9	29.61	30.11	29.92	26.77
5/9/2017-7:00	26.82	26.89	26.93	29.68	30.13	29.93	26.79
5/9/2017-8:00	26.84	26.9	26.93	29.72	30.11	29.92	26.79
5/9/2017-9:00	26.84	26.89	26.92	29.74	30.07	29.88	26.78
5/9/2017-10:00	26.83	26.87	26.9	29.74	30	29.84	26.75
5/9/2017-11:00	26.81	26.85	26.87	29.72	29.92	29.79	26.71
5/9/2017-12:00	26.79	26.82	26.83	29.69	29.84	29.74	26.67
5/9/2017-13:00	26.76	26.79	26.8	29.65	29.76	29.69	26.64
5/9/2017-14:00	26.75	26.77	26.78	29.61	29.7	29.66	26.61
5/9/2017-15:00	26.74	26.76	26.77	29.58	29.66	29.65	26.6
5/9/2017-16:00	26.74	26.77	26.77	29.57	29.66	29.67	26.61
5/9/2017-17:00	26.76	26.79	26.8	29.57	29.68	29.7	26.64
5/9/2017-18:00	26.8	26.83	26.84	29.59	29.74	29.77	26.69
5/9/2017-19:00	26.86	26.89	26.91	29.63	29.84	29.86	26.76
5/9/2017-20:00	26.93	26.97	27	29.7	29.97	29.97	26.85
5/9/2017-21:00	27.02	27.07	27.1	29.79	30.14	30.1	26.96
5/9/2017-22:00	27.12	27.18	27.22	29.91	30.32	30.25	27.09
5/9/2017-23:00	27.23	27.3	27.35	30.04	30.53	30.4	27.22
5/10/2017-0:00	27.35	27.43	27.49	30.19	30.73	30.56	27.36
5/10/2017-1:00	27.47	27.56	27.62	30.34	30.93	30.71	27.49
5/10/2017-2:00	27.58	27.68	27.74	30.49	31.12	30.84	27.62
5/10/2017-3:00	27.69	27.78	27.85	30.64	31.28	30.95	27.73
5/10/2017-4:00	27.78	27.88	27.95	30.77	31.41	31.05	27.82
5/10/2017-5:00	27.85	27.95	28.02	30.89	31.51	31.11	27.89
5/10/2017-6:00	27.91	28.01	28.07	30.98	31.57	31.15	27.94
5/10/2017-7:00	27.95	28.04	28.1	31.05	31.58	31.16	27.96
5/10/2017-8:00	27.97	28.05	28.1	31.09	31.56	31.14	27.96
5/10/2017-9:00	27.97	28.05	28.09	31.11	31.51	31.11	27.95
5/10/2017-10:00	27.96	28.03	28.07	31.11	31.44	31.06	27.91
5/10/2017-11:00	27.95	28	28.03	31.09	31.35	31	27.87
5/10/2017-12:00	27.92	27.97	27.99	31.05	31.25	30.94	27.83
5/10/2017-13:00	27.89	27.94	27.95	31.01	31.16	30.89	27.79
5/10/2017-14:00	27.87	27.91	27.92	30.96	31.08	30.85	27.76
5/10/2017-15:00	27.86	27.89	27.9	30.92	31.02	30.83	27.73
5/10/2017-16:00	27.85	27.89	27.9	30.89	30.99	30.83	27.73
5/10/2017-17:00	27.86	27.9	27.91	30.88	30.99	30.85	27.74
5/10/2017-18:00	27.89	27.92	27.94	30.88	31.02	30.89	27.78
5/10/2017-19:00	27.93	27.97	27.99	30.9	31.08	30.95	27.83
5/10/2017-20:00	27.98	28.03	28.05	30.94	31.18	31.03	27.9
5/10/2017-21:00	28.05	28.1	28.13	31.01	31.29	31.13	27.98
5/10/2017-22:00	28.13	28.19	28.23	31.09	31.43	31.25	28.08
5/10/2017-23:00	28.21	28.28	28.33	31.18	31.58	31.36	28.18
5/11/2017-0:00	28.3	28.38	28.43	31.29	31.74	31.48	28.28
5/11/2017-1:00	28.39	28.47	28.53	31.4	31.88	31.59	28.38
5/11/2017-2:00	28.48	28.56	28.62	31.51	32.02	31.69	28.48
5/11/2017-3:00	28.56	28.64	28.7	31.61	32.13	31.77	28.56

5/11/2017-4:00	28.62	28.7	28.76	31.7	32.21	31.83	28.62
5/11/2017-5:00	28.67	28.75	28.8	31.77	32.26	31.86	28.66
5/11/2017-6:00	28.7	28.78	28.83	31.83	32.27	31.87	28.68
5/11/2017-7:00	28.72	28.79	28.83	31.86	32.25	31.85	28.68
5/11/2017-8:00	28.71	28.78	28.81	31.87	32.2	31.81	28.66
5/11/2017-9:00	28.7	28.75	28.78	31.85	32.12	31.76	28.62
5/11/2017-10:00	28.67	28.71	28.73	31.82	32.02	31.69	28.57
5/11/2017-11:00	28.63	28.67	28.68	31.77	31.9	31.61	28.51
5/11/2017-12:00	28.59	28.62	28.62	31.7	31.78	31.54	28.45
5/11/2017-13:00	28.54	28.57	28.57	31.63	31.67	31.47	28.39
5/11/2017-14:00	28.5	28.52	28.52	31.56	31.57	31.41	28.34
5/11/2017-15:00	28.47	28.49	28.48	31.5	31.49	31.37	28.3
5/11/2017-16:00	28.45	28.47	28.46	31.45	31.44	31.35	28.28
5/11/2017-17:00	28.45	28.46	28.46	31.41	31.42	31.35	28.28
5/11/2017-18:00	28.45	28.47	28.47	31.39	31.43	31.38	28.29
5/11/2017-19:00	28.48	28.5	28.5	31.39	31.47	31.43	28.33
5/11/2017-20:00	28.52	28.54	28.55	31.41	31.54	31.49	28.38
5/11/2017-21:00	28.57	28.6	28.62	31.45	31.64	31.58	28.45
5/11/2017-22:00	28.64	28.68	28.7	31.51	31.77	31.68	28.54
5/11/2017-23:00	28.71	28.76	28.79	31.59	31.9	31.79	28.63
5/12/2017-0:00	28.79	28.84	28.88	31.68	32.05	31.9	28.72
5/12/2017-1:00	28.87	28.93	28.97	31.78	32.18	32	28.82
5/12/2017-2:00	28.95	29.01	29.05	31.88	32.31	32.09	28.9
5/12/2017-3:00	29.02	29.08	29.13	31.97	32.42	32.16	28.97
5/12/2017-4:00	29.07	29.14	29.18	32.05	32.49	32.22	29.03
5/12/2017-5:00	29.12	29.18	29.22	32.12	32.54	32.25	29.07
5/12/2017-6:00	29.14	29.2	29.24	32.16	32.55	32.25	29.08
5/12/2017-7:00	29.15	29.21	29.24	32.19	32.53	32.23	29.08
5/12/2017-8:00	29.14	29.19	29.22	32.19	32.47	32.19	29.05
5/12/2017-9:00	29.12	29.16	29.18	32.17	32.39	32.13	29.01
5/12/2017-10:00	29.09	29.12	29.13	32.13	32.28	32.05	28.95
5/12/2017-11:00	29.04	29.07	29.07	32.07	32.16	31.97	28.89
5/12/2017-12:00	29	29.01	29.01	32	32.04	31.89	28.83
5/12/2017-13:00	28.95	28.96	28.95	31.93	31.92	31.82	28.76
5/12/2017-14:00	28.91	28.91	28.9	31.86	31.82	31.76	28.71
5/12/2017-15:00	28.87	28.87	28.86	31.79	31.74	31.72	28.67
5/12/2017-16:00	28.85	28.85	28.83	31.73	31.68	31.69	28.65
5/12/2017-17:00	28.83	28.84	28.82	31.69	31.65	31.69	28.64
5/12/2017-18:00	28.84	28.84	28.83	31.66	31.66	31.71	28.65
5/12/2017-19:00	28.85	28.86	28.85	31.65	31.69	31.75	28.68
5/12/2017-20:00	28.88	28.9	28.9	31.67	31.75	31.8	28.72
5/12/2017-21:00	28.93	28.95	28.95	31.7	31.84	31.88	28.78
5/12/2017-22:00	28.98	29.01	29.02	31.75	31.94	31.97	28.85
5/12/2017-23:00	29.05	29.08	29.1	31.81	32.06	32.06	28.93
5/13/2017-0:00	29.11	29.15	29.17	31.89	32.18	32.15	29.01
5/13/2017-1:00	29.18	29.22	29.25	31.97	32.3	32.23	29.09
5/13/2017-2:00	29.24	29.29	29.31	32.05	32.4	32.31	29.16
5/13/2017-3:00	29.29	29.34	29.37	32.12	32.48	32.36	29.21
5/13/2017-4:00	29.33	29.38	29.41	32.18	32.53	32.39	29.25
5/13/2017-5:00	29.36	29.4	29.43	32.23	32.55	32.4	29.27
5/13/2017-6:00	29.37	29.41	29.43	32.25	32.54	32.38	29.26
5/13/2017-7:00	29.36	29.39	29.4	32.25	32.48	32.34	29.24
5/13/2017-8:00	29.33	29.36	29.36	32.23	32.4	32.27	29.19

5/13/2017-9:00	29.29	29.31	29.31	32.18	32.29	32.19	29.13
5/13/2017-10:00	29.23	29.24	29.23	32.12	32.15	32.1	29.05
5/13/2017-11:00	29.17	29.17	29.16	32.04	32.01	32	28.97
5/13/2017-12:00	29.11	29.1	29.08	31.95	31.86	31.9	28.89
5/13/2017-13:00	29.04	29.03	29	31.85	31.72	31.8	28.81
5/13/2017-14:00	28.98	28.96	28.93	31.75	31.59	31.72	28.74
5/13/2017-15:00	28.92	28.9	28.87	31.66	31.48	31.66	28.68
5/13/2017-16:00	28.88	28.86	28.82	31.58	31.4	31.62	28.63
5/13/2017-17:00	28.85	28.83	28.79	31.51	31.35	31.6	28.61
5/13/2017-18:00	28.83	28.81	28.78	31.46	31.33	31.59	28.6
5/13/2017-19:00	28.83	28.81	28.79	31.43	31.34	31.61	28.61
5/13/2017-20:00	28.84	28.83	28.81	31.42	31.38	31.65	28.63
5/13/2017-21:00	28.87	28.86	28.85	31.43	31.44	31.71	28.68
5/13/2017-22:00	28.9	28.9	28.9	31.46	31.52	31.77	28.73
5/13/2017-23:00	28.95	28.95	28.95	31.5	31.62	31.84	28.79
5/14/2017-0:00	29	29.01	29.01	31.55	31.72	31.92	28.85
5/14/2017-1:00	29.04	29.06	29.07	31.61	31.81	31.98	28.91
5/14/2017-2:00	29.09	29.11	29.11	31.67	31.89	32.04	28.96
5/14/2017-3:00	29.12	29.14	29.15	31.72	31.95	32.07	29
5/14/2017-4:00	29.14	29.17	29.18	31.76	31.98	32.09	29.02
5/14/2017-5:00	29.15	29.17	29.18	31.78	31.99	32.08	29.02
5/14/2017-6:00	29.15	29.17	29.17	31.79	31.96	32.05	29.01
5/14/2017-7:00	29.13	29.14	29.13	31.78	31.9	32	28.97
5/14/2017-8:00	29.09	29.09	29.08	31.74	31.8	31.93	28.92
5/14/2017-9:00	29.04	29.03	29.01	31.69	31.68	31.84	28.84
5/14/2017-10:00	28.97	28.96	28.93	31.61	31.54	31.73	28.76
5/14/2017-11:00	28.9	28.88	28.84	31.52	31.38	31.62	28.67
5/14/2017-12:00	28.82	28.79	28.75	31.41	31.22	31.51	28.57
5/14/2017-13:00	28.74	28.7	28.65	31.3	31.06	31.4	28.47
5/14/2017-14:00	28.66	28.61	28.56	31.18	30.91	31.29	28.38
5/14/2017-15:00	28.58	28.53	28.48	31.07	30.77	31.21	28.3
5/14/2017-16:00	28.52	28.46	28.41	30.96	30.66	31.13	28.23
5/14/2017-17:00	28.46	28.41	28.35	30.87	30.57	31.08	28.17
5/14/2017-18:00	28.41	28.36	28.31	30.79	30.5	31.04	28.13
5/14/2017-19:00	28.38	28.33	28.28	30.72	30.46	31.02	28.11
5/14/2017-20:00	28.36	28.31	28.27	30.67	30.45	31.02	28.1
5/14/2017-21:00	28.35	28.31	28.27	30.64	30.47	31.04	28.1
5/14/2017-22:00	28.35	28.32	28.28	30.63	30.5	31.06	28.12
5/14/2017-23:00	28.36	28.33	28.3	30.63	30.55	31.1	28.15
5/15/2017-0:00	28.38	28.36	28.33	30.64	30.6	31.14	28.17
5/15/2017-1:00	28.4	28.38	28.35	30.66	30.65	31.17	28.2
5/15/2017-2:00	28.41	28.39	28.37	30.68	30.7	31.2	28.22
5/15/2017-3:00	28.42	28.4	28.38	30.69	30.73	31.21	28.24
5/15/2017-4:00	28.42	28.4	28.38	30.7	30.73	31.2	28.24
5/15/2017-5:00	28.41	28.39	28.37	30.7	30.72	31.18	28.22
5/15/2017-6:00	28.38	28.36	28.34	30.68	30.67	31.13	28.19
5/15/2017-7:00	28.34	28.32	28.29	30.65	30.59	31.07	28.14
5/15/2017-8:00	28.29	28.26	28.22	30.59	30.49	30.99	28.07
5/15/2017-9:00	28.23	28.19	28.15	30.52	30.37	30.9	27.99
5/15/2017-10:00	28.15	28.11	28.06	30.44	30.24	30.79	27.91
5/15/2017-11:00	28.08	28.03	27.98	30.35	30.1	30.69	27.82
5/15/2017-12:00	28	27.95	27.89	30.25	29.97	30.6	27.73
5/15/2017-13:00	27.93	27.88	27.82	30.15	29.85	30.52	27.66

5/15/2017-14:00	27.87	27.81	27.75	30.06	29.75	30.45	27.59
5/15/2017-15:00	27.82	27.76	27.71	29.98	29.68	30.41	27.55
5/15/2017-16:00	27.79	27.73	27.68	29.91	29.64	30.39	27.52
5/15/2017-17:00	27.77	27.72	27.67	29.87	29.63	30.39	27.51
5/15/2017-18:00	27.77	27.72	27.68	29.85	29.66	30.43	27.53
5/15/2017-19:00	27.79	27.75	27.71	29.85	29.73	30.48	27.57
5/15/2017-20:00	27.83	27.8	27.77	29.88	29.83	30.56	27.63
5/15/2017-21:00	27.88	27.86	27.84	29.94	29.97	30.66	27.71
5/15/2017-22:00	27.95	27.94	27.93	30.01	30.12	30.78	27.8
5/15/2017-23:00	28.03	28.03	28.03	30.11	30.29	30.9	27.91
5/16/2017-0:00	28.12	28.13	28.13	30.22	30.47	31.03	28.02
5/16/2017-1:00	28.21	28.22	28.24	30.34	30.65	31.15	28.12
5/16/2017-2:00	28.29	28.32	28.33	30.46	30.82	31.26	28.22
5/16/2017-3:00	28.37	28.4	28.42	30.58	30.96	31.35	28.31
5/16/2017-4:00	28.44	28.47	28.49	30.69	31.07	31.42	28.38
5/16/2017-5:00	28.49	28.52	28.54	30.78	31.15	31.47	28.43
5/16/2017-6:00	28.52	28.55	28.57	30.85	31.19	31.49	28.45
5/16/2017-7:00	28.54	28.57	28.58	30.9	31.19	31.48	28.46
5/16/2017-8:00	28.54	28.56	28.56	30.92	31.15	31.44	28.44
5/16/2017-9:00	28.52	28.53	28.53	30.92	31.09	31.39	28.4
5/16/2017-10:00	28.49	28.5	28.49	30.9	31	31.32	28.35
5/16/2017-11:00	28.45	28.45	28.44	30.86	30.9	31.25	28.3
5/16/2017-12:00	28.41	28.4	28.38	30.81	30.8	31.18	28.24
5/16/2017-13:00	28.37	28.36	28.34	30.76	30.71	31.13	28.2
5/16/2017-14:00	28.34	28.33	28.3	30.71	30.64	31.09	28.16
5/16/2017-15:00	28.32	28.3	28.28	30.66	30.59	31.06	28.13
5/16/2017-16:00	28.31	28.3	28.27	30.64	30.58	31.07	28.13
5/16/2017-17:00	28.32	28.31	28.29	30.62	30.59	31.09	28.15
5/16/2017-18:00	28.35	28.34	28.32	30.63	30.65	31.15	28.19
5/16/2017-19:00	28.39	28.39	28.38	30.67	30.74	31.22	28.25
5/16/2017-20:00	28.45	28.46	28.45	30.73	30.86	31.32	28.33
5/16/2017-21:00	28.52	28.54	28.55	30.81	31.01	31.44	28.42
5/16/2017-22:00	28.61	28.64	28.65	30.91	31.18	31.57	28.53
5/16/2017-23:00	28.71	28.74	28.76	31.02	31.37	31.71	28.65
5/17/2017-0:00	28.81	28.85	28.88	31.15	31.56	31.85	28.77
5/17/2017-1:00	28.91	28.96	29	31.29	31.74	31.98	28.89
5/17/2017-2:00	29.01	29.06	29.1	31.43	31.91	32.09	29
5/17/2017-3:00	29.1	29.15	29.2	31.55	32.05	32.19	29.09
5/17/2017-4:00	29.17	29.23	29.27	31.67	32.16	32.26	29.16
5/17/2017-5:00	29.23	29.28	29.32	31.77	32.23	32.3	29.21
5/17/2017-6:00	29.27	29.32	29.35	31.84	32.27	32.32	29.24
5/17/2017-7:00	29.28	29.33	29.36	31.89	32.26	32.3	29.24
5/17/2017-8:00	29.28	29.32	29.35	31.91	32.21	32.26	29.22
5/17/2017-9:00	29.27	29.3	29.31	31.9	32.14	32.2	29.18
5/17/2017-10:00	29.24	29.26	29.26	31.88	32.04	32.13	29.13
5/17/2017-11:00	29.2	29.21	29.21	31.83	31.92	32.05	29.07
5/17/2017-12:00	29.15	29.16	29.15	31.77	31.8	31.98	29.01
5/17/2017-13:00	29.11	29.11	29.09	31.71	31.69	31.91	28.95
5/17/2017-14:00	29.07	29.06	29.05	31.65	31.6	31.85	28.9
5/17/2017-15:00	29.04	29.03	29.02	31.59	31.53	31.82	28.87
5/17/2017-16:00	29.03	29.02	29	31.55	31.5	31.81	28.85
5/17/2017-17:00	29.03	29.02	29.01	31.53	31.5	31.83	28.86
5/17/2017-18:00	29.05	29.04	29.03	31.52	31.54	31.87	28.89

5/17/2017-19:00	29.08	29.09	29.08	31.55	31.62	31.94	28.95
5/17/2017-20:00	29.14	29.15	29.16	31.59	31.73	32.04	29.03
5/17/2017-21:00	29.21	29.24	29.25	31.67	31.88	32.16	29.12
5/17/2017-22:00	29.3	29.34	29.36	31.77	32.05	32.3	29.24
5/17/2017-23:00	29.4	29.45	29.48	31.88	32.25	32.44	29.36
5/18/2017-0:00	29.51	29.57	29.6	32.02	32.45	32.6	29.49
5/18/2017-1:00	29.63	29.69	29.73	32.16	32.66	32.74	29.63
5/18/2017-2:00	29.74	29.8	29.85	32.31	32.85	32.88	29.75
5/18/2017-3:00	29.84	29.91	29.97	32.46	33.02	33	29.86
5/18/2017-4:00	29.93	30	30.06	32.59	33.16	33.09	29.96
5/18/2017-5:00	30.01	30.08	30.14	32.71	33.27	33.16	30.03
5/18/2017-6:00	30.06	30.14	30.19	32.81	33.34	33.21	30.08
5/18/2017-7:00	30.1	30.17	30.22	32.88	33.37	33.22	30.11
5/18/2017-8:00	30.13	30.19	30.23	32.93	33.36	33.21	30.11
5/18/2017-9:00	30.13	30.19	30.22	32.96	33.32	33.18	30.1
5/18/2017-10:00	30.12	30.17	30.2	32.96	33.26	33.14	30.07
5/18/2017-11:00	30.11	30.15	30.17	32.95	33.18	33.09	30.04
5/18/2017-12:00	30.09	30.12	30.14	32.92	33.1	33.04	30
5/18/2017-13:00	30.07	30.1	30.11	32.89	33.03	33	29.97
5/18/2017-14:00	30.05	30.08	30.08	32.86	32.97	32.97	29.94
5/18/2017-15:00	30.05	30.07	30.07	32.83	32.93	32.96	29.93
5/18/2017-16:00	30.05	30.07	30.08	32.82	32.92	32.97	29.94
5/18/2017-17:00	30.07	30.09	30.1	32.82	32.94	33	29.96
5/18/2017-18:00	30.1	30.13	30.14	32.84	32.99	33.05	30
5/18/2017-19:00	30.15	30.18	30.2	32.87	33.07	33.13	30.06
5/18/2017-20:00	30.21	30.25	30.27	32.93	33.18	33.22	30.14
5/18/2017-21:00	30.29	30.34	30.36	33.01	33.32	33.33	30.24
5/18/2017-22:00	30.38	30.43	30.47	33.1	33.47	33.46	30.34
5/18/2017-23:00	30.47	30.53	30.57	33.21	33.64	33.58	30.45
5/19/2017-0:00	30.57	30.64	30.69	33.33	33.81	33.71	30.57
5/19/2017-1:00	30.67	30.74	30.79	33.46	33.97	33.83	30.68
5/19/2017-2:00	30.76	30.84	30.89	33.58	34.12	33.94	30.78
5/19/2017-3:00	30.84	30.92	30.98	33.7	34.24	34.03	30.86
5/19/2017-4:00	30.92	31	31.05	33.8	34.34	34.09	30.93
5/19/2017-5:00	30.97	31.05	31.1	33.89	34.4	34.13	30.98
5/19/2017-6:00	31.01	31.08	31.13	33.95	34.42	34.15	31
5/19/2017-7:00	31.03	31.1	31.14	33.99	34.41	34.13	31.01
5/19/2017-8:00	31.03	31.09	31.12	34.01	34.36	34.1	30.99
5/19/2017-9:00	31.01	31.07	31.09	34	34.28	34.04	30.95
5/19/2017-10:00	30.99	31.03	31.05	33.97	34.18	33.97	30.9
5/19/2017-11:00	30.95	30.98	30.99	33.93	34.07	33.9	30.84
5/19/2017-12:00	30.91	30.93	30.94	33.87	33.95	33.82	30.78
5/19/2017-13:00	30.87	30.89	30.89	33.8	33.84	33.76	30.73
5/19/2017-14:00	30.83	30.85	30.84	33.74	33.75	33.7	30.68
5/19/2017-15:00	30.81	30.82	30.81	33.68	33.68	33.67	30.65
5/19/2017-16:00	30.79	30.8	30.79	33.64	33.64	33.66	30.63
5/19/2017-17:00	30.79	30.8	30.79	33.6	33.62	33.66	30.63
5/19/2017-18:00	30.8	30.81	30.81	33.59	33.65	33.7	30.65
5/19/2017-19:00	30.83	30.85	30.85	33.6	33.7	33.75	30.7
5/19/2017-20:00	30.88	30.9	30.91	33.63	33.79	33.83	30.76
5/19/2017-21:00	30.93	30.97	30.98	33.69	33.9	33.92	30.83
5/19/2017-22:00	31.01	31.05	31.07	33.76	34.04	34.03	30.93
5/19/2017-23:00	31.09	31.13	31.16	33.85	34.19	34.15	31.03

5/20/2017-0:00	31.17	31.23	31.26	33.95	34.34	34.27	31.13
5/20/2017-1:00	31.26	31.32	31.36	34.06	34.5	34.38	31.23
5/20/2017-2:00	31.35	31.41	31.46	34.17	34.64	34.48	31.33
5/20/2017-3:00	31.42	31.49	31.54	34.28	34.76	34.57	31.41
5/20/2017-4:00	31.49	31.56	31.6	34.37	34.85	34.63	31.47
5/20/2017-5:00	31.54	31.6	31.65	34.45	34.91	34.67	31.52
5/20/2017-6:00	31.57	31.63	31.68	34.51	34.94	34.68	31.54
5/20/2017-7:00	31.59	31.65	31.68	34.55	34.93	34.67	31.54
5/20/2017-8:00	31.59	31.64	31.67	34.56	34.89	34.64	31.52
5/20/2017-9:00	31.57	31.62	31.64	34.55	34.82	34.59	31.49
5/20/2017-10:00	31.55	31.58	31.6	34.53	34.73	34.53	31.45
5/20/2017-11:00	31.52	31.55	31.55	34.49	34.63	34.46	31.4
5/20/2017-12:00	31.48	31.5	31.51	34.44	34.53	34.4	31.35
5/20/2017-13:00	31.45	31.47	31.47	34.38	34.44	34.35	31.3
5/20/2017-14:00	31.42	31.44	31.43	34.33	34.37	34.31	31.27
5/20/2017-15:00	31.41	31.42	31.42	34.29	34.32	34.3	31.25
5/20/2017-16:00	31.4	31.42	31.41	34.26	34.3	34.3	31.25
5/20/2017-17:00	31.41	31.43	31.43	34.25	34.32	34.33	31.27
5/20/2017-18:00	31.44	31.46	31.47	34.25	34.36	34.38	31.31
5/20/2017-19:00	31.49	31.51	31.52	34.28	34.44	34.46	31.37
5/20/2017-20:00	31.55	31.58	31.6	34.33	34.56	34.55	31.45
5/20/2017-21:00	31.62	31.66	31.69	34.41	34.7	34.67	31.54
5/20/2017-22:00	31.71	31.76	31.79	34.5	34.86	34.79	31.65
5/20/2017-23:00	31.81	31.86	31.9	34.61	35.04	34.93	31.77
5/21/2017-0:00	31.91	31.98	32.02	34.74	35.22	35.07	31.89
5/21/2017-1:00	32.01	32.09	32.14	34.87	35.4	35.2	32.01
5/21/2017-2:00	32.11	32.19	32.25	35	35.56	35.32	32.12
5/21/2017-3:00	32.2	32.29	32.34	35.13	35.7	35.42	32.22
5/21/2017-4:00	32.28	32.37	32.42	35.24	35.81	35.49	32.29
5/21/2017-5:00	32.35	32.43	32.48	35.34	35.89	35.54	32.35
5/21/2017-6:00	32.39	32.47	32.52	35.41	35.93	35.56	32.38
5/21/2017-7:00	32.41	32.49	32.53	35.46	35.92	35.56	32.39
5/21/2017-8:00	32.42	32.49	32.52	35.49	35.88	35.53	32.38
5/21/2017-9:00	32.41	32.47	32.5	35.49	35.81	35.48	32.35
5/21/2017-10:00	32.39	32.44	32.46	35.47	35.72	35.42	32.31
5/21/2017-11:00	32.36	32.4	32.42	35.43	35.62	35.35	32.26
5/21/2017-12:00	32.33	32.36	32.37	35.38	35.51	35.29	32.21
5/21/2017-13:00	32.3	32.32	32.33	35.33	35.42	35.24	32.16
5/21/2017-14:00	32.27	32.3	32.3	35.28	35.35	35.2	32.13
5/21/2017-15:00	32.26	32.28	32.29	35.24	35.3	35.19	32.12
5/21/2017-16:00	32.26	32.28	32.29	35.21	35.29	35.2	32.13
5/21/2017-17:00	32.28	32.31	32.31	35.21	35.31	35.24	32.15
5/21/2017-18:00	32.32	32.35	32.36	35.22	35.37	35.3	32.2
5/21/2017-19:00	32.37	32.41	32.43	35.26	35.47	35.39	32.27
5/21/2017-20:00	32.44	32.48	32.51	35.33	35.6	35.5	32.36
5/21/2017-21:00	32.53	32.58	32.62	35.41	35.76	35.63	32.47
5/21/2017-22:00	32.63	32.69	32.73	35.52	35.94	35.77	32.6
5/21/2017-23:00	32.73	32.81	32.86	35.65	36.14	35.92	32.73
5/22/2017-0:00	32.85	32.93	32.99	35.79	36.34	36.08	32.86
5/22/2017-1:00	32.97	33.06	33.12	35.94	36.54	36.22	33
5/22/2017-2:00	33.08	33.18	33.25	36.09	36.72	36.36	33.12
5/22/2017-3:00	33.18	33.29	33.36	36.23	36.89	36.47	33.24
5/22/2017-4:00	33.28	33.38	33.45	36.36	37.02	36.57	33.33



5/22/2017-5:00	33.36	33.46	33.53	36.48	37.12	36.64	33.4
5/22/2017-6:00	33.42	33.51	33.58	36.58	37.18	36.68	33.46
5/22/2017-7:00	33.46	33.55	33.62	36.65	37.21	36.7	33.48
5/22/2017-8:00	33.48	33.57	33.63	36.7	37.2	36.69	33.49
5/22/2017-9:00	33.49	33.57	33.62	36.72	37.15	36.66	33.48
5/22/2017-10:00	33.49	33.56	33.6	36.72	37.09	36.62	33.46
5/22/2017-11:00	33.47	33.54	33.58	36.71	37.01	36.57	33.42
5/22/2017-12:00	33.45	33.51	33.54	36.68	36.92	36.52	33.38
5/22/2017-13:00	33.43	33.48	33.51	36.64	36.83	36.47	33.35
5/22/2017-14:00	33.41	33.46	33.48	36.6	36.76	36.43	33.32
5/22/2017-15:00	33.4	33.44	33.46	36.56	36.7	36.41	33.3
5/22/2017-16:00	33.4	33.44	33.46	36.54	36.66	36.4	33.29
5/22/2017-17:00	33.41	33.45	33.47	36.52	36.66	36.42	33.3
5/22/2017-18:00	33.43	33.47	33.49	36.52	36.68	36.46	33.33
5/22/2017-19:00	33.47	33.51	33.54	36.54	36.74	36.52	33.38
5/22/2017-20:00	33.52	33.57	33.6	36.58	36.83	36.6	33.45
5/22/2017-21:00	33.59	33.64	33.68	36.64	36.94	36.7	33.53
5/22/2017-22:00	33.67	33.73	33.78	36.71	37.08	36.81	33.63
5/22/2017-23:00	33.76	33.83	33.88	36.81	37.23	36.94	33.74
5/23/2017-0:00	33.85	33.93	33.99	36.92	37.4	37.06	33.85
5/23/2017-1:00	33.95	34.04	34.1	37.04	37.56	37.19	33.96
5/23/2017-2:00	34.05	34.14	34.2	37.16	37.71	37.3	34.07
5/23/2017-3:00	34.14	34.23	34.3	37.28	37.85	37.4	34.16
5/23/2017-4:00	34.21	34.31	34.38	37.38	37.96	37.48	34.24
5/23/2017-5:00	34.28	34.38	34.44	37.48	38.04	37.53	34.3
5/23/2017-6:00	34.33	34.42	34.48	37.55	38.08	37.56	34.34
5/23/2017-7:00	34.36	34.45	34.51	37.61	38.09	37.57	34.36
5/23/2017-8:00	34.38	34.46	34.51	37.64	38.07	37.56	34.36
5/23/2017-9:00	34.38	34.46	34.5	37.65	38.02	37.52	34.35
5/23/2017-10:00	34.37	34.44	34.48	37.64	37.95	37.48	34.32
5/23/2017-11:00	34.36	34.42	34.45	37.62	37.87	37.43	34.29
5/23/2017-12:00	34.34	34.39	34.42	37.58	37.79	37.38	34.25
5/23/2017-13:00	34.32	34.36	34.39	37.54	37.71	37.34	34.22
5/23/2017-14:00	34.3	34.34	34.36	37.51	37.64	37.31	34.19
5/23/2017-15:00	34.29	34.33	34.35	37.47	37.6	37.3	34.18
5/23/2017-16:00	34.29	34.33	34.35	37.45	37.58	37.3	34.18
5/23/2017-17:00	34.31	34.35	34.37	37.44	37.59	37.33	34.2
5/23/2017-18:00	34.34	34.38	34.41	37.45	37.63	37.38	34.24
5/23/2017-19:00	34.38	34.43	34.46	37.47	37.69	37.44	34.29
5/23/2017-20:00	34.44	34.49	34.53	37.52	37.79	37.53	34.37
5/23/2017-21:00	34.51	34.57	34.61	37.59	37.91	37.63	34.45
5/23/2017-22:00	34.59	34.66	34.71	37.67	38.05	37.75	34.55
5/23/2017-23:00	34.68	34.76	34.81	37.77	38.21	37.87	34.66
5/24/2017-0:00	34.78	34.86	34.92	37.88	38.36	37.99	34.77
5/24/2017-1:00	34.87	34.96	35.02	37.99	38.52	38.11	34.88
5/24/2017-2:00	34.96	35.05	35.12	38.11	38.66	38.21	34.97
5/24/2017-3:00	35.04	35.14	35.2	38.22	38.78	38.3	35.06
5/24/2017-4:00	35.11	35.21	35.27	38.31	38.86	38.36	35.12
5/24/2017-5:00	35.17	35.26	35.32	38.39	38.92	38.4	35.17
5/24/2017-6:00	35.2	35.29	35.35	38.45	38.94	38.41	35.19
5/24/2017-7:00	35.22	35.3	35.35	38.49	38.92	38.4	35.2
5/24/2017-8:00	35.22	35.29	35.34	38.5	38.87	38.36	35.18
5/24/2017-9:00	35.21	35.27	35.31	38.48	38.79	38.31	35.14

5/24/2017-10:00	35.18	35.24	35.26	38.45	38.69	38.24	35.09
5/24/2017-11:00	35.14	35.19	35.21	38.4	38.57	38.17	35.04
5/24/2017-12:00	35.1	35.14	35.16	38.34	38.46	38.09	34.98
5/24/2017-13:00	35.07	35.1	35.11	38.28	38.35	38.03	34.93
5/24/2017-14:00	35.03	35.06	35.06	38.21	38.25	37.98	34.88
5/24/2017-15:00	35	35.03	35.03	38.15	38.18	37.94	34.85
5/24/2017-16:00	34.98	35.01	35.01	38.1	38.12	37.92	34.83
5/24/2017-17:00	34.98	35	35.01	38.06	38.1	37.92	34.83
5/24/2017-18:00	34.99	35.01	35.02	38.04	38.11	37.95	34.84
5/24/2017-19:00	35.01	35.04	35.05	38.04	38.14	37.99	34.87
5/24/2017-20:00	35.04	35.08	35.09	38.06	38.2	38.05	34.92
5/24/2017-21:00	35.09	35.13	35.15	38.09	38.29	38.12	34.98
5/24/2017-22:00	35.15	35.19	35.22	38.14	38.39	38.21	35.05
5/24/2017-23:00	35.21	35.26	35.29	38.21	38.51	38.3	35.13
5/25/2017-0:00	35.28	35.34	35.37	38.28	38.63	38.39	35.22
5/25/2017-1:00	35.35	35.41	35.45	38.36	38.74	38.48	35.3
5/25/2017-2:00	35.41	35.48	35.52	38.44	38.84	38.55	35.37
5/25/2017-3:00	35.47	35.54	35.58	38.52	38.92	38.61	35.42
5/25/2017-4:00	35.51	35.58	35.62	38.58	38.98	38.65	35.46
5/25/2017-5:00	35.54	35.6	35.64	38.62	38.99	38.66	35.48
5/25/2017-6:00	35.55	35.61	35.64	38.65	38.98	38.64	35.48
5/25/2017-7:00	35.54	35.59	35.62	38.65	38.92	38.6	35.46
5/25/2017-8:00	35.52	35.56	35.58	38.63	38.84	38.53	35.41
5/25/2017-9:00	35.48	35.51	35.53	38.58	38.72	38.45	35.35
5/25/2017-10:00	35.43	35.45	35.46	38.52	38.59	38.36	35.28
5/25/2017-11:00	35.36	35.38	35.38	38.44	38.44	38.26	35.2
5/25/2017-12:00	35.3	35.31	35.3	38.34	38.29	38.16	35.11
5/25/2017-13:00	35.24	35.24	35.22	38.25	38.15	38.07	35.04
5/25/2017-14:00	35.18	35.17	35.16	38.15	38.03	37.99	34.97
5/25/2017-15:00	35.12	35.12	35.1	38.06	37.92	37.93	34.91
5/25/2017-16:00	35.08	35.07	35.05	37.98	37.84	37.89	34.87
5/25/2017-17:00	35.05	35.04	35.03	37.91	37.78	37.86	34.84
5/25/2017-18:00	35.04	35.03	35.01	37.86	37.76	37.86	34.83
5/25/2017-19:00	35.03	35.03	35.02	37.83	37.77	37.88	34.84
5/25/2017-20:00	35.05	35.05	35.04	37.82	37.8	37.92	34.87
5/25/2017-21:00	35.07	35.08	35.08	37.82	37.86	37.97	34.91
5/25/2017-22:00	35.11	35.12	35.13	37.85	37.94	38.04	34.96
5/25/2017-23:00	35.16	35.18	35.19	37.89	38.04	38.12	35.02
5/26/2017-0:00	35.21	35.23	35.25	37.95	38.14	38.19	35.09
5/26/2017-1:00	35.26	35.29	35.31	38.01	38.24	38.27	35.16
5/26/2017-2:00	35.31	35.35	35.37	38.07	38.33	38.33	35.21
5/26/2017-3:00	35.35	35.39	35.41	38.13	38.4	38.38	35.26
5/26/2017-4:00	35.38	35.42	35.44	38.17	38.44	38.4	35.29
5/26/2017-5:00	35.39	35.43	35.45	38.21	38.45	38.4	35.3
5/26/2017-6:00	35.39	35.42	35.44	38.22	38.42	38.37	35.28
5/26/2017-7:00	35.37	35.39	35.4	38.2	38.36	38.31	35.24
5/26/2017-8:00	35.33	35.35	35.35	38.17	38.26	38.24	35.19
5/26/2017-9:00	35.28	35.29	35.28	38.11	38.13	38.14	35.11
5/26/2017-10:00	35.21	35.21	35.2	38.03	37.99	38.04	35.03
5/26/2017-11:00	35.14	35.13	35.11	37.94	37.84	37.93	34.94
5/26/2017-12:00	35.07	35.06	35.03	37.84	37.69	37.83	34.85
5/26/2017-13:00	35	34.98	34.95	37.74	37.55	37.74	34.78
5/26/2017-14:00	34.94	34.92	34.88	37.64	37.43	37.67	34.71

5/26/2017-15:00	34.89	34.87	34.83	37.55	37.34	37.62	34.66
5/26/2017-16:00	34.85	34.83	34.8	37.48	37.29	37.6	34.63
5/26/2017-17:00	34.84	34.81	34.79	37.43	37.27	37.6	34.62
5/26/2017-18:00	34.83	34.82	34.8	37.4	37.28	37.62	34.63
5/26/2017-19:00	34.85	34.84	34.83	37.39	37.34	37.68	34.67
5/26/2017-20:00	34.89	34.89	34.88	37.41	37.43	37.75	34.73
5/26/2017-21:00	34.94	34.95	34.95	37.46	37.55	37.85	34.81
5/26/2017-22:00	35.01	35.03	35.04	37.53	37.71	37.97	34.9
5/26/2017-23:00	35.1	35.13	35.15	37.63	37.88	38.1	35.01
5/27/2017-0:00	35.19	35.23	35.26	37.74	38.06	38.24	35.13
5/27/2017-1:00	35.28	35.33	35.37	37.86	38.25	38.37	35.24
5/27/2017-2:00	35.38	35.43	35.47	37.99	38.42	38.49	35.35
5/27/2017-3:00	35.46	35.52	35.57	38.11	38.57	38.59	35.45
5/27/2017-4:00	35.54	35.6	35.65	38.22	38.69	38.67	35.53
5/27/2017-5:00	35.59	35.66	35.7	38.32	38.78	38.73	35.59
5/27/2017-6:00	35.64	35.7	35.74	38.4	38.83	38.75	35.62
5/27/2017-7:00	35.66	35.72	35.76	38.45	38.84	38.75	35.63
5/27/2017-8:00	35.67	35.72	35.75	38.48	38.81	38.73	35.62
5/27/2017-9:00	35.66	35.71	35.73	38.49	38.75	38.68	35.6
5/27/2017-10:00	35.64	35.68	35.7	38.48	38.68	38.63	35.56
5/27/2017-11:00	35.61	35.64	35.65	38.44	38.58	38.56	35.51
5/27/2017-12:00	35.57	35.6	35.61	38.4	38.48	38.5	35.46
5/27/2017-13:00	35.54	35.56	35.56	38.35	38.39	38.44	35.41
5/27/2017-14:00	35.51	35.52	35.52	38.3	38.31	38.4	35.37
5/27/2017-15:00	35.48	35.49	35.49	38.25	38.24	38.36	35.34
5/27/2017-16:00	35.47	35.48	35.47	38.21	38.2	38.35	35.32
5/27/2017-17:00	35.46	35.47	35.47	38.18	38.18	38.35	35.32
5/27/2017-18:00	35.47	35.48	35.48	38.17	38.19	38.37	35.34
5/27/2017-19:00	35.49	35.5	35.51	38.17	38.23	38.41	35.37
5/27/2017-20:00	35.52	35.54	35.55	38.19	38.29	38.47	35.41
5/27/2017-21:00	35.56	35.59	35.61	38.23	38.38	38.54	35.47
5/27/2017-22:00	35.62	35.65	35.67	38.28	38.48	38.62	35.54
5/27/2017-23:00	35.68	35.72	35.75	38.35	38.6	38.71	35.62
5/28/2017-0:00	35.75	35.8	35.83	38.43	38.72	38.81	35.7
5/28/2017-1:00	35.82	35.87	35.91	38.51	38.84	38.89	35.78
5/28/2017-2:00	35.88	35.94	35.97	38.6	38.95	38.97	35.85
5/28/2017-3:00	35.94	35.99	36.03	38.67	39.03	39.03	35.91
5/28/2017-4:00	35.98	36.04	36.07	38.74	39.08	39.06	35.95
5/28/2017-5:00	36.01	36.06	36.09	38.79	39.1	39.07	35.96
5/28/2017-6:00	36.01	36.06	36.09	38.81	39.08	39.04	35.96
5/28/2017-7:00	36	36.04	36.06	38.81	39.03	39	35.93
5/28/2017-8:00	35.97	36	36.02	38.79	38.94	38.93	35.88
5/28/2017-9:00	35.93	35.95	35.95	38.74	38.82	38.84	35.81
5/28/2017-10:00	35.87	35.88	35.88	38.67	38.68	38.74	35.73
5/28/2017-11:00	35.81	35.81	35.8	38.59	38.53	38.64	35.65
5/28/2017-12:00	35.74	35.74	35.72	38.5	38.39	38.55	35.57
5/28/2017-13:00	35.68	35.67	35.65	38.41	38.26	38.46	35.5
5/28/2017-14:00	35.63	35.62	35.59	38.32	38.16	38.4	35.44
5/28/2017-15:00	35.59	35.57	35.55	38.24	38.08	38.36	35.39
5/28/2017-16:00	35.56	35.55	35.53	38.18	38.03	38.34	35.37
5/28/2017-17:00	35.55	35.54	35.52	38.14	38.02	38.35	35.37
5/28/2017-18:00	35.56	35.55	35.54	38.12	38.05	38.38	35.39
5/28/2017-19:00	35.58	35.58	35.58	38.13	38.11	38.44	35.43

5/28/2017-20:00	35.63	35.64	35.64	38.16	38.21	38.53	35.5
5/28/2017-21:00	35.69	35.7	35.71	38.21	38.34	38.63	35.58
5/28/2017-22:00	35.76	35.79	35.81	38.29	38.5	38.75	35.68
5/28/2017-23:00	35.85	35.88	35.91	38.39	38.67	38.88	35.79
5/29/2017-0:00	35.94	35.99	36.02	38.5	38.85	39.01	35.9
5/29/2017-1:00	36.03	36.09	36.13	38.62	39.02	39.13	36.01
5/29/2017-2:00	36.12	36.18	36.23	38.74	39.19	39.25	36.12
5/29/2017-3:00	36.21	36.27	36.32	38.86	39.33	39.34	36.21
5/29/2017-4:00	36.28	36.35	36.39	38.97	39.44	39.42	36.28
5/29/2017-5:00	36.33	36.4	36.45	39.06	39.52	39.46	36.33
5/29/2017-6:00	36.37	36.44	36.48	39.14	39.55	39.48	36.36
5/29/2017-7:00	36.39	36.45	36.49	39.18	39.55	39.47	36.37
5/29/2017-8:00	36.39	36.44	36.48	39.2	39.51	39.44	36.35
5/29/2017-9:00	36.38	36.42	36.45	39.2	39.44	39.39	36.32
5/29/2017-10:00	36.35	36.39	36.4	39.18	39.35	39.32	36.27
5/29/2017-11:00	36.31	36.34	36.35	39.14	39.24	39.25	36.21
5/29/2017-12:00	36.27	36.29	36.3	39.08	39.13	39.18	36.15
5/29/2017-13:00	36.23	36.25	36.25	39.02	39.03	39.11	36.1
5/29/2017-14:00	36.2	36.21	36.2	38.96	38.94	39.06	36.05
5/29/2017-15:00	36.17	36.18	36.17	38.91	38.87	39.03	36.02
5/29/2017-16:00	36.15	36.16	36.15	38.87	38.83	39.02	36.01
5/29/2017-17:00	36.15	36.16	36.16	38.84	38.83	39.03	36.01
5/29/2017-18:00	36.17	36.18	36.18	38.83	38.85	39.06	36.03
5/29/2017-19:00	36.2	36.21	36.22	38.84	38.91	39.12	36.08
5/29/2017-20:00	36.24	36.26	36.28	38.88	39	39.2	36.14
5/29/2017-21:00	36.3	36.33	36.35	38.93	39.12	39.3	36.22
5/29/2017-22:00	36.38	36.42	36.44	39.01	39.27	39.41	36.32
5/29/2017-23:00	36.46	36.51	36.54	39.11	39.43	39.53	36.42
5/30/2017-0:00	36.55	36.61	36.65	39.22	39.59	39.66	36.53
5/30/2017-1:00	36.64	36.71	36.75	39.33	39.76	39.77	36.63
5/30/2017-2:00	36.73	36.8	36.85	39.45	39.91	39.88	36.73
5/30/2017-3:00	36.81	36.88	36.93	39.56	40.04	39.97	36.82
5/30/2017-4:00	36.88	36.95	37.01	39.67	40.14	40.04	36.89
5/30/2017-5:00	36.94	37.01	37.06	39.75	40.22	40.09	36.94
5/30/2017-6:00	36.98	37.04	37.09	39.82	40.25	40.11	36.97
5/30/2017-7:00	37	37.06	37.1	39.87	40.25	40.1	36.98
5/30/2017-8:00	37	37.06	37.09	39.89	40.21	40.07	36.96
5/30/2017-9:00	36.99	37.04	37.07	39.89	40.15	40.02	36.93
5/30/2017-10:00	36.96	37	37.03	39.87	40.06	39.96	36.89
5/30/2017-11:00	36.93	36.96	36.98	39.83	39.96	39.89	36.84
5/30/2017-12:00	36.89	36.92	36.93	39.78	39.85	39.82	36.78
5/30/2017-13:00	36.85	36.87	36.88	39.72	39.75	39.76	36.73
5/30/2017-14:00	36.82	36.83	36.83	39.66	39.66	39.71	36.68
5/30/2017-15:00	36.79	36.8	36.8	39.61	39.59	39.67	36.65
5/30/2017-16:00	36.77	36.79	36.78	39.56	39.55	39.66	36.63
5/30/2017-17:00	36.77	36.78	36.78	39.53	39.53	39.66	36.63
5/30/2017-18:00	36.78	36.79	36.8	39.52	39.55	39.69	36.65
5/30/2017-19:00	36.8	36.82	36.83	39.52	39.59	39.74	36.69
5/30/2017-20:00	36.84	36.87	36.88	39.55	39.67	39.81	36.74
5/30/2017-21:00	36.89	36.93	36.94	39.6	39.77	39.89	36.81
5/30/2017-22:00	36.96	37	37.02	39.66	39.89	39.99	36.89
5/30/2017-23:00	37.03	37.07	37.1	39.74	40.02	40.09	36.98
5/31/2017-0:00	37.11	37.16	37.19	39.83	40.16	40.19	37.07

5/31/2017-1:00	37.18	37.24	37.28	39.92	40.3	40.29	37.16
5/31/2017-2:00	37.26	37.32	37.36	40.02	40.42	40.38	37.24
5/31/2017-3:00	37.32	37.38	37.43	40.11	40.52	40.45	37.31
5/31/2017-4:00	37.38	37.44	37.48	40.19	40.6	40.5	37.36
5/31/2017-5:00	37.42	37.48	37.52	40.26	40.65	40.53	37.4
5/31/2017-6:00	37.44	37.5	37.54	40.31	40.66	40.54	37.41
5/31/2017-7:00	37.45	37.51	37.54	40.33	40.65	40.52	37.41
5/31/2017-8:00	37.45	37.49	37.52	40.34	40.6	40.48	37.39
5/31/2017-9:00	37.43	37.47	37.49	40.32	40.52	40.43	37.35
5/31/2017-10:00	37.4	37.43	37.44	40.29	40.43	40.37	37.3
5/31/2017-11:00	37.36	37.39	37.39	40.25	40.33	40.3	37.25
5/31/2017-12:00	37.32	37.34	37.34	40.19	40.23	40.23	37.2
5/31/2017-13:00	37.29	37.3	37.3	40.13	40.14	40.18	37.15
5/31/2017-14:00	37.25	37.27	37.26	40.08	40.06	40.14	37.11
5/31/2017-15:00	37.23	37.24	37.24	40.03	40.01	40.11	37.08
5/31/2017-16:00	37.22	37.23	37.23	39.99	39.98	40.11	37.08
5/31/2017-17:00	37.22	37.24	37.23	39.97	39.98	40.12	37.09
5/31/2017-18:00	37.24	37.26	37.26	39.97	40.01	40.16	37.11
5/31/2017-19:00	37.27	37.29	37.3	39.98	40.07	40.22	37.16
5/31/2017-20:00	37.31	37.34	37.35	40.02	40.16	40.29	37.21
5/31/2017-21:00	37.37	37.4	37.42	40.07	40.27	40.38	37.29
5/31/2017-22:00	37.43	37.47	37.5	40.14	40.39	40.47	37.37
5/31/2017-23:00	37.5	37.55	37.58	40.22	40.51	40.57	37.45
6/1/2017-0:00	37.57	37.62	37.66	40.3	40.64	40.66	37.53
6/1/2017-1:00	37.64	37.69	37.73	40.39	40.76	40.74	37.61
6/1/2017-2:00	37.7	37.76	37.8	40.47	40.85	40.81	37.67
6/1/2017-3:00	37.75	37.81	37.85	40.55	40.93	40.86	37.72
6/1/2017-4:00	37.79	37.84	37.88	40.61	40.97	40.89	37.76
6/1/2017-5:00	37.81	37.86	37.9	40.65	40.99	40.89	37.77
6/1/2017-6:00	37.82	37.86	37.89	40.68	40.97	40.87	37.76
6/1/2017-7:00	37.81	37.85	37.87	40.68	40.91	40.83	37.74
6/1/2017-8:00	37.78	37.81	37.83	40.66	40.83	40.77	37.69
6/1/2017-9:00	37.74	37.76	37.77	40.61	40.72	40.69	37.63
6/1/2017-10:00	37.68	37.7	37.7	40.55	40.59	40.59	37.55
6/1/2017-11:00	37.62	37.63	37.62	40.47	40.44	40.49	37.47
6/1/2017-12:00	37.56	37.56	37.55	40.38	40.3	40.4	37.39
6/1/2017-13:00	37.49	37.49	37.47	40.29	40.16	40.31	37.31
6/1/2017-14:00	37.43	37.42	37.4	40.19	40.04	40.23	37.24
6/1/2017-15:00	37.38	37.37	37.34	40.11	39.93	40.17	37.18
6/1/2017-16:00	37.34	37.32	37.3	40.03	39.86	40.13	37.14
6/1/2017-17:00	37.31	37.3	37.27	39.97	39.81	40.11	37.12
6/1/2017-18:00	37.3	37.29	37.27	39.92	39.8	40.12	37.11
6/1/2017-19:00	37.3	37.3	37.28	39.9	39.83	40.14	37.13
6/1/2017-20:00	37.32	37.32	37.31	39.9	39.88	40.2	37.17
6/1/2017-21:00	37.36	37.36	37.36	39.92	39.96	40.27	37.22
6/1/2017-22:00	37.41	37.42	37.43	39.97	40.07	40.35	37.29
6/1/2017-23:00	37.47	37.49	37.5	40.03	40.2	40.45	37.37
6/2/2017-0:00	37.53	37.56	37.58	40.1	40.33	40.55	37.45
6/2/2017-1:00	37.6	37.64	37.66	40.19	40.47	40.64	37.54
6/2/2017-2:00	37.67	37.71	37.74	40.28	40.59	40.73	37.62
6/2/2017-3:00	37.73	37.78	37.81	40.36	40.7	40.8	37.69
6/2/2017-4:00	37.78	37.83	37.86	40.44	40.79	40.86	37.74
6/2/2017-5:00	37.82	37.87	37.9	40.51	40.84	40.89	37.78

6/2/2017-6:00	37.84	37.89	37.92	40.55	40.86	40.89	37.79
6/2/2017-7:00	37.85	37.89	37.91	40.58	40.85	40.88	37.79
6/2/2017-8:00	37.84	37.88	37.89	40.59	40.8	40.84	37.76
6/2/2017-9:00	37.82	37.85	37.86	40.57	40.73	40.78	37.72
6/2/2017-10:00	37.78	37.8	37.81	40.54	40.63	40.71	37.67
6/2/2017-11:00	37.74	37.75	37.75	40.48	40.52	40.64	37.61
6/2/2017-12:00	37.69	37.7	37.69	40.42	40.41	40.56	37.55
6/2/2017-13:00	37.65	37.65	37.64	40.36	40.3	40.49	37.49
6/2/2017-14:00	37.6	37.6	37.58	40.29	40.21	40.43	37.44
6/2/2017-15:00	37.57	37.56	37.54	40.22	40.13	40.39	37.39
6/2/2017-16:00	37.54	37.53	37.52	40.17	40.08	40.37	37.37
6/2/2017-17:00	37.53	37.52	37.51	40.13	40.06	40.36	37.36
6/2/2017-18:00	37.53	37.53	37.51	40.11	40.07	40.38	37.37
6/2/2017-19:00	37.55	37.55	37.54	40.11	40.11	40.42	37.4
6/2/2017-20:00	37.58	37.58	37.58	40.12	40.18	40.49	37.45
6/2/2017-21:00	37.62	37.64	37.64	40.16	40.27	40.57	37.51
6/2/2017-22:00	37.68	37.7	37.71	40.22	40.39	40.66	37.59
6/2/2017-23:00	37.75	37.78	37.8	40.3	40.52	40.76	37.67
6/3/2017-0:00	37.82	37.86	37.88	40.38	40.67	40.87	37.76
6/3/2017-1:00	37.9	37.94	37.97	40.48	40.81	40.97	37.85
6/3/2017-2:00	37.97	38.02	38.05	40.57	40.93	41.06	37.94
6/3/2017-3:00	38.03	38.09	38.12	40.67	41.04	41.13	38.01
6/3/2017-4:00	38.09	38.14	38.18	40.75	41.13	41.18	38.06
6/3/2017-5:00	38.13	38.18	38.21	40.82	41.18	41.22	38.1
6/3/2017-6:00	38.15	38.2	38.23	40.87	41.2	41.22	38.11
6/3/2017-7:00	38.16	38.2	38.23	40.9	41.18	41.2	38.11
6/3/2017-8:00	38.15	38.19	38.21	40.9	41.13	41.16	38.08
6/3/2017-9:00	38.13	38.16	38.17	40.89	41.05	41.1	38.04
6/3/2017-10:00	38.09	38.12	38.12	40.85	40.96	41.03	37.98
6/3/2017-11:00	38.05	38.07	38.06	40.8	40.85	40.95	37.92
6/3/2017-12:00	38	38.01	38	40.74	40.73	40.88	37.86
6/3/2017-13:00	37.96	37.96	37.95	40.67	40.62	40.81	37.8
6/3/2017-14:00	37.92	37.91	37.9	40.6	40.53	40.75	37.75
6/3/2017-15:00	37.88	37.87	37.86	40.54	40.45	40.71	37.71
6/3/2017-16:00	37.86	37.85	37.83	40.49	40.4	40.69	37.68
6/3/2017-17:00	37.85	37.84	37.82	40.45	40.38	40.69	37.68
6/3/2017-18:00	37.85	37.84	37.83	40.43	40.39	40.71	37.69
6/3/2017-19:00	37.86	37.87	37.86	40.43	40.43	40.75	37.72
6/3/2017-20:00	37.9	37.9	37.9	40.45	40.5	40.81	37.76
6/3/2017-21:00	37.94	37.96	37.96	40.49	40.6	40.89	37.83
6/3/2017-22:00	38	38.02	38.03	40.54	40.72	40.98	37.91
6/3/2017-23:00	38.07	38.1	38.12	40.62	40.85	41.09	37.99
6/4/2017-0:00	38.14	38.18	38.2	40.71	41	41.19	38.08
6/4/2017-1:00	38.22	38.26	38.29	40.8	41.13	41.29	38.17
6/4/2017-2:00	38.29	38.34	38.37	40.9	41.26	41.38	38.25
6/4/2017-3:00	38.35	38.4	38.44	40.99	41.37	41.45	38.32
6/4/2017-4:00	38.4	38.46	38.49	41.07	41.45	41.5	38.37
6/4/2017-5:00	38.44	38.49	38.52	41.14	41.49	41.53	38.41
6/4/2017-6:00	38.46	38.51	38.54	41.18	41.51	41.53	38.42
6/4/2017-7:00	38.47	38.51	38.53	41.21	41.48	41.5	38.41
6/4/2017-8:00	38.46	38.49	38.51	41.21	41.43	41.46	38.38
6/4/2017-9:00	38.43	38.46	38.47	41.19	41.34	41.4	38.33
6/4/2017-10:00	38.39	38.41	38.42	41.15	41.25	41.33	38.28

6/4/2017-11:00	38.35	38.37	38.36	41.1	41.14	41.25	38.22
6/4/2017-12:00	38.31	38.32	38.31	41.04	41.03	41.19	38.16
6/4/2017-13:00	38.27	38.27	38.26	40.98	40.94	41.13	38.11
6/4/2017-14:00	38.24	38.23	38.22	40.92	40.86	41.08	38.07
6/4/2017-15:00	38.21	38.21	38.19	40.87	40.81	41.06	38.05
6/4/2017-16:00	38.2	38.2	38.18	40.83	40.78	41.05	38.04
6/4/2017-17:00	38.2	38.2	38.19	40.81	40.79	41.07	38.05
6/4/2017-18:00	38.22	38.22	38.22	40.81	40.82	41.11	38.08
6/4/2017-19:00	38.25	38.26	38.26	40.82	40.89	41.17	38.12
6/4/2017-20:00	38.3	38.32	38.32	40.86	40.99	41.26	38.19
6/4/2017-21:00	38.36	38.39	38.4	40.93	41.11	41.35	38.27
6/4/2017-22:00	38.44	38.47	38.49	41.01	41.26	41.47	38.37
6/4/2017-23:00	38.52	38.56	38.59	41.1	41.42	41.59	38.47
6/5/2017-0:00	38.61	38.66	38.69	41.21	41.58	41.71	38.58
6/5/2017-1:00	38.7	38.76	38.8	41.33	41.74	41.83	38.68
6/5/2017-2:00	38.79	38.85	38.89	41.44	41.89	41.93	38.78
6/5/2017-3:00	38.87	38.93	38.98	41.56	42.02	42.02	38.87
6/5/2017-4:00	38.94	39	39.05	41.66	42.12	42.09	38.93
6/5/2017-5:00	38.99	39.05	39.09	41.74	42.19	42.13	38.98
6/5/2017-6:00	39.02	39.08	39.12	41.81	42.21	42.14	39
6/5/2017-7:00	39.03	39.09	39.12	41.84	42.2	42.12	39
6/5/2017-8:00	39.03	39.08	39.1	41.86	42.14	42.07	38.97
6/5/2017-9:00	39.01	39.05	39.06	41.84	42.06	42.01	38.93
6/5/2017-10:00	38.97	39	39.01	41.81	41.95	41.94	38.87
6/5/2017-11:00	38.93	38.95	38.95	41.76	41.84	41.85	38.81
6/5/2017-12:00	38.88	38.89	38.89	41.69	41.71	41.77	38.74
6/5/2017-13:00	38.84	38.84	38.83	41.62	41.6	41.7	38.68
6/5/2017-14:00	38.79	38.79	38.78	41.55	41.5	41.64	38.63
6/5/2017-15:00	38.76	38.76	38.74	41.49	41.42	41.6	38.59
6/5/2017-16:00	38.74	38.74	38.72	41.44	41.38	41.59	38.57
6/5/2017-17:00	38.73	38.73	38.72	41.4	41.37	41.6	38.57
6/5/2017-18:00	38.74	38.75	38.74	41.39	41.39	41.63	38.59
6/5/2017-19:00	38.77	38.78	38.78	41.4	41.45	41.69	38.64
6/5/2017-20:00	38.82	38.83	38.84	41.43	41.54	41.77	38.7
6/5/2017-21:00	38.88	38.9	38.91	41.49	41.66	41.87	38.78
6/5/2017-22:00	38.95	38.98	39	41.56	41.81	41.98	38.87
6/5/2017-23:00	39.03	39.07	39.1	41.66	41.96	42.1	38.98
6/6/2017-0:00	39.12	39.17	39.2	41.76	42.13	42.22	39.08
6/6/2017-1:00	39.21	39.26	39.3	41.88	42.29	42.34	39.19
6/6/2017-2:00	39.29	39.35	39.39	41.99	42.43	42.44	39.28
6/6/2017-3:00	39.37	39.43	39.47	42.1	42.55	42.52	39.36
6/6/2017-4:00	39.42	39.49	39.53	42.19	42.64	42.57	39.42
6/6/2017-5:00	39.47	39.53	39.57	42.26	42.68	42.6	39.45
6/6/2017-6:00	39.49	39.55	39.58	42.31	42.69	42.59	39.46
6/6/2017-7:00	39.49	39.54	39.57	42.34	42.65	42.56	39.45
6/6/2017-8:00	39.47	39.52	39.54	42.33	42.58	42.5	39.41
6/6/2017-9:00	39.44	39.47	39.49	42.31	42.48	42.42	39.35
6/6/2017-10:00	39.4	39.42	39.43	42.25	42.35	42.34	39.28
6/6/2017-11:00	39.34	39.36	39.36	42.19	42.22	42.24	39.21
6/6/2017-12:00	39.28	39.29	39.28	42.11	42.08	42.15	39.13
6/6/2017-13:00	39.23	39.23	39.21	42.02	41.95	42.07	39.06
6/6/2017-14:00	39.18	39.17	39.15	41.94	41.84	42	39
6/6/2017-15:00	39.13	39.12	39.11	41.86	41.75	41.95	38.96

6/6/2017-16:00	39.1	39.09	39.07	41.8	41.68	41.92	38.92
6/6/2017-17:00	39.08	39.07	39.06	41.75	41.65	41.91	38.91
6/6/2017-18:00	39.07	39.07	39.06	41.71	41.64	41.92	38.91
6/6/2017-19:00	39.08	39.08	39.07	41.7	41.67	41.95	38.93
6/6/2017-20:00	39.11	39.11	39.11	41.71	41.73	42.01	38.97
6/6/2017-21:00	39.15	39.16	39.16	41.73	41.81	42.08	39.03
6/6/2017-22:00	39.2	39.21	39.22	41.78	41.92	42.16	39.1
6/6/2017-23:00	39.25	39.28	39.3	41.84	42.04	42.25	39.17
6/7/2017-0:00	39.32	39.35	39.37	41.92	42.16	42.34	39.25
6/7/2017-1:00	39.38	39.42	39.45	42	42.29	42.43	39.33
6/7/2017-2:00	39.45	39.49	39.52	42.08	42.4	42.51	39.4
6/7/2017-3:00	39.5	39.54	39.58	42.16	42.49	42.57	39.46
6/7/2017-4:00	39.54	39.59	39.62	42.22	42.55	42.61	39.5
6/7/2017-5:00	39.57	39.61	39.64	42.28	42.58	42.62	39.53
6/7/2017-6:00	39.58	39.62	39.65	42.31	42.58	42.61	39.53
6/7/2017-7:00	39.57	39.61	39.63	42.32	42.54	42.57	39.5
6/7/2017-8:00	39.55	39.58	39.59	42.3	42.46	42.52	39.46
6/7/2017-9:00	39.51	39.53	39.54	42.27	42.36	42.44	39.41
6/7/2017-10:00	39.46	39.47	39.47	42.21	42.24	42.35	39.34
6/7/2017-11:00	39.41	39.41	39.4	42.14	42.11	42.26	39.26
6/7/2017-12:00	39.35	39.34	39.33	42.06	41.97	42.17	39.18
6/7/2017-13:00	39.29	39.28	39.26	41.97	41.85	42.09	39.11
6/7/2017-14:00	39.23	39.22	39.19	41.88	41.74	42.02	39.05
6/7/2017-15:00	39.19	39.17	39.15	41.81	41.65	41.96	39
6/7/2017-16:00	39.15	39.13	39.11	41.74	41.59	41.93	38.96
6/7/2017-17:00	39.13	39.12	39.09	41.69	41.56	41.93	38.95
6/7/2017-18:00	39.13	39.11	39.1	41.66	41.56	41.94	38.95
6/7/2017-19:00	39.14	39.13	39.12	41.65	41.59	41.98	38.98
6/7/2017-20:00	39.16	39.16	39.15	41.66	41.66	42.03	39.02
6/7/2017-21:00	39.2	39.21	39.2	41.69	41.75	42.1	39.07
6/7/2017-22:00	39.25	39.26	39.27	41.73	41.85	42.19	39.14
6/7/2017-23:00	39.31	39.33	39.34	41.8	41.97	42.28	39.22
6/8/2017-0:00	39.37	39.39	39.41	41.87	42.09	42.36	39.29
6/8/2017-1:00	39.43	39.46	39.48	41.95	42.21	42.44	39.36
6/8/2017-2:00	39.48	39.52	39.54	42.02	42.31	42.51	39.43
6/8/2017-3:00	39.53	39.56	39.59	42.09	42.39	42.56	39.47
6/8/2017-4:00	39.56	39.6	39.62	42.15	42.43	42.59	39.5
6/8/2017-5:00	39.58	39.61	39.63	42.19	42.45	42.59	39.52
6/8/2017-6:00	39.58	39.61	39.62	42.21	42.43	42.57	39.51
6/8/2017-7:00	39.56	39.59	39.6	42.21	42.38	42.52	39.47
6/8/2017-8:00	39.53	39.55	39.55	42.18	42.29	42.45	39.42
6/8/2017-9:00	39.48	39.49	39.49	42.13	42.17	42.36	39.35
6/8/2017-10:00	39.42	39.42	39.41	42.06	42.03	42.25	39.27
6/8/2017-11:00	39.35	39.34	39.31	41.98	41.87	42.14	39.17
6/8/2017-12:00	39.27	39.25	39.22	41.87	41.7	42.02	39.07
6/8/2017-13:00	39.18	39.15	39.12	41.76	41.53	41.9	38.97
6/8/2017-14:00	39.1	39.06	39.02	41.64	41.37	41.79	38.87
6/8/2017-15:00	39.02	38.98	38.93	41.52	41.22	41.69	38.78
6/8/2017-16:00	38.95	38.9	38.85	41.41	41.1	41.61	38.7
6/8/2017-17:00	38.88	38.84	38.79	41.31	40.99	41.55	38.64
6/8/2017-18:00	38.83	38.79	38.74	41.22	40.92	41.51	38.59
6/8/2017-19:00	38.8	38.75	38.71	41.15	40.88	41.49	38.57
6/8/2017-20:00	38.78	38.73	38.7	41.1	40.87	41.48	38.55



6/8/2017-21:00	38.76	38.73	38.69	41.06	40.87	41.5	38.56
6/8/2017-22:00	38.76	38.73	38.7	41.04	40.9	41.52	38.57
6/8/2017-23:00	38.77	38.74	38.71	41.04	40.94	41.55	38.59
6/9/2017-0:00	38.77	38.75	38.73	41.04	40.98	41.57	38.6
6/9/2017-1:00	38.78	38.76	38.74	41.05	41.02	41.59	38.62
6/9/2017-2:00	38.78	38.76	38.75	41.06	41.04	41.6	38.63
6/9/2017-3:00	38.78	38.76	38.74	41.06	41.05	41.59	38.62
6/9/2017-4:00	38.76	38.74	38.72	41.05	41.03	41.57	38.6
6/9/2017-5:00	38.73	38.71	38.69	41.03	40.98	41.53	38.57
6/9/2017-6:00	38.69	38.66	38.64	40.99	40.91	41.46	38.52
6/9/2017-7:00	38.63	38.6	38.57	40.93	40.81	41.38	38.45
6/9/2017-8:00	38.57	38.53	38.49	40.86	40.68	41.28	38.36
6/9/2017-9:00	38.49	38.44	38.4	40.77	40.54	41.17	38.27
6/9/2017-10:00	38.4	38.35	38.3	40.67	40.39	41.06	38.17
6/9/2017-11:00	38.32	38.26	38.21	40.56	40.23	40.94	38.07
6/9/2017-12:00	38.23	38.17	38.11	40.44	40.09	40.84	37.98
6/9/2017-13:00	38.15	38.08	38.02	40.33	39.95	40.74	37.89
6/9/2017-14:00	38.08	38.01	37.95	40.22	39.84	40.67	37.82
6/9/2017-15:00	38.02	37.95	37.89	40.13	39.76	40.62	37.76
6/9/2017-16:00	37.97	37.91	37.85	40.05	39.71	40.59	37.72
6/9/2017-17:00	37.95	37.88	37.83	40	39.69	40.58	37.71
6/9/2017-18:00	37.94	37.88	37.83	39.96	39.71	40.6	37.71
6/9/2017-19:00	37.94	37.9	37.86	39.95	39.76	40.65	37.74
6/9/2017-20:00	37.97	37.93	37.9	39.97	39.85	40.71	37.79
6/9/2017-21:00	38.01	37.98	37.96	40.01	39.97	40.8	37.86
6/9/2017-22:00	38.07	38.05	38.03	40.07	40.11	40.9	37.94
6/9/2017-23:00	38.13	38.13	38.12	40.15	40.26	41.01	38.03
6/10/2017-0:00	38.21	38.21	38.21	40.25	40.43	41.13	38.13
6/10/2017-1:00	38.29	38.3	38.31	40.36	40.59	41.24	38.22
6/10/2017-2:00	38.36	38.38	38.4	40.47	40.75	41.34	38.31
6/10/2017-3:00	38.43	38.45	38.47	40.57	40.88	41.43	38.39
6/10/2017-4:00	38.49	38.51	38.53	40.67	40.98	41.49	38.45
6/10/2017-5:00	38.53	38.56	38.58	40.75	41.05	41.52	38.49
6/10/2017-6:00	38.56	38.58	38.6	40.81	41.08	41.53	38.51
6/10/2017-7:00	38.56	38.58	38.59	40.85	41.07	41.51	38.5
6/10/2017-8:00	38.55	38.57	38.57	40.86	41.03	41.47	38.48
6/10/2017-9:00	38.53	38.53	38.53	40.85	40.95	41.4	38.43
6/10/2017-10:00	38.49	38.49	38.48	40.81	40.85	41.33	38.37
6/10/2017-11:00	38.44	38.43	38.42	40.77	40.74	41.25	38.31
6/10/2017-12:00	38.39	38.38	38.36	40.71	40.63	41.17	38.25
6/10/2017-13:00	38.35	38.32	38.3	40.64	40.53	41.1	38.19
6/10/2017-14:00	38.3	38.28	38.25	40.58	40.44	41.05	38.13
6/10/2017-15:00	38.27	38.24	38.21	40.52	40.37	41.01	38.09
6/10/2017-16:00	38.24	38.21	38.18	40.47	40.32	40.98	38.07
6/10/2017-17:00	38.22	38.2	38.17	40.43	40.3	40.98	38.05
6/10/2017-18:00	38.22	38.19	38.17	40.41	40.31	40.99	38.06
6/10/2017-19:00	38.23	38.21	38.19	40.41	40.34	41.02	38.08
6/10/2017-20:00	38.25	38.23	38.22	40.42	40.39	41.06	38.11
6/10/2017-21:00	38.28	38.27	38.26	40.44	40.46	41.12	38.15
6/10/2017-22:00	38.32	38.31	38.31	40.49	40.55	41.19	38.21
6/10/2017-23:00	38.37	38.37	38.37	40.54	40.65	41.26	38.27
6/11/2017-0:00	38.42	38.42	38.43	40.6	40.76	41.33	38.33
6/11/2017-1:00	38.47	38.48	38.48	40.67	40.86	41.4	38.39

6/11/2017-2:00	38.51	38.53	38.53	40.74	40.94	41.45	38.44
6/11/2017-3:00	38.55	38.56	38.57	40.8	41.01	41.49	38.48
6/11/2017-4:00	38.57	38.59	38.59	40.84	41.04	41.51	38.5
6/11/2017-5:00	38.58	38.59	38.6	40.88	41.05	41.5	38.5
6/11/2017-6:00	38.57	38.58	38.58	40.89	41.01	41.46	38.48
6/11/2017-7:00	38.55	38.55	38.54	40.87	40.95	41.4	38.44
6/11/2017-8:00	38.5	38.5	38.48	40.83	40.84	41.32	38.37
6/11/2017-9:00	38.45	38.43	38.41	40.78	40.72	41.22	38.29
6/11/2017-10:00	38.38	38.35	38.32	40.7	40.57	41.11	38.2
6/11/2017-11:00	38.3	38.27	38.23	40.6	40.42	41	38.11
6/11/2017-12:00	38.22	38.18	38.14	40.5	40.27	40.89	38.01
6/11/2017-13:00	38.15	38.1	38.05	40.4	40.12	40.8	37.93
6/11/2017-14:00	38.08	38.03	37.98	40.29	40	40.71	37.85
6/11/2017-15:00	38.02	37.97	37.92	40.2	39.9	40.65	37.79
6/11/2017-16:00	37.97	37.92	37.87	40.12	39.83	40.61	37.74
6/11/2017-17:00	37.94	37.89	37.84	40.06	39.79	40.59	37.72
6/11/2017-18:00	37.92	37.88	37.83	40.01	39.78	40.6	37.71
6/11/2017-19:00	37.92	37.88	37.84	39.99	39.81	40.62	37.72
6/11/2017-20:00	37.94	37.9	37.87	39.99	39.87	40.67	37.76
6/11/2017-21:00	37.97	37.94	37.92	40.02	39.96	40.74	37.81
6/11/2017-22:00	38.02	38	37.98	40.06	40.08	40.83	37.88
6/11/2017-23:00	38.08	38.07	38.06	40.13	40.22	40.93	37.96
6/12/2017-0:00	38.14	38.14	38.14	40.21	40.36	41.03	38.05
6/12/2017-1:00	38.21	38.22	38.22	40.3	40.51	41.13	38.13
6/12/2017-2:00	38.28	38.29	38.3	40.4	40.64	41.22	38.21
6/12/2017-3:00	38.34	38.35	38.36	40.49	40.76	41.29	38.28
6/12/2017-4:00	38.38	38.4	38.41	40.57	40.84	41.34	38.33
6/12/2017-5:00	38.41	38.43	38.44	40.63	40.89	41.36	38.35
6/12/2017-6:00	38.43	38.44	38.45	40.68	40.9	41.36	38.36
6/12/2017-7:00	38.43	38.43	38.44	40.7	40.88	41.33	38.34
6/12/2017-8:00	38.4	38.41	38.4	40.7	40.82	41.27	38.3
6/12/2017-9:00	38.37	38.36	38.35	40.67	40.72	41.2	38.25
6/12/2017-10:00	38.32	38.3	38.29	40.62	40.61	41.11	38.18
6/12/2017-11:00	38.26	38.24	38.21	40.56	40.48	41.02	38.1
6/12/2017-12:00	38.2	38.17	38.14	40.48	40.35	40.93	38.02
6/12/2017-13:00	38.14	38.1	38.07	40.4	40.23	40.84	37.95
6/12/2017-14:00	38.08	38.04	38	40.32	40.11	40.76	37.88
6/12/2017-15:00	38.03	37.98	37.94	40.24	40.02	40.7	37.82
6/12/2017-16:00	37.98	37.94	37.89	40.17	39.94	40.66	37.77
6/12/2017-17:00	37.95	37.91	37.86	40.11	39.9	40.63	37.74
6/12/2017-18:00	37.93	37.89	37.85	40.06	39.88	40.62	37.73
6/12/2017-19:00	37.92	37.89	37.85	40.04	39.88	40.64	37.73
6/12/2017-20:00	37.93	37.9	37.87	40.03	39.92	40.67	37.75
6/12/2017-21:00	37.95	37.92	37.9	40.04	39.98	40.72	37.79
6/12/2017-22:00	37.98	37.96	37.94	40.07	40.06	40.78	37.84
6/12/2017-23:00	38.02	38.01	37.99	40.11	40.16	40.85	37.89
6/13/2017-0:00	38.07	38.06	38.05	40.17	40.26	40.93	37.95
6/13/2017-1:00	38.12	38.11	38.11	40.23	40.37	40.99	38.01
6/13/2017-2:00	38.16	38.16	38.16	40.29	40.46	41.05	38.07
6/13/2017-3:00	38.2	38.2	38.2	40.35	40.53	41.09	38.11
6/13/2017-4:00	38.22	38.22	38.22	40.4	40.57	41.12	38.13
6/13/2017-5:00	38.23	38.23	38.23	40.43	40.59	41.11	38.13
6/13/2017-6:00	38.22	38.22	38.21	40.45	40.57	41.08	38.12

6/13/2017-7:00	38.2	38.19	38.18	40.44	40.51	41.03	38.08
6/13/2017-8:00	38.16	38.15	38.13	40.41	40.42	40.96	38.02
6/13/2017-9:00	38.11	38.08	38.06	40.36	40.31	40.87	37.95
6/13/2017-10:00	38.04	38.01	37.98	40.29	40.18	40.77	37.87
6/13/2017-11:00	37.97	37.94	37.9	40.2	40.04	40.67	37.78
6/13/2017-12:00	37.9	37.86	37.81	40.11	39.9	40.57	37.7
6/13/2017-13:00	37.83	37.79	37.74	40.02	39.77	40.48	37.62
6/13/2017-14:00	37.77	37.72	37.67	39.93	39.66	40.41	37.55
6/13/2017-15:00	37.72	37.67	37.62	39.85	39.58	40.36	37.5
6/13/2017-16:00	37.68	37.63	37.58	39.78	39.53	40.33	37.46
6/13/2017-17:00	37.66	37.61	37.56	39.73	39.5	40.32	37.45
6/13/2017-18:00	37.65	37.6	37.56	39.7	39.51	40.33	37.45
6/13/2017-19:00	37.66	37.62	37.58	39.69	39.55	40.37	37.47
6/13/2017-20:00	37.68	37.64	37.61	39.7	39.62	40.42	37.51
6/13/2017-21:00	37.71	37.68	37.66	39.73	39.71	40.49	37.56
6/13/2017-22:00	37.76	37.74	37.72	39.78	39.82	40.58	37.63
6/13/2017-23:00	37.81	37.8	37.79	39.85	39.95	40.66	37.7
6/14/2017-0:00	37.87	37.87	37.86	39.92	40.08	40.75	37.78
6/14/2017-1:00	37.93	37.93	37.94	40.01	40.21	40.84	37.85
6/14/2017-2:00	37.99	37.99	38	40.09	40.32	40.91	37.92
6/14/2017-3:00	38.03	38.04	38.05	40.17	40.41	40.97	37.97
6/14/2017-4:00	38.07	38.08	38.09	40.23	40.47	41	38
6/14/2017-5:00	38.09	38.1	38.1	40.28	40.5	41	38.02
6/14/2017-6:00	38.09	38.09	38.09	40.31	40.48	40.98	38.01
6/14/2017-7:00	38.07	38.07	38.06	40.31	40.43	40.93	37.97
6/14/2017-8:00	38.03	38.03	38.01	40.29	40.35	40.86	37.92
6/14/2017-9:00	37.98	37.97	37.95	40.24	40.23	40.77	37.85
6/14/2017-10:00	37.92	37.9	37.87	40.18	40.1	40.67	37.76
6/14/2017-11:00	37.85	37.82	37.79	40.1	39.95	40.56	37.68
6/14/2017-12:00	37.78	37.74	37.7	40	39.81	40.46	37.59
6/14/2017-13:00	37.71	37.67	37.62	39.91	39.68	40.37	37.51
6/14/2017-14:00	37.65	37.6	37.55	39.82	39.56	40.29	37.44
6/14/2017-15:00	37.6	37.54	37.5	39.74	39.48	40.24	37.38
6/14/2017-16:00	37.56	37.51	37.46	39.67	39.42	40.21	37.35
6/14/2017-17:00	37.53	37.48	37.44	39.62	39.39	40.2	37.33
6/14/2017-18:00	37.53	37.48	37.44	39.59	39.41	40.22	37.34
6/14/2017-19:00	37.54	37.5	37.47	39.58	39.45	40.26	37.36
6/14/2017-20:00	37.56	37.53	37.51	39.6	39.53	40.33	37.41
6/14/2017-21:00	37.61	37.59	37.57	39.64	39.64	40.41	37.48
6/14/2017-22:00	37.66	37.65	37.64	39.7	39.78	40.51	37.56
6/14/2017-23:00	37.73	37.73	37.73	39.78	39.93	40.62	37.65
6/15/2017-0:00	37.81	37.82	37.82	39.88	40.09	40.73	37.74
6/15/2017-1:00	37.89	37.9	37.92	39.98	40.25	40.85	37.84
6/15/2017-2:00	37.97	37.99	38	40.09	40.4	40.95	37.93
6/15/2017-3:00	38.04	38.06	38.08	40.2	40.53	41.03	38.01
6/15/2017-4:00	38.1	38.12	38.15	40.3	40.64	41.1	38.07
6/15/2017-5:00	38.14	38.17	38.19	40.38	40.71	41.13	38.12
6/15/2017-6:00	38.17	38.19	38.21	40.44	40.74	41.15	38.14
6/15/2017-7:00	38.18	38.2	38.21	40.48	40.74	41.13	38.14
6/15/2017-8:00	38.17	38.19	38.2	40.5	40.7	41.09	38.11
6/15/2017-9:00	38.15	38.16	38.16	40.49	40.63	41.04	38.07
6/15/2017-10:00	38.12	38.12	38.11	40.46	40.54	40.97	38.02
6/15/2017-11:00	38.08	38.07	38.06	40.42	40.44	40.89	37.96

6/15/2017-12:00	38.03	38.02	38	40.37	40.33	40.82	37.9
6/15/2017-13:00	37.99	37.97	37.95	40.31	40.23	40.76	37.84
6/15/2017-14:00	37.95	37.93	37.9	40.25	40.15	40.7	37.79
6/15/2017-15:00	37.92	37.89	37.87	40.2	40.09	40.67	37.76
6/15/2017-16:00	37.9	37.87	37.85	40.16	40.05	40.65	37.74
6/15/2017-17:00	37.89	37.87	37.85	40.13	40.05	40.66	37.74
6/15/2017-18:00	37.9	37.88	37.86	40.12	40.07	40.69	37.76
6/15/2017-19:00	37.92	37.91	37.9	40.13	40.13	40.74	37.8
6/15/2017-20:00	37.96	37.96	37.95	40.16	40.22	40.82	37.85
6/15/2017-21:00	38.02	38.02	38.02	40.22	40.33	40.9	37.92
6/15/2017-22:00	38.08	38.09	38.1	40.29	40.47	41.01	38.01
6/15/2017-23:00	38.16	38.18	38.19	40.38	40.62	41.12	38.1
6/16/2017-0:00	38.24	38.26	38.28	40.48	40.78	41.23	38.2
6/16/2017-1:00	38.32	38.35	38.38	40.59	40.93	41.34	38.3
6/16/2017-2:00	38.4	38.44	38.47	40.7	41.08	41.44	38.39
6/16/2017-3:00	38.48	38.52	38.54	40.81	41.2	41.53	38.47
6/16/2017-4:00	38.54	38.58	38.61	40.91	41.3	41.59	38.53
6/16/2017-5:00	38.58	38.62	38.65	40.99	41.37	41.63	38.57
6/16/2017-6:00	38.61	38.65	38.68	41.05	41.4	41.64	38.59
6/16/2017-7:00	38.63	38.66	38.68	41.09	41.39	41.62	38.59
6/16/2017-8:00	38.62	38.65	38.66	41.11	41.35	41.59	38.57
6/16/2017-9:00	38.61	38.62	38.63	41.1	41.28	41.53	38.53
6/16/2017-10:00	38.58	38.59	38.59	41.08	41.19	41.47	38.48
6/16/2017-11:00	38.54	38.54	38.53	41.03	41.09	41.4	38.43
6/16/2017-12:00	38.5	38.49	38.48	40.98	40.99	41.33	38.37
6/16/2017-13:00	38.46	38.45	38.43	40.93	40.89	41.27	38.32
6/16/2017-14:00	38.42	38.41	38.39	40.87	40.81	41.22	38.27
6/16/2017-15:00	38.39	38.38	38.36	40.82	40.75	41.18	38.24
6/16/2017-16:00	38.38	38.36	38.34	40.78	40.71	41.17	38.22
6/16/2017-17:00	38.37	38.36	38.34	40.75	40.71	41.18	38.22
6/16/2017-18:00	38.38	38.37	38.35	40.74	40.73	41.21	38.24
6/16/2017-19:00	38.41	38.4	38.39	40.76	40.78	41.26	38.28
6/16/2017-20:00	38.44	38.44	38.44	40.79	40.86	41.32	38.33
6/16/2017-21:00	38.49	38.5	38.5	40.83	40.97	41.41	38.4
6/16/2017-22:00	38.56	38.57	38.58	40.9	41.09	41.5	38.48
6/16/2017-23:00	38.63	38.65	38.66	40.98	41.23	41.61	38.56
6/17/2017-0:00	38.7	38.73	38.75	41.08	41.38	41.71	38.65
6/17/2017-1:00	38.78	38.81	38.84	41.18	41.52	41.81	38.74
6/17/2017-2:00	38.85	38.89	38.92	41.28	41.65	41.9	38.83
6/17/2017-3:00	38.92	38.96	38.99	41.37	41.76	41.98	38.9
6/17/2017-4:00	38.97	39.01	39.04	41.46	41.84	42.03	38.95
6/17/2017-5:00	39.01	39.05	39.08	41.53	41.9	42.06	38.99
6/17/2017-6:00	39.04	39.08	39.1	41.58	41.92	42.07	39
6/17/2017-7:00	39.05	39.08	39.1	41.62	41.9	42.05	39
6/17/2017-8:00	39.04	39.07	39.08	41.63	41.86	42.01	38.98
6/17/2017-9:00	39.02	39.04	39.05	41.61	41.79	41.96	38.94
6/17/2017-10:00	38.99	39	39	41.59	41.7	41.89	38.89
6/17/2017-11:00	38.96	38.96	38.95	41.54	41.6	41.83	38.83
6/17/2017-12:00	38.92	38.91	38.9	41.49	41.5	41.76	38.78
6/17/2017-13:00	38.88	38.87	38.86	41.43	41.41	41.71	38.73
6/17/2017-14:00	38.85	38.84	38.82	41.38	41.34	41.66	38.69
6/17/2017-15:00	38.82	38.81	38.79	41.34	41.29	41.64	38.67
6/17/2017-16:00	38.81	38.8	38.79	41.3	41.27	41.64	38.66

6/17/2017-17:00	38.82	38.81	38.8	41.29	41.28	41.66	38.67
6/17/2017-18:00	38.84	38.84	38.83	41.29	41.32	41.71	38.71
6/17/2017-19:00	38.88	38.88	38.88	41.32	41.4	41.77	38.76
6/17/2017-20:00	38.93	38.94	38.94	41.36	41.51	41.87	38.83
6/17/2017-21:00	39	39.02	39.03	41.44	41.65	41.98	38.92
6/17/2017-22:00	39.09	39.11	39.13	41.53	41.81	42.1	39.03
6/17/2017-23:00	39.18	39.22	39.24	41.64	41.99	42.24	39.14
6/18/2017-0:00	39.28	39.33	39.36	41.76	42.18	42.38	39.26
6/18/2017-1:00	39.39	39.44	39.48	41.9	42.37	42.51	39.39
6/18/2017-2:00	39.49	39.55	39.59	42.04	42.55	42.64	39.5
6/18/2017-3:00	39.58	39.65	39.7	42.17	42.71	42.75	39.6
6/18/2017-4:00	39.67	39.73	39.78	42.3	42.84	42.84	39.69
6/18/2017-5:00	39.74	39.8	39.85	42.41	42.93	42.9	39.76
6/18/2017-6:00	39.79	39.85	39.9	42.49	42.99	42.93	39.8
6/18/2017-7:00	39.82	39.88	39.92	42.56	43.01	42.94	39.82
6/18/2017-8:00	39.84	39.89	39.92	42.6	42.99	42.92	39.82
6/18/2017-9:00	39.84	39.88	39.91	42.62	42.94	42.88	39.8
6/18/2017-10:00	39.83	39.86	39.88	42.61	42.88	42.84	39.77
6/18/2017-11:00	39.81	39.84	39.85	42.6	42.8	42.79	39.73
6/18/2017-12:00	39.79	39.81	39.82	42.57	42.73	42.74	39.7
6/18/2017-13:00	39.77	39.79	39.8	42.54	42.66	42.71	39.67
6/18/2017-14:00	39.76	39.78	39.78	42.51	42.62	42.69	39.65
6/18/2017-15:00	39.76	39.78	39.78	42.49	42.6	42.7	39.65
6/18/2017-16:00	39.78	39.8	39.8	42.49	42.61	42.72	39.67
6/18/2017-17:00	39.81	39.83	39.83	42.5	42.65	42.77	39.7
6/18/2017-18:00	39.85	39.88	39.89	42.54	42.72	42.84	39.76
6/18/2017-19:00	39.91	39.94	39.96	42.59	42.83	42.93	39.83
6/18/2017-20:00	39.98	40.02	40.04	42.66	42.96	43.04	39.92
6/18/2017-21:00	40.07	40.11	40.14	42.75	43.11	43.16	40.03
6/18/2017-22:00	40.16	40.22	40.25	42.86	43.28	43.29	40.14
6/18/2017-23:00	40.27	40.33	40.37	42.99	43.46	43.43	40.26
6/19/2017-0:00	40.37	40.44	40.49	43.12	43.65	43.57	40.38
6/19/2017-1:00	40.48	40.56	40.61	43.26	43.83	43.7	40.5
6/19/2017-2:00	40.58	40.66	40.72	43.4	44	43.82	40.62
6/19/2017-3:00	40.68	40.76	40.82	43.53	44.14	43.92	40.71
6/19/2017-4:00	40.76	40.84	40.9	43.65	44.25	44	40.79
6/19/2017-5:00	40.82	40.9	40.96	43.75	44.33	44.05	40.85
6/19/2017-6:00	40.87	40.95	41	43.83	44.36	44.07	40.88
6/19/2017-7:00	40.9	40.97	41.01	43.89	44.36	44.06	40.89
6/19/2017-8:00	40.9	40.97	41	43.91	44.32	44.03	40.88
6/19/2017-9:00	40.9	40.95	40.98	43.92	44.25	43.99	40.85
6/19/2017-10:00	40.88	40.92	40.94	43.9	44.16	43.93	40.81
6/19/2017-11:00	40.85	40.88	40.9	43.86	44.06	43.86	40.76
6/19/2017-12:00	40.82	40.85	40.85	43.82	43.96	43.8	40.71
6/19/2017-13:00	40.79	40.81	40.81	43.77	43.87	43.74	40.66
6/19/2017-14:00	40.76	40.78	40.78	43.72	43.79	43.7	40.63
6/19/2017-15:00	40.75	40.76	40.76	43.67	43.73	43.68	40.61
6/19/2017-16:00	40.74	40.76	40.75	43.64	43.71	43.68	40.6
6/19/2017-17:00	40.75	40.77	40.77	43.62	43.71	43.7	40.62
6/19/2017-18:00	40.77	40.79	40.8	43.63	43.75	43.75	40.65
6/19/2017-19:00	40.81	40.84	40.85	43.65	43.82	43.82	40.7
6/19/2017-20:00	40.87	40.9	40.92	43.7	43.92	43.91	40.78
6/19/2017-21:00	40.94	40.98	41.01	43.77	44.06	44.02	40.87

6/19/2017-22:00	41.03	41.08	41.11	43.86	44.22	44.15	40.98
6/19/2017-23:00	41.13	41.18	41.22	43.97	44.39	44.28	41.1
6/20/2017-0:00	41.23	41.3	41.34	44.09	44.58	44.42	41.22
6/20/2017-1:00	41.34	41.41	41.46	44.23	44.76	44.56	41.34
6/20/2017-2:00	41.44	41.52	41.57	44.36	44.93	44.68	41.45
6/20/2017-3:00	41.53	41.61	41.67	44.49	45.08	44.78	41.55
6/20/2017-4:00	41.61	41.69	41.75	44.6	45.19	44.86	41.63
6/20/2017-5:00	41.67	41.75	41.81	44.7	45.26	44.91	41.69
6/20/2017-6:00	41.71	41.79	41.84	44.77	45.3	44.93	41.72
6/20/2017-7:00	41.74	41.81	41.85	44.82	45.29	44.92	41.72
6/20/2017-8:00	41.74	41.8	41.84	44.84	45.24	44.88	41.7
6/20/2017-9:00	41.73	41.78	41.81	44.84	45.17	44.83	41.67
6/20/2017-10:00	41.7	41.75	41.77	44.81	45.07	44.76	41.62
6/20/2017-11:00	41.67	41.7	41.72	44.77	44.96	44.69	41.57
6/20/2017-12:00	41.63	41.66	41.67	44.72	44.85	44.62	41.51
6/20/2017-13:00	41.59	41.62	41.62	44.66	44.74	44.56	41.46
6/20/2017-14:00	41.57	41.58	41.58	44.6	44.66	44.52	41.42
6/20/2017-15:00	41.55	41.56	41.56	44.55	44.6	44.49	41.4
6/20/2017-16:00	41.54	41.55	41.55	44.52	44.57	44.49	41.39
6/20/2017-17:00	41.54	41.56	41.56	44.49	44.57	44.51	41.4
6/20/2017-18:00	41.56	41.58	41.59	44.49	44.6	44.55	41.43
6/20/2017-19:00	41.6	41.62	41.63	44.51	44.66	44.61	41.48
6/20/2017-20:00	41.65	41.68	41.69	44.55	44.75	44.69	41.54
6/20/2017-21:00	41.71	41.75	41.77	44.6	44.86	44.78	41.62
6/20/2017-22:00	41.78	41.83	41.85	44.68	44.99	44.89	41.71
6/20/2017-23:00	41.86	41.91	41.95	44.77	45.14	45	41.81
6/21/2017-0:00	41.95	42	42.04	44.86	45.29	45.11	41.91
6/21/2017-1:00	42.03	42.09	42.14	44.97	45.43	45.22	42
6/21/2017-2:00	42.11	42.18	42.22	45.07	45.56	45.31	42.09
6/21/2017-3:00	42.18	42.25	42.3	45.17	45.66	45.38	42.16
6/21/2017-4:00	42.24	42.3	42.35	45.25	45.73	45.43	42.22
6/21/2017-5:00	42.28	42.34	42.39	45.32	45.77	45.45	42.25
6/21/2017-6:00	42.3	42.36	42.4	45.36	45.77	45.45	42.26
6/21/2017-7:00	42.3	42.36	42.39	45.38	45.73	45.42	42.24
6/21/2017-8:00	42.29	42.33	42.36	45.38	45.66	45.36	42.21
6/21/2017-9:00	42.26	42.29	42.31	45.35	45.56	45.29	42.16
6/21/2017-10:00	42.21	42.24	42.25	45.3	45.44	45.21	42.09
6/21/2017-11:00	42.16	42.18	42.18	45.23	45.3	45.11	42.02
6/21/2017-12:00	42.1	42.12	42.11	45.15	45.16	45.02	41.94
6/21/2017-13:00	42.05	42.05	42.04	45.06	45.03	44.94	41.87
6/21/2017-14:00	41.99	41.99	41.98	44.97	44.9	44.86	41.8
6/21/2017-15:00	41.94	41.94	41.92	44.89	44.8	44.8	41.75
6/21/2017-16:00	41.91	41.9	41.88	44.81	44.72	44.76	41.7
6/21/2017-17:00	41.88	41.87	41.85	44.75	44.66	44.73	41.68
6/21/2017-18:00	41.86	41.85	41.83	44.7	44.63	44.72	41.66
6/21/2017-19:00	41.85	41.84	41.83	44.66	44.62	44.73	41.66
6/21/2017-20:00	41.85	41.85	41.84	44.64	44.63	44.75	41.68
6/21/2017-21:00	41.87	41.87	41.87	44.64	44.67	44.79	41.71
6/21/2017-22:00	41.9	41.9	41.9	44.65	44.73	44.84	41.75
6/21/2017-23:00	41.93	41.94	41.94	44.68	44.8	44.9	41.79
6/22/2017-0:00	41.97	41.99	41.99	44.72	44.88	44.96	41.84
6/22/2017-1:00	42.01	42.03	42.04	44.76	44.96	45.02	41.9
6/22/2017-2:00	42.05	42.07	42.09	44.81	45.03	45.07	41.94

6/22/2017-3:00	42.08	42.11	42.12	44.85	45.08	45.1	41.98
6/22/2017-4:00	42.1	42.12	42.14	44.88	45.11	45.11	41.99
6/22/2017-5:00	42.1	42.13	42.14	44.9	45.1	45.1	41.99
6/22/2017-6:00	42.09	42.11	42.11	44.89	45.06	45.06	41.97
6/22/2017-7:00	42.06	42.07	42.07	44.87	44.98	44.99	41.92
6/22/2017-8:00	42.01	42.01	42	44.82	44.86	44.9	41.85
6/22/2017-9:00	41.94	41.94	41.92	44.74	44.72	44.8	41.76
6/22/2017-10:00	41.87	41.85	41.83	44.65	44.55	44.68	41.67
6/22/2017-11:00	41.78	41.76	41.73	44.54	44.38	44.56	41.56
6/22/2017-12:00	41.7	41.67	41.63	44.42	44.21	44.44	41.46
6/22/2017-13:00	41.62	41.58	41.54	44.3	44.05	44.34	41.37
6/22/2017-14:00	41.54	41.5	41.45	44.19	43.91	44.25	41.29
6/22/2017-15:00	41.48	41.43	41.39	44.08	43.8	44.18	41.22
6/22/2017-16:00	41.42	41.38	41.33	43.99	43.72	44.13	41.17
6/22/2017-17:00	41.39	41.34	41.3	43.91	43.67	44.11	41.14
6/22/2017-18:00	41.37	41.33	41.29	43.86	43.66	44.11	41.13
6/22/2017-19:00	41.36	41.33	41.3	43.83	43.68	44.14	41.15
6/22/2017-20:00	41.38	41.35	41.33	43.82	43.73	44.19	41.18
6/22/2017-21:00	41.41	41.39	41.37	43.84	43.82	44.25	41.23
6/22/2017-22:00	41.45	41.44	41.43	43.88	43.93	44.34	41.3
6/22/2017-23:00	41.51	41.51	41.51	43.94	44.05	44.43	41.38
6/23/2017-0:00	41.57	41.58	41.58	44.01	44.19	44.53	41.46
6/23/2017-1:00	41.63	41.65	41.66	44.09	44.32	44.63	41.54
6/23/2017-2:00	41.7	41.72	41.73	44.17	44.45	44.71	41.61
6/23/2017-3:00	41.75	41.78	41.79	44.25	44.54	44.77	41.68
6/23/2017-4:00	41.79	41.82	41.84	44.32	44.61	44.81	41.72
6/23/2017-5:00	41.81	41.84	41.86	44.38	44.65	44.82	41.74
6/23/2017-6:00	41.82	41.84	41.86	44.41	44.64	44.81	41.73
6/23/2017-7:00	41.81	41.83	41.83	44.41	44.59	44.76	41.71
6/23/2017-8:00	41.78	41.79	41.79	44.39	44.51	44.7	41.66
6/23/2017-9:00	41.74	41.74	41.73	44.35	44.4	44.61	41.6
6/23/2017-10:00	41.68	41.67	41.66	44.29	44.27	44.51	41.52
6/23/2017-11:00	41.62	41.6	41.58	44.21	44.13	44.41	41.43
6/23/2017-12:00	41.55	41.53	41.5	44.12	43.99	44.31	41.35
6/23/2017-13:00	41.48	41.46	41.42	44.03	43.86	44.23	41.27
6/23/2017-14:00	41.42	41.39	41.36	43.94	43.74	44.15	41.21
6/23/2017-15:00	41.38	41.34	41.3	43.85	43.65	44.1	41.15
6/23/2017-16:00	41.34	41.3	41.27	43.78	43.59	44.07	41.12
6/23/2017-17:00	41.32	41.28	41.25	43.73	43.56	44.06	41.1
6/23/2017-18:00	41.31	41.28	41.25	43.7	43.56	44.07	41.1
6/23/2017-19:00	41.32	41.29	41.27	43.68	43.59	44.11	41.13
6/23/2017-20:00	41.34	41.32	41.3	43.69	43.66	44.16	41.17
6/23/2017-21:00	41.38	41.37	41.36	43.72	43.75	44.24	41.22
6/23/2017-22:00	41.43	41.43	41.42	43.77	43.87	44.33	41.3
6/23/2017-23:00	41.49	41.5	41.5	43.84	44	44.43	41.38
6/24/2017-0:00	41.56	41.58	41.58	43.93	44.14	44.53	41.47
6/24/2017-1:00	41.63	41.65	41.67	44.02	44.29	44.63	41.55
6/24/2017-2:00	41.7	41.73	41.75	44.11	44.42	44.72	41.64
6/24/2017-3:00	41.77	41.8	41.82	44.2	44.53	44.79	41.71
6/24/2017-4:00	41.82	41.85	41.87	44.29	44.61	44.85	41.76
6/24/2017-5:00	41.85	41.88	41.9	44.35	44.67	44.87	41.79
6/24/2017-6:00	41.87	41.9	41.92	44.4	44.68	44.87	41.8
6/24/2017-7:00	41.87	41.9	41.91	44.42	44.65	44.84	41.79

6/24/2017-8:00	41.86	41.87	41.88	44.42	44.59	44.79	41.75
6/24/2017-9:00	41.82	41.83	41.83	44.4	44.5	44.72	41.7
6/24/2017-10:00	41.78	41.78	41.77	44.35	44.4	44.64	41.64
6/24/2017-11:00	41.73	41.72	41.71	44.29	44.28	44.56	41.57
6/24/2017-12:00	41.68	41.67	41.65	44.23	44.16	44.48	41.51
6/24/2017-13:00	41.63	41.62	41.59	44.16	44.06	44.42	41.45
6/24/2017-14:00	41.6	41.58	41.55	44.09	43.98	44.38	41.41
6/24/2017-15:00	41.57	41.55	41.52	44.04	43.94	44.35	41.38
6/24/2017-16:00	41.56	41.54	41.52	44.01	43.92	44.36	41.38
6/24/2017-17:00	41.57	41.55	41.53	43.99	43.94	44.39	41.4
6/24/2017-18:00	41.6	41.59	41.57	44	44.01	44.45	41.44
6/24/2017-19:00	41.64	41.64	41.64	44.04	44.11	44.54	41.51
6/24/2017-20:00	41.71	41.72	41.72	44.1	44.25	44.65	41.6
6/24/2017-21:00	41.79	41.81	41.83	44.19	44.43	44.79	41.71
6/24/2017-22:00	41.89	41.93	41.95	44.31	44.63	44.94	41.84
6/24/2017-23:00	42.01	42.05	42.08	44.45	44.85	45.11	41.98
6/25/2017-0:00	42.13	42.18	42.22	44.6	45.08	45.27	42.13
6/25/2017-1:00	42.25	42.32	42.36	44.76	45.3	45.44	42.27
6/25/2017-2:00	42.37	42.44	42.5	44.93	45.52	45.58	42.41
6/25/2017-3:00	42.48	42.56	42.62	45.09	45.7	45.71	42.53
6/25/2017-4:00	42.58	42.66	42.72	45.24	45.86	45.82	42.63
6/25/2017-5:00	42.66	42.74	42.8	45.37	45.97	45.89	42.71
6/25/2017-6:00	42.72	42.8	42.86	45.48	46.05	45.94	42.76
6/25/2017-7:00	42.77	42.84	42.89	45.56	46.08	45.95	42.79
6/25/2017-8:00	42.79	42.85	42.9	45.61	46.06	45.93	42.79
6/25/2017-9:00	42.79	42.85	42.89	45.64	46.02	45.9	42.77
6/25/2017-10:00	42.78	42.83	42.86	45.64	45.94	45.84	42.74
6/25/2017-11:00	42.76	42.8	42.82	45.62	45.85	45.78	42.69
6/25/2017-12:00	42.73	42.76	42.77	45.59	45.75	45.72	42.65
6/25/2017-13:00	42.7	42.72	42.73	45.54	45.65	45.66	42.6
6/25/2017-14:00	42.67	42.69	42.69	45.5	45.56	45.61	42.56
6/25/2017-15:00	42.65	42.66	42.66	45.45	45.49	45.58	42.53
6/25/2017-16:00	42.63	42.65	42.65	45.41	45.45	45.56	42.51
6/25/2017-17:00	42.63	42.64	42.65	45.39	45.43	45.56	42.51
6/25/2017-18:00	42.64	42.66	42.66	45.38	45.44	45.59	42.53
6/25/2017-19:00	42.67	42.69	42.69	45.39	45.49	45.63	42.56
6/25/2017-20:00	42.71	42.73	42.74	45.41	45.56	45.7	42.61
6/25/2017-21:00	42.76	42.79	42.81	45.46	45.65	45.78	42.68
6/25/2017-22:00	42.82	42.86	42.88	45.52	45.77	45.87	42.76
6/25/2017-23:00	42.89	42.94	42.97	45.6	45.9	45.98	42.85
6/26/2017-0:00	42.97	43.02	43.05	45.69	46.03	46.08	42.94
6/26/2017-1:00	43.05	43.1	43.14	45.78	46.17	46.18	43.03
6/26/2017-2:00	43.12	43.18	43.22	45.88	46.29	46.27	43.11
6/26/2017-3:00	43.19	43.25	43.29	45.97	46.39	46.34	43.18
6/26/2017-4:00	43.24	43.3	43.34	46.05	46.47	46.39	43.23
6/26/2017-5:00	43.28	43.34	43.38	46.12	46.51	46.41	43.26
6/26/2017-6:00	43.31	43.36	43.39	46.16	46.52	46.41	43.27
6/26/2017-7:00	43.31	43.36	43.39	46.19	46.49	46.39	43.26
6/26/2017-8:00	43.3	43.34	43.36	46.18	46.43	46.34	43.23
6/26/2017-9:00	43.27	43.3	43.32	46.16	46.34	46.27	43.18
6/26/2017-10:00	43.23	43.25	43.26	46.11	46.22	46.19	43.12
6/26/2017-11:00	43.18	43.19	43.19	46.05	46.09	46.1	43.05
6/26/2017-12:00	43.12	43.12	43.12	45.97	45.95	46	42.97



6/26/2017-13:00	43.06	43.05	43.04	45.88	45.81	45.91	42.89
6/26/2017-14:00	42.99	42.98	42.97	45.79	45.68	45.82	42.81
6/26/2017-15:00	42.94	42.92	42.9	45.7	45.55	45.74	42.74
6/26/2017-16:00	42.88	42.86	42.84	45.61	45.45	45.68	42.68
6/26/2017-17:00	42.84	42.82	42.79	45.53	45.36	45.63	42.63
6/26/2017-18:00	42.8	42.78	42.75	45.46	45.3	45.6	42.6
6/26/2017-19:00	42.78	42.76	42.73	45.4	45.26	45.58	42.58
6/26/2017-20:00	42.76	42.74	42.72	45.36	45.25	45.58	42.57
6/26/2017-21:00	42.76	42.74	42.72	45.34	45.26	45.59	42.58
6/26/2017-22:00	42.77	42.76	42.74	45.33	45.29	45.62	42.59
6/26/2017-23:00	42.78	42.77	42.76	45.33	45.33	45.66	42.62
6/27/2017-0:00	42.8	42.8	42.79	45.34	45.38	45.69	42.65
6/27/2017-1:00	42.82	42.82	42.81	45.36	45.43	45.73	42.68
6/27/2017-2:00	42.83	42.83	42.83	45.38	45.46	45.75	42.7
6/27/2017-3:00	42.84	42.84	42.84	45.39	45.48	45.76	42.71
6/27/2017-4:00	42.84	42.84	42.83	45.4	45.48	45.75	42.7
6/27/2017-5:00	42.82	42.82	42.81	45.39	45.44	45.71	42.68
6/27/2017-6:00	42.79	42.79	42.77	45.36	45.38	45.66	42.64
6/27/2017-7:00	42.74	42.73	42.72	45.31	45.29	45.58	42.58
6/27/2017-8:00	42.68	42.66	42.64	45.25	45.16	45.48	42.5
6/27/2017-9:00	42.61	42.58	42.55	45.16	45.01	45.37	42.4
6/27/2017-10:00	42.52	42.48	42.45	45.05	44.85	45.24	42.3
6/27/2017-11:00	42.43	42.38	42.33	44.93	44.66	45.11	42.18
6/27/2017-12:00	42.32	42.27	42.22	44.8	44.48	44.98	42.06
6/27/2017-13:00	42.22	42.16	42.1	44.66	44.29	44.84	41.94
6/27/2017-14:00	42.12	42.05	41.99	44.52	44.11	44.72	41.83
6/27/2017-15:00	42.02	41.95	41.89	44.38	43.95	44.61	41.73
6/27/2017-16:00	41.93	41.86	41.79	44.24	43.8	44.51	41.63
6/27/2017-17:00	41.85	41.78	41.71	44.12	43.68	44.42	41.55
6/27/2017-18:00	41.78	41.71	41.64	44.01	43.58	44.36	41.48
6/27/2017-19:00	41.73	41.65	41.58	43.91	43.51	44.31	41.43
6/27/2017-20:00	41.68	41.61	41.54	43.83	43.46	44.28	41.39
6/27/2017-21:00	41.64	41.57	41.51	43.77	43.44	44.27	41.37
6/27/2017-22:00	41.62	41.55	41.5	43.72	43.43	44.26	41.36
6/27/2017-23:00	41.6	41.54	41.49	43.69	43.44	44.27	41.35
6/28/2017-0:00	41.59	41.53	41.49	43.67	43.46	44.28	41.35
6/28/2017-1:00	41.58	41.53	41.48	43.65	43.48	44.28	41.35
6/28/2017-2:00	41.57	41.52	41.47	43.64	43.49	44.28	41.35
6/28/2017-3:00	41.55	41.5	41.46	43.62	43.48	44.27	41.33
6/28/2017-4:00	41.52	41.47	41.43	43.6	43.46	44.24	41.31
6/28/2017-5:00	41.49	41.44	41.39	43.57	43.41	44.19	41.27
6/28/2017-6:00	41.44	41.38	41.34	43.52	43.34	44.12	41.21
6/28/2017-7:00	41.38	41.32	41.27	43.46	43.24	44.04	41.14
6/28/2017-8:00	41.3	41.24	41.18	43.38	43.12	43.93	41.05
6/28/2017-9:00	41.22	41.15	41.09	43.28	42.98	43.82	40.96
6/28/2017-10:00	41.13	41.05	40.99	43.17	42.82	43.7	40.85
6/28/2017-11:00	41.04	40.96	40.89	43.06	42.67	43.59	40.75
6/28/2017-12:00	40.95	40.86	40.79	42.94	42.52	43.48	40.65
6/28/2017-13:00	40.86	40.77	40.7	42.82	42.39	43.39	40.56
6/28/2017-14:00	40.79	40.7	40.62	42.72	42.28	43.31	40.48
6/28/2017-15:00	40.72	40.63	40.56	42.62	42.2	43.25	40.43
6/28/2017-16:00	40.68	40.59	40.52	42.54	42.15	43.22	40.39
6/28/2017-17:00	40.65	40.56	40.5	42.49	42.13	43.22	40.37

6/28/2017-18:00	40.63	40.56	40.5	42.45	42.16	43.24	40.38
6/28/2017-19:00	40.64	40.57	40.52	42.44	42.21	43.28	40.4
6/28/2017-20:00	40.66	40.6	40.55	42.46	42.3	43.35	40.45
6/28/2017-21:00	40.7	40.65	40.61	42.5	42.41	43.43	40.51
6/28/2017-22:00	40.75	40.71	40.68	42.56	42.55	43.53	40.59
6/28/2017-23:00	40.81	40.78	40.76	42.64	42.7	43.63	40.67
6/29/2017-0:00	40.88	40.86	40.85	42.73	42.86	43.74	40.76
6/29/2017-1:00	40.95	40.94	40.93	42.83	43.01	43.84	40.85
6/29/2017-2:00	41.01	41.01	41.01	42.93	43.15	43.93	40.93
6/29/2017-3:00	41.07	41.07	41.07	43.03	43.27	44	41
6/29/2017-4:00	41.12	41.12	41.12	43.11	43.36	44.05	41.05
6/29/2017-5:00	41.15	41.15	41.16	43.18	43.42	44.08	41.08
6/29/2017-6:00	41.17	41.17	41.17	43.23	43.43	44.07	41.08
6/29/2017-7:00	41.16	41.16	41.15	43.26	43.41	44.05	41.07
6/29/2017-8:00	41.14	41.13	41.12	43.26	43.36	43.99	41.03
6/29/2017-9:00	41.11	41.09	41.07	43.24	43.28	43.92	40.98
6/29/2017-10:00	41.06	41.04	41.01	43.2	43.17	43.84	40.91
6/29/2017-11:00	41.01	40.97	40.94	43.14	43.05	43.75	40.84
6/29/2017-12:00	40.95	40.91	40.87	43.07	42.93	43.66	40.76
6/29/2017-13:00	40.89	40.85	40.8	43	42.81	43.58	40.69
6/29/2017-14:00	40.84	40.79	40.74	42.92	42.71	43.52	40.63
6/29/2017-15:00	40.79	40.74	40.7	42.86	42.63	43.47	40.58
6/29/2017-16:00	40.76	40.71	40.66	42.8	42.58	43.44	40.55
6/29/2017-17:00	40.74	40.69	40.65	42.76	42.56	43.44	40.54
6/29/2017-18:00	40.73	40.69	40.65	42.73	42.57	43.45	40.54
6/29/2017-19:00	40.74	40.71	40.67	42.73	42.62	43.49	40.57
6/29/2017-20:00	40.77	40.74	40.71	42.75	42.69	43.55	40.61
6/29/2017-21:00	40.81	40.78	40.76	42.79	42.78	43.62	40.67
6/29/2017-22:00	40.86	40.84	40.82	42.84	42.9	43.7	40.73
6/29/2017-23:00	40.91	40.9	40.89	42.91	43.02	43.79	40.81
6/30/2017-0:00	40.97	40.97	40.97	42.99	43.15	43.88	40.88
6/30/2017-1:00	41.03	41.03	41.03	43.07	43.27	43.96	40.95
6/30/2017-2:00	41.08	41.09	41.09	43.16	43.38	44.03	41.01
6/30/2017-3:00	41.13	41.14	41.14	43.23	43.46	44.08	41.06
6/30/2017-4:00	41.16	41.17	41.17	43.3	43.52	44.11	41.09
6/30/2017-5:00	41.18	41.18	41.19	43.34	43.54	44.11	41.1
6/30/2017-6:00	41.18	41.18	41.18	43.37	43.53	44.09	41.09
6/30/2017-7:00	41.16	41.16	41.15	43.37	43.48	44.04	41.06
6/30/2017-8:00	41.13	41.12	41.1	43.35	43.39	43.97	41.01
6/30/2017-9:00	41.08	41.06	41.04	43.31	43.28	43.88	40.94
6/30/2017-10:00	41.02	40.99	40.96	43.24	43.15	43.78	40.85
6/30/2017-11:00	40.95	40.91	40.87	43.16	43	43.67	40.76
6/30/2017-12:00	40.87	40.83	40.78	43.07	42.85	43.56	40.67
6/30/2017-13:00	40.79	40.74	40.69	42.96	42.71	43.46	40.58
6/30/2017-14:00	40.72	40.66	40.61	42.86	42.57	43.37	40.49
6/30/2017-15:00	40.65	40.59	40.54	42.76	42.45	43.29	40.42
6/30/2017-16:00	40.6	40.53	40.48	42.68	42.36	43.23	40.36
6/30/2017-17:00	40.55	40.49	40.44	42.6	42.3	43.19	40.32
6/30/2017-18:00	40.52	40.46	40.41	42.54	42.26	43.17	40.29
6/30/2017-19:00	40.5	40.44	40.4	42.5	42.25	43.17	40.28
6/30/2017-20:00	40.5	40.44	40.4	42.47	42.28	43.19	40.29
6/30/2017-21:00	40.5	40.46	40.42	42.47	42.32	43.23	40.31
6/30/2017-22:00	40.52	40.48	40.45	42.48	42.38	43.27	40.35

6/30/2017-23:00	40.55	40.51	40.48	42.51	42.46	43.33	40.39
7/1/2017-0:00	40.57	40.55	40.52	42.54	42.54	43.38	40.43
7/1/2017-1:00	40.6	40.58	40.56	42.58	42.62	43.43	40.47
7/1/2017-2:00	40.63	40.61	40.59	42.63	42.69	43.47	40.51
7/1/2017-3:00	40.65	40.63	40.62	42.66	42.73	43.49	40.53
7/1/2017-4:00	40.66	40.64	40.62	42.69	42.76	43.5	40.54
7/1/2017-5:00	40.66	40.64	40.62	42.71	42.76	43.48	40.53
7/1/2017-6:00	40.64	40.61	40.59	42.71	42.72	43.44	40.5
7/1/2017-7:00	40.6	40.57	40.55	42.68	42.65	43.38	40.45
7/1/2017-8:00	40.56	40.52	40.49	42.64	42.56	43.3	40.39
7/1/2017-9:00	40.5	40.45	40.41	42.58	42.44	43.21	40.31
7/1/2017-10:00	40.43	40.38	40.33	42.5	42.31	43.11	40.23
7/1/2017-11:00	40.36	40.3	40.25	42.42	42.18	43.01	40.14
7/1/2017-12:00	40.28	40.22	40.16	42.32	42.04	42.91	40.05
7/1/2017-13:00	40.21	40.15	40.09	42.23	41.92	42.83	39.98
7/1/2017-14:00	40.15	40.08	40.02	42.14	41.82	42.76	39.91
7/1/2017-15:00	40.1	40.03	39.97	42.06	41.75	42.71	39.86
7/1/2017-16:00	40.06	39.99	39.94	42	41.7	42.68	39.83
7/1/2017-17:00	40.04	39.97	39.92	41.95	41.69	42.68	39.81
7/1/2017-18:00	40.03	39.97	39.92	41.92	41.7	42.7	39.82
7/1/2017-19:00	40.04	39.99	39.94	41.92	41.75	42.74	39.84
7/1/2017-20:00	40.06	40.02	39.98	41.93	41.83	42.8	39.88
7/1/2017-21:00	40.1	40.06	40.03	41.97	41.93	42.87	39.94
7/1/2017-22:00	40.15	40.12	40.1	42.03	42.06	42.96	40.01
7/1/2017-23:00	40.21	40.19	40.17	42.1	42.19	43.06	40.09
7/2/2017-0:00	40.28	40.26	40.25	42.19	42.34	43.16	40.18
7/2/2017-1:00	40.34	40.34	40.33	42.28	42.48	43.25	40.26
7/2/2017-2:00	40.41	40.41	40.41	42.38	42.61	43.34	40.34
7/2/2017-3:00	40.47	40.47	40.47	42.47	42.73	43.41	40.4
7/2/2017-4:00	40.52	40.52	40.53	42.55	42.82	43.46	40.45
7/2/2017-5:00	40.55	40.56	40.56	42.62	42.88	43.49	40.49
7/2/2017-6:00	40.57	40.58	40.58	42.68	42.9	43.5	40.5
7/2/2017-7:00	40.58	40.58	40.57	42.71	42.89	43.48	40.49
7/2/2017-8:00	40.57	40.56	40.55	42.72	42.86	43.44	40.47
7/2/2017-9:00	40.55	40.53	40.52	42.71	42.79	43.39	40.43
7/2/2017-10:00	40.51	40.49	40.48	42.68	42.71	43.33	40.38
7/2/2017-11:00	40.47	40.45	40.43	42.65	42.62	43.26	40.33
7/2/2017-12:00	40.44	40.41	40.38	42.6	42.54	43.2	40.28
7/2/2017-13:00	40.4	40.37	40.34	42.55	42.46	43.15	40.23
7/2/2017-14:00	40.37	40.34	40.3	42.51	42.4	43.12	40.2
7/2/2017-15:00	40.36	40.32	40.29	42.47	42.37	43.11	40.18
7/2/2017-16:00	40.35	40.32	40.29	42.45	42.37	43.12	40.18
7/2/2017-17:00	40.36	40.33	40.31	42.45	42.41	43.15	40.21
7/2/2017-18:00	40.39	40.37	40.35	42.47	42.47	43.21	40.25
7/2/2017-19:00	40.44	40.42	40.4	42.51	42.57	43.28	40.31
7/2/2017-20:00	40.5	40.49	40.48	42.57	42.69	43.38	40.39
7/2/2017-21:00	40.57	40.57	40.57	42.66	42.85	43.5	40.48
7/2/2017-22:00	40.66	40.66	40.67	42.76	43.02	43.63	40.59
7/2/2017-23:00	40.75	40.77	40.79	42.88	43.21	43.76	40.71
7/3/2017-0:00	40.85	40.88	40.9	43.01	43.4	43.9	40.83
7/3/2017-1:00	40.96	40.99	41.02	43.16	43.59	44.04	40.95
7/3/2017-2:00	41.06	41.1	41.13	43.3	43.77	44.16	41.06
7/3/2017-3:00	41.15	41.2	41.23	43.44	43.93	44.27	41.16

7/3/2017-4:00	41.23	41.28	41.32	43.56	44.06	44.35	41.25
7/3/2017-5:00	41.3	41.35	41.38	43.67	44.15	44.41	41.31
7/3/2017-6:00	41.35	41.4	41.43	43.76	44.21	44.45	41.35
7/3/2017-7:00	41.38	41.42	41.45	43.83	44.23	44.45	41.37
7/3/2017-8:00	41.4	41.43	41.45	43.87	44.22	44.43	41.36
7/3/2017-9:00	41.4	41.43	41.44	43.89	44.18	44.4	41.34
7/3/2017-10:00	41.39	41.41	41.41	43.89	44.11	44.35	41.31
7/3/2017-11:00	41.37	41.38	41.38	43.88	44.03	44.3	41.27
7/3/2017-12:00	41.34	41.35	41.34	43.85	43.95	44.25	41.23
7/3/2017-13:00	41.32	41.32	41.31	43.81	43.88	44.2	41.19
7/3/2017-14:00	41.3	41.29	41.28	43.78	43.81	44.17	41.16
7/3/2017-15:00	41.28	41.28	41.26	43.75	43.77	44.15	41.15
7/3/2017-16:00	41.28	41.27	41.26	43.73	43.75	44.15	41.14
7/3/2017-17:00	41.29	41.28	41.27	43.72	43.76	44.17	41.16
7/3/2017-18:00	41.31	41.31	41.3	43.73	43.8	44.21	41.19
7/3/2017-19:00	41.35	41.35	41.34	43.75	43.86	44.27	41.23
7/3/2017-20:00	41.39	41.4	41.4	43.8	43.95	44.34	41.29
7/3/2017-21:00	41.45	41.47	41.47	43.86	44.07	44.43	41.37
7/3/2017-22:00	41.53	41.55	41.56	43.94	44.2	44.53	41.45
7/3/2017-23:00	41.6	41.63	41.65	44.03	44.34	44.64	41.55
7/4/2017-0:00	41.68	41.72	41.74	44.13	44.49	44.75	41.64
7/4/2017-1:00	41.77	41.81	41.83	44.24	44.63	44.85	41.74
7/4/2017-2:00	41.84	41.89	41.92	44.34	44.76	44.94	41.82
7/4/2017-3:00	41.91	41.96	41.99	44.44	44.87	45.02	41.89
7/4/2017-4:00	41.97	42.01	42.04	44.53	44.95	45.07	41.95
7/4/2017-5:00	42.01	42.05	42.08	44.6	45	45.09	41.98
7/4/2017-6:00	42.03	42.07	42.09	44.65	45.01	45.09	41.99
7/4/2017-7:00	42.04	42.07	42.09	44.68	44.98	45.07	41.98
7/4/2017-8:00	42.03	42.05	42.06	44.68	44.92	45.02	41.95
7/4/2017-9:00	42	42.02	42.02	44.66	44.83	44.95	41.9
7/4/2017-10:00	41.96	41.97	41.96	44.62	44.72	44.87	41.84
7/4/2017-11:00	41.91	41.91	41.9	44.56	44.6	44.79	41.77
7/4/2017-12:00	41.86	41.85	41.83	44.49	44.47	44.7	41.7
7/4/2017-13:00	41.8	41.79	41.76	44.41	44.34	44.61	41.63
7/4/2017-14:00	41.75	41.73	41.7	44.33	44.23	44.54	41.56
7/4/2017-15:00	41.7	41.68	41.65	44.26	44.13	44.48	41.51
7/4/2017-16:00	41.67	41.64	41.6	44.19	44.05	44.44	41.46
7/4/2017-17:00	41.64	41.61	41.57	44.13	44	44.41	41.43
7/4/2017-18:00	41.62	41.59	41.56	44.08	43.98	44.41	41.42
7/4/2017-19:00	41.61	41.59	41.56	44.05	43.98	44.42	41.42
7/4/2017-20:00	41.62	41.6	41.57	44.04	44	44.44	41.44
7/4/2017-21:00	41.64	41.62	41.6	44.05	44.05	44.48	41.47
7/4/2017-22:00	41.67	41.65	41.64	44.07	44.12	44.54	41.51
7/4/2017-23:00	41.7	41.7	41.69	44.1	44.2	44.6	41.56
7/5/2017-0:00	41.74	41.74	41.74	44.14	44.28	44.66	41.62
7/5/2017-1:00	41.78	41.79	41.78	44.19	44.37	44.72	41.67
7/5/2017-2:00	41.82	41.83	41.83	44.25	44.44	44.77	41.71
7/5/2017-3:00	41.85	41.86	41.86	44.29	44.5	44.81	41.75
7/5/2017-4:00	41.87	41.88	41.88	44.33	44.53	44.82	41.77
7/5/2017-5:00	41.88	41.89	41.88	44.35	44.53	44.81	41.77
7/5/2017-6:00	41.87	41.88	41.87	44.36	44.51	44.79	41.75
7/5/2017-7:00	41.85	41.85	41.84	44.35	44.45	44.73	41.71
7/5/2017-8:00	41.81	41.8	41.79	44.31	44.36	44.66	41.66

7/5/2017-9:00	41.76	41.74	41.72	44.26	44.25	44.58	41.59
7/5/2017-10:00	41.7	41.68	41.65	44.19	44.12	44.48	41.51
7/5/2017-11:00	41.63	41.6	41.56	44.1	43.98	44.38	41.43
7/5/2017-12:00	41.56	41.52	41.48	44.01	43.84	44.29	41.34
7/5/2017-13:00	41.5	41.45	41.41	43.92	43.71	44.2	41.26
7/5/2017-14:00	41.44	41.39	41.34	43.83	43.6	44.12	41.2
7/5/2017-15:00	41.38	41.33	41.28	43.74	43.51	44.07	41.14
7/5/2017-16:00	41.34	41.29	41.24	43.67	43.44	44.03	41.1
7/5/2017-17:00	41.31	41.26	41.22	43.61	43.41	44.02	41.08
7/5/2017-18:00	41.3	41.25	41.21	43.57	43.41	44.02	41.08
7/5/2017-19:00	41.3	41.26	41.22	43.55	43.44	44.05	41.09
7/5/2017-20:00	41.32	41.29	41.26	43.56	43.5	44.11	41.13
7/5/2017-21:00	41.35	41.33	41.3	43.58	43.58	44.17	41.18
7/5/2017-22:00	41.4	41.38	41.36	43.63	43.69	44.26	41.25
7/5/2017-23:00	41.45	41.44	41.44	43.69	43.82	44.35	41.32
7/6/2017-0:00	41.52	41.51	41.51	43.77	43.95	44.44	41.4
7/6/2017-1:00	41.58	41.58	41.58	43.85	44.08	44.53	41.48
7/6/2017-2:00	41.64	41.65	41.65	43.93	44.2	44.61	41.55
7/6/2017-3:00	41.69	41.7	41.71	44.01	44.29	44.67	41.61
7/6/2017-4:00	41.72	41.74	41.75	44.08	44.36	44.7	41.64
7/6/2017-5:00	41.75	41.76	41.77	44.13	44.39	44.71	41.66
7/6/2017-6:00	41.75	41.76	41.77	44.16	44.38	44.7	41.66
7/6/2017-7:00	41.74	41.75	41.75	44.17	44.34	44.66	41.64
7/6/2017-8:00	41.72	41.72	41.71	44.16	44.27	44.6	41.59
7/6/2017-9:00	41.68	41.67	41.65	44.12	44.17	44.52	41.53
7/6/2017-10:00	41.63	41.61	41.59	44.07	44.05	44.44	41.46
7/6/2017-11:00	41.57	41.54	41.51	44	43.93	44.34	41.39
7/6/2017-12:00	41.51	41.47	41.44	43.92	43.8	44.26	41.31
7/6/2017-13:00	41.45	41.41	41.37	43.83	43.68	44.17	41.24
7/6/2017-14:00	41.39	41.35	41.31	43.75	43.57	44.11	41.18
7/6/2017-15:00	41.35	41.3	41.26	43.68	43.49	44.06	41.13
7/6/2017-16:00	41.31	41.27	41.23	43.62	43.44	44.03	41.1
7/6/2017-17:00	41.29	41.25	41.21	43.57	43.41	44.03	41.08
7/6/2017-18:00	41.29	41.25	41.22	43.54	43.42	44.04	41.09
7/6/2017-19:00	41.3	41.27	41.24	43.54	43.46	44.08	41.12
7/6/2017-20:00	41.33	41.3	41.28	43.55	43.54	44.14	41.16
7/6/2017-21:00	41.37	41.35	41.34	43.59	43.64	44.22	41.22
7/6/2017-22:00	41.42	41.42	41.41	43.65	43.76	44.31	41.3
7/6/2017-23:00	41.49	41.49	41.49	43.72	43.9	44.42	41.38
7/7/2017-0:00	41.56	41.57	41.58	43.81	44.05	44.52	41.47
7/7/2017-1:00	41.64	41.65	41.66	43.91	44.2	44.63	41.57
7/7/2017-2:00	41.71	41.73	41.75	44.01	44.34	44.73	41.65
7/7/2017-3:00	41.78	41.81	41.83	44.11	44.46	44.81	41.73
7/7/2017-4:00	41.84	41.87	41.89	44.21	44.56	44.87	41.79
7/7/2017-5:00	41.89	41.91	41.93	44.28	44.63	44.91	41.84
7/7/2017-6:00	41.92	41.94	41.96	44.35	44.67	44.93	41.86
7/7/2017-7:00	41.93	41.95	41.97	44.39	44.67	44.92	41.86
7/7/2017-8:00	41.93	41.95	41.95	44.41	44.64	44.89	41.85
7/7/2017-9:00	41.91	41.92	41.92	44.4	44.58	44.84	41.81
7/7/2017-10:00	41.89	41.89	41.88	44.38	44.5	44.78	41.77
7/7/2017-11:00	41.85	41.85	41.84	44.35	44.41	44.72	41.72
7/7/2017-12:00	41.82	41.81	41.79	44.3	44.32	44.65	41.67
7/7/2017-13:00	41.78	41.77	41.75	44.25	44.23	44.6	41.62

7/7/2017-14:00	41.75	41.74	41.71	44.2	44.16	44.56	41.59
7/7/2017-15:00	41.73	41.72	41.69	44.16	44.12	44.54	41.57
7/7/2017-16:00	41.73	41.71	41.69	44.13	44.1	44.54	41.56
7/7/2017-17:00	41.73	41.72	41.7	44.12	44.12	44.57	41.58
7/7/2017-18:00	41.76	41.75	41.73	44.13	44.17	44.62	41.61
7/7/2017-19:00	41.8	41.79	41.79	44.16	44.25	44.69	41.67
7/7/2017-20:00	41.86	41.86	41.86	44.22	44.37	44.79	41.75
7/7/2017-21:00	41.93	41.94	41.95	44.3	44.52	44.91	41.84
7/7/2017-22:00	42.02	42.04	42.06	44.4	44.7	45.04	41.96
7/7/2017-23:00	42.12	42.15	42.18	44.52	44.89	45.18	42.08
7/8/2017-0:00	42.22	42.27	42.3	44.65	45.09	45.33	42.21
7/8/2017-1:00	42.33	42.38	42.42	44.8	45.28	45.47	42.33
7/8/2017-2:00	42.43	42.49	42.54	44.94	45.46	45.59	42.45
7/8/2017-3:00	42.53	42.59	42.64	45.08	45.62	45.7	42.55
7/8/2017-4:00	42.61	42.67	42.72	45.2	45.74	45.78	42.63
7/8/2017-5:00	42.68	42.74	42.78	45.31	45.83	45.84	42.69
7/8/2017-6:00	42.72	42.78	42.82	45.39	45.88	45.86	42.73
7/8/2017-7:00	42.75	42.8	42.84	45.45	45.88	45.86	42.74
7/8/2017-8:00	42.75	42.8	42.83	45.48	45.84	45.83	42.72
7/8/2017-9:00	42.74	42.78	42.8	45.49	45.77	45.77	42.69
7/8/2017-10:00	42.71	42.74	42.76	45.47	45.68	45.7	42.64
7/8/2017-11:00	42.68	42.7	42.7	45.43	45.57	45.63	42.58
7/8/2017-12:00	42.63	42.65	42.64	45.37	45.45	45.55	42.52
7/8/2017-13:00	42.59	42.6	42.59	45.31	45.33	45.47	42.46
7/8/2017-14:00	42.55	42.55	42.54	45.25	45.23	45.41	42.4
7/8/2017-15:00	42.52	42.51	42.5	45.19	45.15	45.37	42.36
7/8/2017-16:00	42.49	42.49	42.47	45.13	45.09	45.34	42.34
7/8/2017-17:00	42.48	42.48	42.46	45.1	45.07	45.34	42.33
7/8/2017-18:00	42.49	42.48	42.47	45.08	45.07	45.36	42.34
7/8/2017-19:00	42.5	42.5	42.5	45.08	45.11	45.4	42.37
7/8/2017-20:00	42.54	42.54	42.54	45.1	45.18	45.47	42.42
7/8/2017-21:00	42.59	42.6	42.6	45.14	45.28	45.55	42.48
7/8/2017-22:00	42.64	42.66	42.67	45.2	45.4	45.64	42.56
7/8/2017-23:00	42.71	42.74	42.76	45.27	45.53	45.74	42.65
7/9/2017-0:00	42.79	42.82	42.84	45.36	45.67	45.85	42.74
7/9/2017-1:00	42.86	42.9	42.93	45.46	45.81	45.95	42.82
7/9/2017-2:00	42.93	42.98	43.01	45.55	45.94	46.04	42.9
7/9/2017-3:00	42.99	43.04	43.07	45.64	46.04	46.11	42.97
7/9/2017-4:00	43.04	43.09	43.12	45.73	46.12	46.16	43.02
7/9/2017-5:00	43.08	43.13	43.16	45.79	46.16	46.18	43.05
7/9/2017-6:00	43.1	43.14	43.17	45.83	46.17	46.18	43.06
7/9/2017-7:00	43.1	43.14	43.16	45.85	46.14	46.15	43.05
7/9/2017-8:00	43.08	43.11	43.13	45.85	46.07	46.09	43.01
7/9/2017-9:00	43.05	43.07	43.08	45.82	45.98	46.02	42.96
7/9/2017-10:00	43	43.01	43.01	45.78	45.86	45.94	42.89
7/9/2017-11:00	42.95	42.95	42.94	45.71	45.73	45.84	42.82
7/9/2017-12:00	42.89	42.88	42.87	45.63	45.59	45.75	42.74
7/9/2017-13:00	42.83	42.81	42.8	45.55	45.46	45.66	42.66
7/9/2017-14:00	42.77	42.75	42.73	45.46	45.34	45.59	42.6
7/9/2017-15:00	42.72	42.7	42.68	45.38	45.24	45.53	42.54
7/9/2017-16:00	42.68	42.66	42.64	45.31	45.17	45.49	42.5
7/9/2017-17:00	42.66	42.64	42.61	45.25	45.13	45.48	42.48
7/9/2017-18:00	42.64	42.63	42.61	45.21	45.12	45.48	42.48

7/9/2017-19:00	42.65	42.63	42.62	45.19	45.13	45.51	42.49
7/9/2017-20:00	42.66	42.65	42.64	45.19	45.18	45.55	42.52
7/9/2017-21:00	42.69	42.69	42.68	45.21	45.25	45.61	42.56
7/9/2017-22:00	42.73	42.73	42.73	45.24	45.34	45.68	42.62
7/9/2017-23:00	42.77	42.78	42.79	45.29	45.44	45.75	42.68
7/10/2017-0:00	42.82	42.84	42.85	45.35	45.54	45.82	42.74
7/10/2017-1:00	42.87	42.89	42.9	45.41	45.63	45.89	42.8
7/10/2017-2:00	42.91	42.93	42.95	45.47	45.71	45.94	42.85
7/10/2017-3:00	42.94	42.97	42.99	45.52	45.77	45.98	42.88
7/10/2017-4:00	42.96	42.99	43.01	45.57	45.81	45.99	42.9
7/10/2017-5:00	42.97	43	43.01	45.59	45.81	45.99	42.91
7/10/2017-6:00	42.97	42.98	42.99	45.6	45.78	45.96	42.89
7/10/2017-7:00	42.94	42.96	42.96	45.59	45.72	45.9	42.85
7/10/2017-8:00	42.9	42.91	42.91	45.55	45.62	45.83	42.79
7/10/2017-9:00	42.85	42.85	42.84	45.5	45.5	45.74	42.72
7/10/2017-10:00	42.78	42.77	42.76	45.42	45.36	45.63	42.63
7/10/2017-11:00	42.71	42.69	42.66	45.33	45.2	45.52	42.54
7/10/2017-12:00	42.63	42.6	42.57	45.22	45.03	45.4	42.44
7/10/2017-13:00	42.54	42.5	42.47	45.11	44.87	45.28	42.33
7/10/2017-14:00	42.46	42.41	42.37	44.99	44.71	45.18	42.24
7/10/2017-15:00	42.37	42.33	42.28	44.87	44.56	45.08	42.14
7/10/2017-16:00	42.3	42.25	42.2	44.75	44.43	44.99	42.06
7/10/2017-17:00	42.23	42.17	42.12	44.65	44.32	44.91	41.99
7/10/2017-18:00	42.17	42.11	42.06	44.55	44.22	44.85	41.92
7/10/2017-19:00	42.11	42.05	42	44.46	44.14	44.79	41.87
7/10/2017-20:00	42.06	42	41.95	44.38	44.07	44.75	41.82
7/10/2017-21:00	42.01	41.96	41.91	44.3	44.01	44.71	41.78
7/10/2017-22:00	41.97	41.91	41.87	44.24	43.96	44.67	41.74
7/10/2017-23:00	41.93	41.87	41.82	44.17	43.91	44.63	41.7
7/11/2017-0:00	41.88	41.82	41.78	44.11	43.85	44.58	41.65
7/11/2017-1:00	41.83	41.77	41.72	44.04	43.78	44.52	41.6
7/11/2017-2:00	41.77	41.71	41.66	43.97	43.7	44.45	41.53
7/11/2017-3:00	41.7	41.64	41.58	43.89	43.59	44.36	41.46
7/11/2017-4:00	41.62	41.55	41.49	43.79	43.47	44.26	41.37
7/11/2017-5:00	41.53	41.45	41.39	43.68	43.31	44.14	41.26
7/11/2017-6:00	41.42	41.34	41.27	43.55	43.14	43.99	41.14
7/11/2017-7:00	41.3	41.21	41.13	43.41	42.94	43.84	41
7/11/2017-8:00	41.16	41.06	40.98	43.24	42.71	43.66	40.85
7/11/2017-9:00	41.02	40.91	40.82	43.06	42.46	43.47	40.68
7/11/2017-10:00	40.86	40.74	40.64	42.87	42.2	43.27	40.5
7/11/2017-11:00	40.69	40.57	40.46	42.65	41.93	43.06	40.32
7/11/2017-12:00	40.52	40.39	40.27	42.43	41.65	42.85	40.13
7/11/2017-13:00	40.35	40.2	40.08	42.2	41.37	42.64	39.94
7/11/2017-14:00	40.18	40.02	39.9	41.97	41.09	42.44	39.75
7/11/2017-15:00	40.01	39.85	39.72	41.74	40.83	42.25	39.57
7/11/2017-16:00	39.84	39.68	39.54	41.51	40.59	42.07	39.4
7/11/2017-17:00	39.69	39.52	39.39	41.3	40.38	41.91	39.25
7/11/2017-18:00	39.55	39.38	39.24	41.1	40.19	41.77	39.11
7/11/2017-19:00	39.42	39.25	39.12	40.91	40.02	41.65	38.98
7/11/2017-20:00	39.3	39.14	39.01	40.74	39.89	41.55	38.88
7/11/2017-21:00	39.2	39.04	38.91	40.6	39.79	41.47	38.79
7/11/2017-22:00	39.12	38.96	38.84	40.47	39.72	41.41	38.72
7/11/2017-23:00	39.04	38.89	38.77	40.36	39.66	41.36	38.66

7/12/2017-0:00	38.97	38.82	38.71	40.27	39.61	41.31	38.61
7/12/2017-1:00	38.91	38.76	38.66	40.19	39.58	41.27	38.56
7/12/2017-2:00	38.84	38.71	38.6	40.11	39.54	41.22	38.5
7/12/2017-3:00	38.78	38.64	38.54	40.04	39.49	41.17	38.45
7/12/2017-4:00	38.71	38.58	38.48	39.97	39.43	41.11	38.39
7/12/2017-5:00	38.63	38.5	38.4	39.89	39.36	41.03	38.31
7/12/2017-6:00	38.55	38.42	38.31	39.8	39.26	40.93	38.23
7/12/2017-7:00	38.46	38.32	38.22	39.7	39.14	40.83	38.13
7/12/2017-8:00	38.35	38.21	38.11	39.59	39.01	40.71	38.02
7/12/2017-9:00	38.24	38.1	37.99	39.47	38.85	40.57	37.9
7/12/2017-10:00	38.13	37.98	37.86	39.34	38.69	40.44	37.78
7/12/2017-11:00	38.01	37.86	37.74	39.2	38.52	40.3	37.65
7/12/2017-12:00	37.89	37.74	37.62	39.06	38.36	40.17	37.53
7/12/2017-13:00	37.78	37.62	37.5	38.92	38.21	40.06	37.41
7/12/2017-14:00	37.68	37.52	37.4	38.79	38.09	39.96	37.32
7/12/2017-15:00	37.59	37.44	37.32	38.67	37.99	39.88	37.23
7/12/2017-16:00	37.52	37.37	37.25	38.57	37.92	39.83	37.17
7/12/2017-17:00	37.47	37.32	37.21	38.5	37.89	39.81	37.14
7/12/2017-18:00	37.43	37.29	37.19	38.44	37.9	39.81	37.12
7/12/2017-19:00	37.42	37.29	37.19	38.42	37.95	39.84	37.13
7/12/2017-20:00	37.42	37.3	37.21	38.42	38.02	39.89	37.16
7/12/2017-21:00	37.44	37.33	37.25	38.44	38.13	39.95	37.2
7/12/2017-22:00	37.47	37.37	37.3	38.49	38.25	40.03	37.26
7/12/2017-23:00	37.51	37.42	37.37	38.55	38.39	40.12	37.33
7/13/2017-0:00	37.56	37.48	37.43	38.63	38.54	40.21	37.4
7/13/2017-1:00	37.6	37.54	37.5	38.71	38.68	40.29	37.47
7/13/2017-2:00	37.65	37.59	37.55	38.8	38.8	40.36	37.53
7/13/2017-3:00	37.69	37.63	37.6	38.88	38.91	40.42	37.57
7/13/2017-4:00	37.72	37.66	37.63	38.95	38.98	40.45	37.61
7/13/2017-5:00	37.73	37.68	37.65	39	39.03	40.46	37.62
7/13/2017-6:00	37.73	37.68	37.65	39.04	39.04	40.45	37.62
7/13/2017-7:00	37.72	37.66	37.63	39.06	39.03	40.42	37.59
7/13/2017-8:00	37.69	37.63	37.59	39.06	38.98	40.36	37.55
7/13/2017-9:00	37.65	37.58	37.54	39.04	38.9	40.29	37.5
7/13/2017-10:00	37.59	37.52	37.47	39	38.81	40.21	37.43
7/13/2017-11:00	37.53	37.46	37.4	38.94	38.7	40.12	37.35
7/13/2017-12:00	37.47	37.39	37.33	38.88	38.59	40.04	37.28
7/13/2017-13:00	37.41	37.32	37.26	38.81	38.48	39.95	37.2
7/13/2017-14:00	37.35	37.26	37.19	38.73	38.39	39.88	37.14
7/13/2017-15:00	37.3	37.21	37.14	38.67	38.31	39.83	37.08
7/13/2017-16:00	37.25	37.16	37.09	38.61	38.26	39.79	37.04
7/13/2017-17:00	37.22	37.13	37.07	38.56	38.23	39.77	37.01
7/13/2017-18:00	37.2	37.12	37.05	38.53	38.22	39.77	37
7/13/2017-19:00	37.2	37.11	37.05	38.52	38.25	39.78	37.01
7/13/2017-20:00	37.2	37.12	37.07	38.52	38.29	39.81	37.02
7/13/2017-21:00	37.21	37.14	37.09	38.54	38.36	39.85	37.05
7/13/2017-22:00	37.24	37.17	37.13	38.57	38.44	39.91	37.09
7/13/2017-23:00	37.27	37.21	37.17	38.61	38.53	39.96	37.13
7/14/2017-0:00	37.3	37.25	37.21	38.66	38.62	40.02	37.18
7/14/2017-1:00	37.33	37.29	37.25	38.72	38.71	40.07	37.22
7/14/2017-2:00	37.36	37.32	37.29	38.77	38.78	40.11	37.26
7/14/2017-3:00	37.38	37.34	37.31	38.82	38.84	40.14	37.28
7/14/2017-4:00	37.4	37.35	37.32	38.86	38.87	40.14	37.29



7/14/2017-5:00	37.39	37.35	37.32	38.89	38.88	40.13	37.28
7/14/2017-6:00	37.38	37.33	37.3	38.9	38.85	40.09	37.26
7/14/2017-7:00	37.35	37.29	37.26	38.88	38.8	40.04	37.21
7/14/2017-8:00	37.3	37.24	37.2	38.85	38.71	39.96	37.15
7/14/2017-9:00	37.24	37.18	37.13	38.8	38.61	39.87	37.08
7/14/2017-10:00	37.18	37.11	37.05	38.73	38.49	39.77	36.99
7/14/2017-11:00	37.11	37.03	36.97	38.66	38.36	39.68	36.91
7/14/2017-12:00	37.04	36.95	36.89	38.57	38.24	39.58	36.83
7/14/2017-13:00	36.97	36.88	36.81	38.49	38.13	39.5	36.75
7/14/2017-14:00	36.91	36.82	36.75	38.41	38.04	39.44	36.69
7/14/2017-15:00	36.87	36.78	36.71	38.34	37.99	39.41	36.65
7/14/2017-16:00	36.84	36.75	36.69	38.29	37.97	39.39	36.63
7/14/2017-17:00	36.83	36.75	36.68	38.27	37.98	39.41	36.63
7/14/2017-18:00	36.84	36.76	36.71	38.26	38.04	39.45	36.65
7/14/2017-19:00	36.86	36.8	36.75	38.29	38.13	39.52	36.7
7/14/2017-20:00	36.91	36.85	36.82	38.34	38.26	39.62	36.78
7/14/2017-21:00	36.98	36.93	36.9	38.42	38.42	39.74	36.87
7/14/2017-22:00	37.06	37.02	37.01	38.52	38.61	39.87	36.98
7/14/2017-23:00	37.15	37.13	37.12	38.64	38.82	40.02	37.1
7/15/2017-0:00	37.25	37.25	37.25	38.78	39.04	40.17	37.23
7/15/2017-1:00	37.36	37.36	37.37	38.94	39.26	40.32	37.36
7/15/2017-2:00	37.47	37.48	37.49	39.09	39.47	40.46	37.48
7/15/2017-3:00	37.56	37.58	37.6	39.25	39.66	40.58	37.59
7/15/2017-4:00	37.65	37.67	37.7	39.39	39.82	40.68	37.69
7/15/2017-5:00	37.73	37.75	37.77	39.52	39.94	40.76	37.76
7/15/2017-6:00	37.78	37.81	37.83	39.63	40.03	40.8	37.81
7/15/2017-7:00	37.82	37.84	37.86	39.72	40.08	40.82	37.84
7/15/2017-8:00	37.84	37.86	37.87	39.79	40.09	40.82	37.85
7/15/2017-9:00	37.85	37.86	37.87	39.82	40.07	40.79	37.84
7/15/2017-10:00	37.84	37.84	37.84	39.84	40.02	40.75	37.81
7/15/2017-11:00	37.82	37.82	37.81	39.84	39.96	40.7	37.77
7/15/2017-12:00	37.8	37.79	37.77	39.82	39.88	40.65	37.73
7/15/2017-13:00	37.77	37.75	37.73	39.79	39.8	40.59	37.68
7/15/2017-14:00	37.74	37.72	37.7	39.76	39.73	40.54	37.64
7/15/2017-15:00	37.71	37.69	37.66	39.72	39.67	40.51	37.61
7/15/2017-16:00	37.69	37.66	37.64	39.69	39.62	40.48	37.58
7/15/2017-17:00	37.68	37.65	37.62	39.66	39.59	40.46	37.57
7/15/2017-18:00	37.67	37.64	37.62	39.65	39.58	40.46	37.56
7/15/2017-19:00	37.67	37.65	37.62	39.64	39.59	40.47	37.56
7/15/2017-20:00	37.68	37.66	37.63	39.64	39.61	40.49	37.58
7/15/2017-21:00	37.7	37.67	37.65	39.66	39.65	40.52	37.6
7/15/2017-22:00	37.72	37.7	37.68	39.68	39.69	40.56	37.62
7/15/2017-23:00	37.74	37.72	37.71	39.7	39.74	40.59	37.65
7/16/2017-0:00	37.76	37.74	37.73	39.73	39.79	40.62	37.68
7/16/2017-1:00	37.78	37.76	37.75	39.76	39.83	40.64	37.7
7/16/2017-2:00	37.79	37.77	37.76	39.79	39.86	40.65	37.71
7/16/2017-3:00	37.79	37.78	37.76	39.8	39.86	40.65	37.7
7/16/2017-4:00	37.79	37.77	37.75	39.81	39.84	40.62	37.69
7/16/2017-5:00	37.77	37.74	37.72	39.8	39.8	40.58	37.66
7/16/2017-6:00	37.73	37.7	37.68	39.77	39.73	40.52	37.61
7/16/2017-7:00	37.68	37.65	37.61	39.72	39.64	40.44	37.54
7/16/2017-8:00	37.62	37.57	37.54	39.66	39.51	40.34	37.46
7/16/2017-9:00	37.54	37.49	37.44	39.57	39.36	40.22	37.36

7/16/2017-10:00	37.45	37.39	37.34	39.47	39.2	40.1	37.25
7/16/2017-11:00	37.35	37.28	37.22	39.35	39.01	39.96	37.13
7/16/2017-12:00	37.25	37.17	37.1	39.21	38.82	39.81	37
7/16/2017-13:00	37.14	37.05	36.97	39.07	38.62	39.67	36.88
7/16/2017-14:00	37.03	36.93	36.85	38.92	38.43	39.53	36.75
7/16/2017-15:00	36.92	36.81	36.73	38.77	38.25	39.4	36.63
7/16/2017-16:00	36.81	36.7	36.61	38.63	38.08	39.27	36.51
7/16/2017-17:00	36.71	36.6	36.5	38.48	37.93	39.16	36.4
7/16/2017-18:00	36.61	36.5	36.41	38.35	37.79	39.06	36.31
7/16/2017-19:00	36.53	36.41	36.32	38.22	37.67	38.97	36.22
7/16/2017-20:00	36.44	36.33	36.23	38.1	37.57	38.89	36.14
7/16/2017-21:00	36.37	36.25	36.16	38	37.47	38.82	36.06
7/16/2017-22:00	36.29	36.18	36.08	37.89	37.38	38.75	35.99
7/16/2017-23:00	36.22	36.1	36.01	37.8	37.3	38.68	35.92
7/17/2017-0:00	36.14	36.03	35.93	37.7	37.21	38.6	35.84
7/17/2017-1:00	36.07	35.95	35.86	37.61	37.12	38.52	35.77
7/17/2017-2:00	35.99	35.87	35.77	37.51	37.01	38.43	35.68
7/17/2017-3:00	35.9	35.77	35.68	37.4	36.9	38.33	35.59
7/17/2017-4:00	35.8	35.67	35.58	37.29	36.77	38.22	35.49
7/17/2017-5:00	35.7	35.57	35.46	37.17	36.62	38.09	35.37
7/17/2017-6:00	35.58	35.45	35.34	37.03	36.45	37.96	35.25
7/17/2017-7:00	35.46	35.32	35.2	36.89	36.26	37.8	35.11
7/17/2017-8:00	35.33	35.18	35.06	36.73	36.07	37.64	34.97
7/17/2017-9:00	35.19	35.03	34.91	36.56	35.86	37.48	34.82
7/17/2017-10:00	35.05	34.88	34.76	36.38	35.64	37.31	34.66
7/17/2017-11:00	34.9	34.74	34.61	36.21	35.43	37.15	34.51
7/17/2017-12:00	34.77	34.6	34.46	36.03	35.24	37	34.37
7/17/2017-13:00	34.64	34.47	34.33	35.86	35.06	36.86	34.24
7/17/2017-14:00	34.52	34.35	34.22	35.7	34.91	36.75	34.12
7/17/2017-15:00	34.42	34.25	34.12	35.56	34.8	36.67	34.03
7/17/2017-16:00	34.34	34.17	34.05	35.44	34.72	36.61	33.96
7/17/2017-17:00	34.28	34.12	34	35.34	34.69	36.58	33.92
7/17/2017-18:00	34.24	34.08	33.97	35.28	34.69	36.58	33.9
7/17/2017-19:00	34.22	34.07	33.97	35.24	34.73	36.6	33.9
7/17/2017-20:00	34.22	34.09	33.99	35.23	34.82	36.65	33.93
7/17/2017-21:00	34.24	34.12	34.03	35.25	34.93	36.73	33.98
7/17/2017-22:00	34.27	34.17	34.09	35.3	35.07	36.82	34.05
7/17/2017-23:00	34.33	34.23	34.17	35.37	35.23	36.93	34.13
7/18/2017-0:00	34.39	34.3	34.25	35.46	35.41	37.04	34.22
7/18/2017-1:00	34.45	34.38	34.34	35.56	35.58	37.15	34.31
7/18/2017-2:00	34.52	34.46	34.42	35.67	35.75	37.25	34.4
7/18/2017-3:00	34.58	34.52	34.49	35.78	35.89	37.33	34.47
7/18/2017-4:00	34.62	34.57	34.55	35.87	36.01	37.39	34.53
7/18/2017-5:00	34.66	34.61	34.58	35.96	36.09	37.42	34.56
7/18/2017-6:00	34.67	34.63	34.6	36.02	36.13	37.43	34.58
7/18/2017-7:00	34.67	34.62	34.59	36.06	36.13	37.41	34.56
7/18/2017-8:00	34.66	34.6	34.56	36.08	36.1	37.36	34.53
7/18/2017-9:00	34.62	34.56	34.52	36.07	36.03	37.3	34.49
7/18/2017-10:00	34.58	34.51	34.46	36.04	35.94	37.22	34.42
7/18/2017-11:00	34.53	34.46	34.4	36	35.85	37.14	34.36
7/18/2017-12:00	34.48	34.4	34.34	35.95	35.75	37.07	34.29
7/18/2017-13:00	34.43	34.35	34.28	35.89	35.66	37	34.23
7/18/2017-14:00	34.38	34.3	34.24	35.84	35.59	36.95	34.18

7/18/2017-15:00	34.35	34.27	34.2	35.79	35.54	36.92	34.15
7/18/2017-16:00	34.33	34.25	34.19	35.76	35.53	36.92	34.14
7/18/2017-17:00	34.33	34.25	34.19	35.75	35.55	36.94	34.15
7/18/2017-18:00	34.34	34.27	34.22	35.76	35.6	36.98	34.18
7/18/2017-19:00	34.38	34.31	34.27	35.79	35.7	37.05	34.23
7/18/2017-20:00	34.43	34.37	34.34	35.84	35.82	37.14	34.3
7/18/2017-21:00	34.49	34.45	34.42	35.93	35.98	37.26	34.39
7/18/2017-22:00	34.58	34.54	34.53	36.03	36.16	37.39	34.5
7/18/2017-23:00	34.67	34.65	34.64	36.15	36.36	37.53	34.62
7/19/2017-0:00	34.77	34.76	34.76	36.29	36.57	37.68	34.74
7/19/2017-1:00	34.88	34.88	34.89	36.44	36.79	37.82	34.87
7/19/2017-2:00	34.99	35	35.01	36.6	36.99	37.96	34.99
7/19/2017-3:00	35.09	35.1	35.12	36.75	37.18	38.08	35.11
7/19/2017-4:00	35.18	35.2	35.22	36.9	37.34	38.18	35.2
7/19/2017-5:00	35.26	35.28	35.3	37.03	37.47	38.26	35.28
7/19/2017-6:00	35.32	35.34	35.36	37.15	37.56	38.31	35.34
7/19/2017-7:00	35.37	35.38	35.4	37.24	37.62	38.34	35.37
7/19/2017-8:00	35.4	35.41	35.42	37.31	37.64	38.35	35.39
7/19/2017-9:00	35.41	35.42	35.42	37.36	37.63	38.33	35.39
7/19/2017-10:00	35.41	35.41	35.41	37.38	37.61	38.31	35.37
7/19/2017-11:00	35.41	35.4	35.4	37.4	37.56	38.27	35.35
7/19/2017-12:00	35.4	35.39	35.38	37.4	37.52	38.24	35.33
7/19/2017-13:00	35.4	35.38	35.37	37.39	37.48	38.22	35.31
7/19/2017-14:00	35.39	35.38	35.36	37.39	37.46	38.22	35.3
7/19/2017-15:00	35.4	35.39	35.37	37.39	37.46	38.22	35.31
7/19/2017-16:00	35.42	35.41	35.39	37.41	37.49	38.26	35.33
7/19/2017-17:00	35.46	35.44	35.43	37.44	37.55	38.31	35.37
7/19/2017-18:00	35.51	35.5	35.49	37.49	37.64	38.38	35.43
7/19/2017-19:00	35.57	35.57	35.57	37.56	37.76	38.48	35.51
7/19/2017-20:00	35.65	35.66	35.66	37.65	37.91	38.6	35.61
7/19/2017-21:00	35.74	35.76	35.77	37.76	38.08	38.73	35.72
7/19/2017-22:00	35.85	35.87	35.89	37.89	38.28	38.88	35.85
7/19/2017-23:00	35.96	36	36.03	38.04	38.49	39.03	35.98
7/20/2017-0:00	36.08	36.12	36.16	38.19	38.7	39.18	36.12
7/20/2017-1:00	36.2	36.25	36.29	38.36	38.91	39.33	36.25
7/20/2017-2:00	36.32	36.37	36.41	38.52	39.1	39.46	36.38
7/20/2017-3:00	36.42	36.48	36.52	38.67	39.27	39.58	36.48
7/20/2017-4:00	36.51	36.57	36.62	38.81	39.4	39.67	36.58
7/20/2017-5:00	36.59	36.65	36.69	38.94	39.5	39.73	36.64
7/20/2017-6:00	36.65	36.7	36.74	39.04	39.56	39.77	36.69
7/20/2017-7:00	36.68	36.73	36.76	39.11	39.58	39.77	36.71
7/20/2017-8:00	36.7	36.74	36.77	39.16	39.57	39.75	36.7
7/20/2017-9:00	36.7	36.73	36.75	39.18	39.51	39.71	36.68
7/20/2017-10:00	36.68	36.7	36.71	39.18	39.43	39.65	36.64
7/20/2017-11:00	36.65	36.67	36.67	39.15	39.33	39.58	36.58
7/20/2017-12:00	36.62	36.62	36.62	39.11	39.22	39.51	36.53
7/20/2017-13:00	36.58	36.58	36.56	39.06	39.11	39.44	36.47
7/20/2017-14:00	36.54	36.53	36.52	39	39.02	39.38	36.42
7/20/2017-15:00	36.52	36.5	36.48	38.95	38.94	39.34	36.38
7/20/2017-16:00	36.5	36.48	36.46	38.91	38.89	39.31	36.35
7/20/2017-17:00	36.49	36.47	36.45	38.88	38.87	39.31	36.35
7/20/2017-18:00	36.5	36.48	36.46	38.86	38.88	39.33	36.36
7/20/2017-19:00	36.52	36.51	36.49	38.87	38.92	39.38	36.39

7/20/2017-20:00	36.55	36.55	36.54	38.89	38.99	39.44	36.44
7/20/2017-21:00	36.61	36.61	36.6	38.94	39.09	39.53	36.51
7/20/2017-22:00	36.67	36.67	36.68	39	39.22	39.62	36.59
7/20/2017-23:00	36.74	36.75	36.76	39.09	39.35	39.72	36.67
7/21/2017-0:00	36.81	36.83	36.85	39.18	39.49	39.83	36.76
7/21/2017-1:00	36.89	36.91	36.93	39.27	39.63	39.92	36.85
7/21/2017-2:00	36.96	36.99	37.01	39.37	39.75	40.01	36.93
7/21/2017-3:00	37.02	37.05	37.07	39.46	39.85	40.07	36.99
7/21/2017-4:00	37.07	37.1	37.12	39.54	39.92	40.12	37.04
7/21/2017-5:00	37.1	37.13	37.15	39.6	39.96	40.14	37.06
7/21/2017-6:00	37.12	37.14	37.16	39.64	39.97	40.13	37.07
7/21/2017-7:00	37.12	37.14	37.15	39.67	39.94	40.1	37.05
7/21/2017-8:00	37.1	37.11	37.11	39.66	39.87	40.05	37.02
7/21/2017-9:00	37.07	37.07	37.07	39.64	39.78	39.98	36.96
7/21/2017-10:00	37.02	37.02	37	39.59	39.66	39.89	36.9
7/21/2017-11:00	36.97	36.95	36.93	39.52	39.53	39.8	36.82
7/21/2017-12:00	36.9	36.88	36.86	39.44	39.4	39.7	36.74
7/21/2017-13:00	36.84	36.81	36.78	39.36	39.26	39.61	36.66
7/21/2017-14:00	36.78	36.75	36.71	39.27	39.14	39.53	36.59
7/21/2017-15:00	36.73	36.69	36.65	39.19	39.04	39.47	36.53
7/21/2017-16:00	36.69	36.65	36.61	39.11	38.96	39.43	36.49
7/21/2017-17:00	36.66	36.62	36.58	39.06	38.91	39.41	36.46
7/21/2017-18:00	36.65	36.61	36.57	39.01	38.9	39.41	36.45
7/21/2017-19:00	36.65	36.62	36.58	38.99	38.92	39.44	36.47
7/21/2017-20:00	36.67	36.64	36.62	38.99	38.98	39.49	36.5
7/21/2017-21:00	36.7	36.68	36.66	39.02	39.06	39.56	36.56
7/21/2017-22:00	36.75	36.74	36.73	39.06	39.18	39.65	36.63
7/21/2017-23:00	36.82	36.81	36.81	39.13	39.31	39.75	36.71
7/22/2017-0:00	36.89	36.89	36.89	39.21	39.46	39.86	36.8
7/22/2017-1:00	36.96	36.97	36.98	39.31	39.61	39.96	36.89
7/22/2017-2:00	37.04	37.06	37.07	39.41	39.75	40.06	36.98
7/22/2017-3:00	37.11	37.13	37.15	39.51	39.88	40.15	37.06
7/22/2017-4:00	37.17	37.2	37.22	39.6	39.99	40.22	37.13
7/22/2017-5:00	37.22	37.25	37.27	39.69	40.07	40.27	37.18
7/22/2017-6:00	37.26	37.29	37.31	39.76	40.12	40.3	37.22
7/22/2017-7:00	37.28	37.31	37.32	39.81	40.14	40.31	37.23
7/22/2017-8:00	37.29	37.31	37.33	39.84	40.13	40.29	37.23
7/22/2017-9:00	37.29	37.31	37.31	39.85	40.1	40.27	37.21
7/22/2017-10:00	37.28	37.29	37.29	39.85	40.04	40.23	37.18
7/22/2017-11:00	37.26	37.26	37.26	39.83	39.98	40.18	37.15
7/22/2017-12:00	37.24	37.24	37.23	39.81	39.92	40.14	37.12
7/22/2017-13:00	37.22	37.22	37.21	39.78	39.86	40.11	37.1
7/22/2017-14:00	37.21	37.21	37.19	39.76	39.83	40.1	37.08
7/22/2017-15:00	37.21	37.21	37.19	39.74	39.82	40.1	37.08
7/22/2017-16:00	37.22	37.22	37.21	39.74	39.83	40.13	37.1
7/22/2017-17:00	37.25	37.25	37.24	39.75	39.87	40.17	37.13
7/22/2017-18:00	37.28	37.29	37.29	39.78	39.94	40.23	37.18
7/22/2017-19:00	37.33	37.34	37.35	39.83	40.03	40.31	37.24
7/22/2017-20:00	37.39	37.41	37.42	39.89	40.14	40.39	37.31
7/22/2017-21:00	37.46	37.48	37.49	39.97	40.26	40.49	37.39
7/22/2017-22:00	37.53	37.56	37.58	40.06	40.39	40.59	37.48
7/22/2017-23:00	37.6	37.64	37.66	40.15	40.52	40.68	37.56
7/23/2017-0:00	37.67	37.71	37.74	40.25	40.65	40.77	37.64

7/23/2017-1:00	37.74	37.78	37.81	40.34	40.75	40.85	37.72
7/23/2017-2:00	37.8	37.84	37.87	40.42	40.84	40.9	37.77
7/23/2017-3:00	37.84	37.88	37.91	40.5	40.9	40.94	37.81
7/23/2017-4:00	37.87	37.91	37.93	40.55	40.92	40.95	37.83
7/23/2017-5:00	37.88	37.92	37.94	40.59	40.92	40.94	37.84
7/23/2017-6:00	37.88	37.91	37.92	40.6	40.87	40.91	37.82
7/23/2017-7:00	37.86	37.88	37.89	40.59	40.8	40.85	37.78
7/23/2017-8:00	37.82	37.83	37.83	40.55	40.69	40.77	37.72
7/23/2017-9:00	37.77	37.77	37.76	40.5	40.56	40.67	37.64
7/23/2017-10:00	37.71	37.7	37.68	40.42	40.41	40.56	37.55
7/23/2017-11:00	37.63	37.61	37.59	40.32	40.25	40.45	37.45
7/23/2017-12:00	37.55	37.52	37.49	40.22	40.08	40.33	37.35
7/23/2017-13:00	37.47	37.44	37.4	40.1	39.91	40.22	37.26
7/23/2017-14:00	37.39	37.35	37.31	39.99	39.76	40.12	37.17
7/23/2017-15:00	37.32	37.28	37.23	39.88	39.63	40.03	37.08
7/23/2017-16:00	37.26	37.21	37.16	39.77	39.52	39.97	37.02
7/23/2017-17:00	37.21	37.16	37.11	39.68	39.43	39.92	36.97
7/23/2017-18:00	37.17	37.12	37.07	39.61	39.37	39.89	36.93
7/23/2017-19:00	37.14	37.1	37.05	39.55	39.35	39.88	36.91
7/23/2017-20:00	37.13	37.09	37.05	39.51	39.35	39.89	36.91
7/23/2017-21:00	37.13	37.09	37.06	39.49	39.38	39.91	36.93
7/23/2017-22:00	37.14	37.11	37.08	39.49	39.43	39.96	36.96
7/23/2017-23:00	37.17	37.14	37.11	39.5	39.5	40.01	36.99
7/24/2017-0:00	37.19	37.17	37.15	39.53	39.57	40.06	37.04
7/24/2017-1:00	37.22	37.21	37.19	39.56	39.65	40.11	37.08
7/24/2017-2:00	37.25	37.24	37.23	39.6	39.71	40.15	37.11
7/24/2017-3:00	37.27	37.26	37.25	39.63	39.76	40.18	37.14
7/24/2017-4:00	37.28	37.27	37.26	39.66	39.78	40.18	37.15
7/24/2017-5:00	37.28	37.27	37.25	39.67	39.78	40.17	37.14
7/24/2017-6:00	37.26	37.25	37.23	39.66	39.74	40.13	37.12
7/24/2017-7:00	37.23	37.21	37.19	39.64	39.67	40.07	37.07
7/24/2017-8:00	37.18	37.15	37.12	39.59	39.57	39.98	37
7/24/2017-9:00	37.12	37.08	37.05	39.52	39.44	39.89	36.92
7/24/2017-10:00	37.05	37	36.96	39.44	39.3	39.78	36.84
7/24/2017-11:00	36.97	36.92	36.88	39.35	39.16	39.68	36.74
7/24/2017-12:00	36.9	36.84	36.79	39.25	39.02	39.58	36.66
7/24/2017-13:00	36.83	36.77	36.72	39.15	38.89	39.5	36.58
7/24/2017-14:00	36.77	36.71	36.66	39.06	38.8	39.44	36.52
7/24/2017-15:00	36.73	36.67	36.61	38.98	38.74	39.4	36.48
7/24/2017-16:00	36.7	36.65	36.6	38.93	38.71	39.4	36.47
7/24/2017-17:00	36.7	36.65	36.6	38.9	38.73	39.42	36.48
7/24/2017-18:00	36.71	36.67	36.63	38.89	38.79	39.48	36.52
7/24/2017-19:00	36.75	36.72	36.69	38.92	38.9	39.57	36.58
7/24/2017-20:00	36.81	36.79	36.77	38.98	39.04	39.68	36.67
7/24/2017-21:00	36.89	36.88	36.88	39.06	39.22	39.82	36.78
7/24/2017-22:00	36.99	36.99	37	39.18	39.43	39.98	36.91
7/24/2017-23:00	37.1	37.12	37.14	39.32	39.66	40.15	37.05
7/25/2017-0:00	37.22	37.25	37.28	39.47	39.9	40.32	37.2
7/25/2017-1:00	37.34	37.39	37.42	39.64	40.14	40.48	37.35
7/25/2017-2:00	37.47	37.52	37.56	39.81	40.37	40.64	37.49
7/25/2017-3:00	37.58	37.64	37.68	39.98	40.57	40.78	37.62
7/25/2017-4:00	37.68	37.74	37.79	40.14	40.74	40.89	37.72
7/25/2017-5:00	37.77	37.83	37.88	40.28	40.87	40.98	37.81

7/25/2017-6:00	37.84	37.9	37.95	40.4	40.97	41.04	37.88
7/25/2017-7:00	37.89	37.95	38	40.5	41.03	41.07	37.92
7/25/2017-8:00	37.93	37.98	38.02	40.57	41.04	41.07	37.94
7/25/2017-9:00	37.94	37.99	38.03	40.62	41.03	41.06	37.94
7/25/2017-10:00	37.95	37.99	38.01	40.64	40.98	41.03	37.92
7/25/2017-11:00	37.94	37.97	37.99	40.64	40.92	40.98	37.9
7/25/2017-12:00	37.93	37.95	37.97	40.63	40.85	40.94	37.86
7/25/2017-13:00	37.91	37.93	37.94	40.61	40.79	40.9	37.83
7/25/2017-14:00	37.9	37.92	37.92	40.59	40.73	40.87	37.81
7/25/2017-15:00	37.9	37.91	37.91	40.57	40.69	40.86	37.8
7/25/2017-16:00	37.9	37.92	37.92	40.56	40.68	40.87	37.81
7/25/2017-17:00	37.92	37.94	37.94	40.57	40.7	40.9	37.83
7/25/2017-18:00	37.95	37.97	37.98	40.59	40.75	40.95	37.87
7/25/2017-19:00	38	38.02	38.04	40.63	40.83	41.02	37.93
7/25/2017-20:00	38.06	38.09	38.11	40.69	40.94	41.12	38
7/25/2017-21:00	38.14	38.17	38.2	40.76	41.07	41.23	38.09
7/25/2017-22:00	38.22	38.26	38.29	40.86	41.22	41.35	38.2
7/25/2017-23:00	38.31	38.36	38.4	40.97	41.39	41.47	38.3
7/26/2017-0:00	38.41	38.46	38.51	41.09	41.55	41.59	38.41
7/26/2017-1:00	38.5	38.56	38.61	41.21	41.71	41.71	38.52
7/26/2017-2:00	38.59	38.66	38.71	41.33	41.86	41.81	38.62
7/26/2017-3:00	38.67	38.74	38.79	41.45	41.98	41.9	38.7
7/26/2017-4:00	38.73	38.8	38.85	41.55	42.07	41.96	38.76
7/26/2017-5:00	38.79	38.85	38.9	41.63	42.13	42	38.8
7/26/2017-6:00	38.82	38.88	38.93	41.7	42.15	42.01	38.83
7/26/2017-7:00	38.84	38.89	38.93	41.74	42.14	41.99	38.83
7/26/2017-8:00	38.84	38.89	38.92	41.75	42.09	41.96	38.81
7/26/2017-9:00	38.82	38.86	38.88	41.75	42.01	41.9	38.77
7/26/2017-10:00	38.79	38.82	38.83	41.71	41.91	41.83	38.71
7/26/2017-11:00	38.75	38.77	38.77	41.67	41.79	41.74	38.65
7/26/2017-12:00	38.7	38.71	38.71	41.6	41.66	41.66	38.58
7/26/2017-13:00	38.64	38.65	38.64	41.53	41.53	41.58	38.51
7/26/2017-14:00	38.6	38.59	38.58	41.45	41.41	41.5	38.45
7/26/2017-15:00	38.55	38.55	38.53	41.37	41.31	41.44	38.39
7/26/2017-16:00	38.52	38.51	38.49	41.31	41.24	41.4	38.35
7/26/2017-17:00	38.49	38.48	38.47	41.25	41.19	41.38	38.33
7/26/2017-18:00	38.48	38.47	38.46	41.21	41.17	41.39	38.32
7/26/2017-19:00	38.49	38.48	38.47	41.19	41.18	41.41	38.34
7/26/2017-20:00	38.51	38.51	38.5	41.19	41.23	41.46	38.37
7/26/2017-21:00	38.54	38.55	38.55	41.22	41.31	41.53	38.43
7/26/2017-22:00	38.59	38.61	38.62	41.26	41.42	41.62	38.49
7/26/2017-23:00	38.66	38.68	38.69	41.32	41.54	41.71	38.58
7/27/2017-0:00	38.73	38.75	38.77	41.4	41.68	41.82	38.66
7/27/2017-1:00	38.8	38.83	38.86	41.49	41.82	41.92	38.75
7/27/2017-2:00	38.87	38.91	38.94	41.58	41.95	42.01	38.84
7/27/2017-3:00	38.94	38.98	39.02	41.68	42.07	42.1	38.91
7/27/2017-4:00	39	39.04	39.08	41.76	42.17	42.16	38.97
7/27/2017-5:00	39.04	39.09	39.12	41.84	42.23	42.2	39.02
7/27/2017-6:00	39.08	39.12	39.15	41.9	42.27	42.23	39.05
7/27/2017-7:00	39.09	39.14	39.17	41.94	42.28	42.22	39.06
7/27/2017-8:00	39.1	39.14	39.16	41.96	42.25	42.2	39.05
7/27/2017-9:00	39.09	39.12	39.14	41.96	42.2	42.16	39.02
7/27/2017-10:00	39.06	39.09	39.1	41.94	42.12	42.1	38.98

7/27/2017-11:00	39.03	39.05	39.05	41.91	42.03	42.04	38.93
7/27/2017-12:00	38.99	39.01	39.01	41.86	41.93	41.98	38.88
7/27/2017-13:00	38.96	38.96	38.96	41.81	41.84	41.92	38.83
7/27/2017-14:00	38.92	38.93	38.92	41.75	41.76	41.87	38.79
7/27/2017-15:00	38.9	38.9	38.89	41.7	41.7	41.84	38.76
7/27/2017-16:00	38.88	38.88	38.88	41.66	41.66	41.83	38.74
7/27/2017-17:00	38.88	38.88	38.88	41.64	41.66	41.84	38.75
7/27/2017-18:00	38.9	38.9	38.9	41.63	41.68	41.87	38.77
7/27/2017-19:00	38.93	38.94	38.94	41.65	41.74	41.93	38.82
7/27/2017-20:00	38.97	38.99	39	41.68	41.83	42.01	38.88
7/27/2017-21:00	39.03	39.05	39.07	41.74	41.95	42.1	38.95
7/27/2017-22:00	39.1	39.13	39.16	41.81	42.08	42.21	39.04
7/27/2017-23:00	39.18	39.22	39.25	41.9	42.23	42.32	39.14
7/28/2017-0:00	39.27	39.32	39.35	42.01	42.39	42.44	39.25
7/28/2017-1:00	39.36	39.41	39.45	42.12	42.54	42.55	39.35
7/28/2017-2:00	39.44	39.5	39.54	42.23	42.69	42.65	39.44
7/28/2017-3:00	39.51	39.58	39.62	42.34	42.81	42.74	39.52
7/28/2017-4:00	39.58	39.64	39.69	42.43	42.9	42.8	39.59
7/28/2017-5:00	39.63	39.69	39.74	42.51	42.97	42.84	39.63
7/28/2017-6:00	39.66	39.72	39.76	42.57	42.99	42.86	39.66
7/28/2017-7:00	39.68	39.73	39.77	42.61	42.98	42.84	39.66
7/28/2017-8:00	39.68	39.73	39.76	42.63	42.94	42.81	39.64
7/28/2017-9:00	39.66	39.7	39.73	42.62	42.87	42.75	39.6
7/28/2017-10:00	39.63	39.66	39.68	42.59	42.77	42.68	39.55
7/28/2017-11:00	39.59	39.61	39.62	42.54	42.65	42.6	39.49
7/28/2017-12:00	39.54	39.56	39.56	42.48	42.53	42.52	39.42
7/28/2017-13:00	39.49	39.5	39.49	42.41	42.41	42.44	39.36
7/28/2017-14:00	39.44	39.44	39.43	42.33	42.29	42.37	39.29
7/28/2017-15:00	39.4	39.39	39.38	42.25	42.18	42.3	39.24
7/28/2017-16:00	39.36	39.35	39.34	42.18	42.1	42.26	39.19
7/28/2017-17:00	39.33	39.32	39.31	42.12	42.04	42.23	39.16
7/28/2017-18:00	39.32	39.31	39.29	42.08	42.01	42.22	39.15
7/28/2017-19:00	39.31	39.31	39.29	42.05	42.01	42.23	39.15
7/28/2017-20:00	39.32	39.32	39.31	42.03	42.03	42.26	39.17
7/28/2017-21:00	39.34	39.35	39.34	42.04	42.08	42.31	39.21
7/28/2017-22:00	39.38	39.38	39.38	42.06	42.15	42.37	39.25
7/28/2017-23:00	39.42	39.43	39.44	42.1	42.23	42.43	39.31
7/29/2017-0:00	39.46	39.48	39.49	42.14	42.33	42.5	39.37
7/29/2017-1:00	39.51	39.53	39.55	42.2	42.42	42.57	39.43
7/29/2017-2:00	39.55	39.58	39.6	42.25	42.5	42.62	39.48
7/29/2017-3:00	39.59	39.62	39.64	42.31	42.56	42.66	39.52
7/29/2017-4:00	39.62	39.65	39.66	42.35	42.6	42.69	39.54
7/29/2017-5:00	39.63	39.66	39.67	42.38	42.6	42.68	39.55
7/29/2017-6:00	39.62	39.65	39.66	42.39	42.58	42.66	39.53
7/29/2017-7:00	39.6	39.62	39.62	42.37	42.52	42.6	39.5
7/29/2017-8:00	39.57	39.57	39.57	42.34	42.42	42.53	39.44
7/29/2017-9:00	39.51	39.51	39.5	42.28	42.3	42.43	39.37
7/29/2017-10:00	39.44	39.43	39.42	42.2	42.15	42.32	39.28
7/29/2017-11:00	39.37	39.35	39.32	42.1	41.98	42.2	39.18
7/29/2017-12:00	39.28	39.26	39.22	41.99	41.81	42.08	39.07
7/29/2017-13:00	39.2	39.16	39.12	41.87	41.64	41.97	38.97
7/29/2017-14:00	39.12	39.07	39.03	41.75	41.49	41.86	38.88
7/29/2017-15:00	39.04	39	38.95	41.64	41.35	41.78	38.8

7/29/2017-16:00	38.98	38.93	38.88	41.53	41.24	41.71	38.73
7/29/2017-17:00	38.93	38.88	38.84	41.44	41.17	41.67	38.69
7/29/2017-18:00	38.9	38.85	38.81	41.38	41.13	41.65	38.66
7/29/2017-19:00	38.88	38.84	38.81	41.33	41.13	41.67	38.66
7/29/2017-20:00	38.89	38.86	38.83	41.31	41.17	41.71	38.69
7/29/2017-21:00	38.91	38.89	38.86	41.32	41.25	41.77	38.73
7/29/2017-22:00	38.95	38.94	38.92	41.35	41.36	41.86	38.8
7/29/2017-23:00	39.01	39	39	41.4	41.49	41.95	38.88
7/30/2017-0:00	39.07	39.07	39.08	41.47	41.63	42.06	38.96
7/30/2017-1:00	39.14	39.15	39.16	41.56	41.77	42.16	39.05
7/30/2017-2:00	39.2	39.22	39.24	41.65	41.91	42.25	39.13
7/30/2017-3:00	39.26	39.29	39.3	41.74	42.03	42.33	39.2
7/30/2017-4:00	39.31	39.34	39.36	41.82	42.12	42.39	39.26
7/30/2017-5:00	39.35	39.38	39.4	41.89	42.18	42.42	39.29
7/30/2017-6:00	39.37	39.4	39.41	41.94	42.21	42.43	39.31
7/30/2017-7:00	39.38	39.4	39.41	41.96	42.2	42.41	39.3
7/30/2017-8:00	39.36	39.38	39.39	41.97	42.15	42.37	39.28
7/30/2017-9:00	39.33	39.34	39.34	41.95	42.07	42.3	39.23
7/30/2017-10:00	39.29	39.29	39.29	41.91	41.97	42.22	39.17
7/30/2017-11:00	39.24	39.23	39.22	41.85	41.85	42.13	39.09
7/30/2017-12:00	39.18	39.16	39.15	41.78	41.71	42.04	39.02
7/30/2017-13:00	39.12	39.1	39.07	41.7	41.58	41.95	38.94
7/30/2017-14:00	39.06	39.03	39	41.61	41.46	41.87	38.87
7/30/2017-15:00	39	38.98	38.94	41.53	41.36	41.81	38.81
7/30/2017-16:00	38.96	38.93	38.9	41.46	41.28	41.76	38.76
7/30/2017-17:00	38.93	38.9	38.87	41.4	41.23	41.74	38.74
7/30/2017-18:00	38.92	38.89	38.86	41.36	41.21	41.74	38.73
7/30/2017-19:00	38.91	38.89	38.87	41.33	41.23	41.76	38.74
7/30/2017-20:00	38.93	38.91	38.89	41.33	41.28	41.8	38.77
7/30/2017-21:00	38.96	38.95	38.94	41.35	41.35	41.87	38.82
7/30/2017-22:00	39	39	38.99	41.39	41.45	41.94	38.88
7/30/2017-23:00	39.05	39.06	39.06	41.44	41.57	42.03	38.95
7/31/2017-0:00	39.11	39.12	39.13	41.51	41.69	42.12	39.02
7/31/2017-1:00	39.17	39.18	39.2	41.59	41.81	42.2	39.09
7/31/2017-2:00	39.22	39.24	39.26	41.66	41.91	42.27	39.16
7/31/2017-3:00	39.27	39.29	39.31	41.74	42	42.32	39.21
7/31/2017-4:00	39.31	39.33	39.35	41.8	42.06	42.36	39.25
7/31/2017-5:00	39.33	39.35	39.37	41.84	42.09	42.37	39.26
7/31/2017-6:00	39.33	39.35	39.37	41.87	42.08	42.35	39.26
7/31/2017-7:00	39.33	39.34	39.35	41.88	42.04	42.32	39.24
7/31/2017-8:00	39.3	39.31	39.31	41.86	41.97	42.26	39.19
7/31/2017-9:00	39.26	39.26	39.25	41.83	41.87	42.18	39.13
7/31/2017-10:00	39.21	39.2	39.18	41.77	41.75	42.09	39.06
7/31/2017-11:00	39.14	39.13	39.11	41.7	41.62	41.99	38.98
7/31/2017-12:00	39.08	39.05	39.03	41.61	41.48	41.89	38.9
7/31/2017-13:00	39.01	38.98	38.95	41.52	41.34	41.8	38.82
7/31/2017-14:00	38.95	38.91	38.88	41.43	41.22	41.72	38.74
7/31/2017-15:00	38.89	38.85	38.82	41.34	41.12	41.65	38.68
7/31/2017-16:00	38.85	38.81	38.77	41.26	41.04	41.61	38.63
7/31/2017-17:00	38.81	38.77	38.74	41.2	40.99	41.58	38.61
7/31/2017-18:00	38.8	38.76	38.72	41.15	40.97	41.58	38.6
7/31/2017-19:00	38.79	38.76	38.73	41.13	40.99	41.61	38.61
7/31/2017-20:00	38.81	38.78	38.76	41.12	41.04	41.65	38.64



7/31/2017-21:00	38.84	38.82	38.8	41.14	41.12	41.71	38.68
7/31/2017-22:00	38.88	38.87	38.86	41.18	41.22	41.79	38.75
7/31/2017-23:00	38.93	38.93	38.93	41.24	41.34	41.88	38.82
8/1/2017-0:00	38.99	39	39	41.31	41.47	41.97	38.9
8/1/2017-1:00	39.06	39.07	39.07	41.39	41.59	42.06	38.97
8/1/2017-2:00	39.11	39.13	39.14	41.47	41.71	42.14	39.04
8/1/2017-3:00	39.16	39.18	39.2	41.54	41.8	42.19	39.1
8/1/2017-4:00	39.2	39.22	39.23	41.61	41.87	42.23	39.14
8/1/2017-5:00	39.22	39.24	39.25	41.66	41.89	42.24	39.15
8/1/2017-6:00	39.23	39.24	39.25	41.69	41.89	42.22	39.15
8/1/2017-7:00	39.22	39.22	39.23	41.69	41.84	42.17	39.12
8/1/2017-8:00	39.18	39.18	39.18	41.67	41.75	42.1	39.07
8/1/2017-9:00	39.13	39.13	39.11	41.62	41.64	42.01	39
8/1/2017-10:00	39.07	39.06	39.03	41.56	41.5	41.91	38.91
8/1/2017-11:00	39	38.97	38.95	41.47	41.35	41.8	38.82
8/1/2017-12:00	38.92	38.89	38.86	41.37	41.19	41.69	38.73
8/1/2017-13:00	38.85	38.81	38.77	41.27	41.04	41.58	38.64
8/1/2017-14:00	38.78	38.74	38.69	41.17	40.91	41.5	38.56
8/1/2017-15:00	38.72	38.68	38.63	41.08	40.81	41.44	38.5
8/1/2017-16:00	38.68	38.63	38.59	41	40.74	41.4	38.46
8/1/2017-17:00	38.65	38.61	38.57	40.94	40.71	41.39	38.44
8/1/2017-18:00	38.65	38.61	38.57	40.9	40.72	41.41	38.45
8/1/2017-19:00	38.66	38.63	38.6	40.89	40.77	41.46	38.48
8/1/2017-20:00	38.69	38.67	38.65	40.91	40.86	41.53	38.53
8/1/2017-21:00	38.74	38.73	38.71	40.96	40.98	41.63	38.61
8/1/2017-22:00	38.81	38.8	38.8	41.02	41.13	41.74	38.7
8/1/2017-23:00	38.88	38.89	38.89	41.11	41.3	41.86	38.8
8/2/2017-0:00	38.97	38.98	39	41.22	41.48	41.99	38.91
8/2/2017-1:00	39.06	39.08	39.1	41.34	41.65	42.11	39.02
8/2/2017-2:00	39.14	39.17	39.2	41.46	41.82	42.22	39.12
8/2/2017-3:00	39.22	39.25	39.28	41.57	41.96	42.31	39.2
8/2/2017-4:00	39.28	39.32	39.35	41.68	42.07	42.39	39.27
8/2/2017-5:00	39.34	39.37	39.4	41.77	42.15	42.43	39.32
8/2/2017-6:00	39.37	39.41	39.44	41.84	42.19	42.45	39.35
8/2/2017-7:00	39.39	39.42	39.44	41.89	42.2	42.44	39.36
8/2/2017-8:00	39.39	39.42	39.43	41.91	42.17	42.41	39.34
8/2/2017-9:00	39.37	39.39	39.4	41.91	42.1	42.36	39.31
8/2/2017-10:00	39.34	39.36	39.36	41.89	42.02	42.3	39.26
8/2/2017-11:00	39.31	39.31	39.31	41.85	41.92	42.22	39.2
8/2/2017-12:00	39.26	39.26	39.25	41.8	41.81	42.15	39.14
8/2/2017-13:00	39.22	39.22	39.2	41.75	41.71	42.09	39.09
8/2/2017-14:00	39.19	39.18	39.16	41.69	41.63	42.04	39.04
8/2/2017-15:00	39.16	39.15	39.13	41.64	41.57	42.01	39.01
8/2/2017-16:00	39.14	39.13	39.11	41.6	41.53	41.99	38.99
8/2/2017-17:00	39.14	39.13	39.11	41.58	41.53	42	39
8/2/2017-18:00	39.15	39.14	39.13	41.57	41.56	42.04	39.02
8/2/2017-19:00	39.18	39.18	39.17	41.59	41.62	42.09	39.06
8/2/2017-20:00	39.23	39.23	39.23	41.62	41.71	42.17	39.12
8/2/2017-21:00	39.28	39.3	39.3	41.68	41.83	42.27	39.2
8/2/2017-22:00	39.36	39.37	39.39	41.76	41.97	42.37	39.29
8/2/2017-23:00	39.44	39.46	39.48	41.85	42.13	42.49	39.39
8/3/2017-0:00	39.52	39.56	39.58	41.96	42.29	42.61	39.49
8/3/2017-1:00	39.61	39.65	39.68	42.07	42.45	42.72	39.6

8/3/2017-2:00	39.69	39.74	39.78	42.19	42.6	42.83	39.69
8/3/2017-3:00	39.77	39.82	39.86	42.3	42.73	42.91	39.77
8/3/2017-4:00	39.84	39.89	39.93	42.4	42.83	42.98	39.84
8/3/2017-5:00	39.89	39.94	39.97	42.48	42.89	43.02	39.88
8/3/2017-6:00	39.92	39.97	40	42.55	42.93	43.03	39.91
8/3/2017-7:00	39.94	39.98	40.01	42.59	42.92	43.03	39.91
8/3/2017-8:00	39.94	39.98	40	42.61	42.89	42.99	39.9
8/3/2017-9:00	39.92	39.95	39.97	42.61	42.82	42.94	39.86
8/3/2017-10:00	39.9	39.92	39.93	42.58	42.73	42.87	39.81
8/3/2017-11:00	39.86	39.87	39.88	42.54	42.63	42.8	39.76
8/3/2017-12:00	39.82	39.83	39.82	42.49	42.52	42.73	39.7
8/3/2017-13:00	39.78	39.78	39.77	42.43	42.43	42.67	39.65
8/3/2017-14:00	39.75	39.75	39.73	42.38	42.35	42.63	39.61
8/3/2017-15:00	39.73	39.72	39.71	42.33	42.29	42.6	39.58
8/3/2017-16:00	39.72	39.71	39.7	42.3	42.27	42.6	39.57
8/3/2017-17:00	39.73	39.72	39.71	42.28	42.28	42.63	39.59
8/3/2017-18:00	39.75	39.75	39.75	42.29	42.33	42.67	39.62
8/3/2017-19:00	39.79	39.8	39.8	42.32	42.41	42.75	39.68
8/3/2017-20:00	39.85	39.87	39.87	42.37	42.53	42.85	39.76
8/3/2017-21:00	39.93	39.95	39.97	42.45	42.68	42.97	39.86
8/3/2017-22:00	40.01	40.05	40.07	42.55	42.85	43.1	39.97
8/3/2017-23:00	40.11	40.16	40.19	42.66	43.04	43.24	40.09
8/4/2017-0:00	40.22	40.27	40.31	42.8	43.23	43.38	40.21
8/4/2017-1:00	40.32	40.38	40.42	42.93	43.42	43.51	40.33
8/4/2017-2:00	40.42	40.48	40.53	43.07	43.58	43.63	40.44
8/4/2017-3:00	40.5	40.57	40.62	43.19	43.72	43.72	40.53
8/4/2017-4:00	40.57	40.64	40.69	43.3	43.82	43.78	40.59
8/4/2017-5:00	40.62	40.69	40.73	43.39	43.88	43.82	40.64
8/4/2017-6:00	40.65	40.71	40.76	43.46	43.9	43.82	40.65
8/4/2017-7:00	40.66	40.72	40.75	43.49	43.87	43.8	40.65
8/4/2017-8:00	40.65	40.7	40.72	43.5	43.81	43.74	40.61
8/4/2017-9:00	40.62	40.66	40.68	43.48	43.7	43.67	40.56
8/4/2017-10:00	40.58	40.6	40.61	43.44	43.58	43.58	40.49
8/4/2017-11:00	40.52	40.54	40.54	43.37	43.44	43.48	40.41
8/4/2017-12:00	40.47	40.47	40.47	43.3	43.29	43.38	40.33
8/4/2017-13:00	40.41	40.41	40.39	43.21	43.15	43.29	40.26
8/4/2017-14:00	40.35	40.34	40.33	43.12	43.03	43.22	40.19
8/4/2017-15:00	40.3	40.29	40.28	43.04	42.93	43.16	40.14
8/4/2017-16:00	40.27	40.26	40.24	42.97	42.86	43.12	40.1
8/4/2017-17:00	40.25	40.23	40.22	42.92	42.81	43.11	40.08
8/4/2017-18:00	40.24	40.23	40.21	42.88	42.81	43.12	40.08
8/4/2017-19:00	40.24	40.24	40.23	42.86	42.83	43.15	40.1
8/4/2017-20:00	40.26	40.26	40.26	42.86	42.88	43.19	40.13
8/4/2017-21:00	40.3	40.3	40.3	42.89	42.95	43.25	40.18
8/4/2017-22:00	40.34	40.35	40.35	42.92	43.04	43.33	40.24
8/4/2017-23:00	40.38	40.4	40.41	42.97	43.14	43.4	40.3
8/5/2017-0:00	40.43	40.45	40.47	43.03	43.24	43.47	40.36
8/5/2017-1:00	40.48	40.5	40.52	43.09	43.33	43.53	40.42
8/5/2017-2:00	40.52	40.55	40.57	43.15	43.4	43.58	40.46
8/5/2017-3:00	40.55	40.58	40.6	43.2	43.45	43.61	40.49
8/5/2017-4:00	40.56	40.59	40.61	43.23	43.47	43.61	40.5
8/5/2017-5:00	40.56	40.59	40.6	43.25	43.45	43.59	40.5
8/5/2017-6:00	40.55	40.57	40.58	43.25	43.4	43.55	40.47

8/5/2017-7:00	40.51	40.53	40.53	43.22	43.32	43.48	40.42
8/5/2017-8:00	40.47	40.47	40.47	43.17	43.21	43.39	40.35
8/5/2017-9:00	40.4	40.4	40.39	43.1	43.07	43.29	40.26
8/5/2017-10:00	40.33	40.31	40.3	43.01	42.91	43.17	40.17
8/5/2017-11:00	40.24	40.22	40.2	42.91	42.74	43.05	40.06
8/5/2017-12:00	40.16	40.13	40.09	42.79	42.57	42.93	39.96
8/5/2017-13:00	40.07	40.03	40	42.67	42.4	42.82	39.86
8/5/2017-14:00	39.99	39.95	39.9	42.55	42.25	42.72	39.77
8/5/2017-15:00	39.92	39.87	39.83	42.44	42.12	42.64	39.69
8/5/2017-16:00	39.85	39.81	39.76	42.33	42.02	42.57	39.63
8/5/2017-17:00	39.8	39.76	39.71	42.24	41.95	42.53	39.58
8/5/2017-18:00	39.77	39.72	39.68	42.17	41.91	42.51	39.55
8/5/2017-19:00	39.75	39.7	39.67	42.12	41.89	42.51	39.54
8/5/2017-20:00	39.73	39.7	39.66	42.08	41.9	42.52	39.54
8/5/2017-21:00	39.73	39.7	39.67	42.07	41.93	42.54	39.55
8/5/2017-22:00	39.74	39.71	39.69	42.06	41.97	42.57	39.58
8/5/2017-23:00	39.75	39.73	39.71	42.07	42.02	42.61	39.6
8/6/2017-0:00	39.77	39.75	39.74	42.09	42.07	42.64	39.63
8/6/2017-1:00	39.78	39.77	39.75	42.1	42.11	42.66	39.65
8/6/2017-2:00	39.79	39.77	39.76	42.12	42.14	42.67	39.65
8/6/2017-3:00	39.78	39.77	39.76	42.12	42.14	42.67	39.65
8/6/2017-4:00	39.77	39.75	39.74	42.12	42.12	42.64	39.63
8/6/2017-5:00	39.74	39.72	39.7	42.09	42.07	42.59	39.59
8/6/2017-6:00	39.69	39.67	39.65	42.05	41.99	42.52	39.54
8/6/2017-7:00	39.64	39.61	39.58	41.99	41.88	42.43	39.46
8/6/2017-8:00	39.56	39.52	39.49	41.91	41.74	42.32	39.37
8/6/2017-9:00	39.48	39.43	39.39	41.81	41.58	42.19	39.27
8/6/2017-10:00	39.38	39.32	39.28	41.7	41.4	42.06	39.15
8/6/2017-11:00	39.28	39.21	39.16	41.57	41.21	41.92	39.03
8/6/2017-12:00	39.17	39.1	39.04	41.43	41.03	41.79	38.91
8/6/2017-13:00	39.08	39	38.93	41.29	40.86	41.67	38.8
8/6/2017-14:00	38.98	38.9	38.84	41.16	40.71	41.56	38.7
8/6/2017-15:00	38.9	38.82	38.75	41.04	40.58	41.48	38.62
8/6/2017-16:00	38.83	38.75	38.69	40.93	40.49	41.42	38.56
8/6/2017-17:00	38.78	38.71	38.64	40.84	40.43	41.39	38.52
8/6/2017-18:00	38.75	38.68	38.62	40.77	40.42	41.38	38.5
8/6/2017-19:00	38.74	38.67	38.62	40.73	40.43	41.4	38.5
8/6/2017-20:00	38.74	38.68	38.64	40.72	40.49	41.44	38.52
8/6/2017-21:00	38.76	38.71	38.67	40.73	40.57	41.5	38.57
8/6/2017-22:00	38.8	38.76	38.73	40.76	40.68	41.58	38.63
8/6/2017-23:00	38.84	38.81	38.79	40.81	40.8	41.67	38.7
8/7/2017-0:00	38.9	38.87	38.86	40.88	40.94	41.76	38.77
8/7/2017-1:00	38.95	38.94	38.93	40.95	41.06	41.85	38.84
8/7/2017-2:00	39	38.99	38.99	41.03	41.18	41.92	38.91
8/7/2017-3:00	39.04	39.04	39.04	41.1	41.27	41.97	38.96
8/7/2017-4:00	39.07	39.07	39.07	41.17	41.34	42	38.99
8/7/2017-5:00	39.09	39.08	39.08	41.21	41.36	42	39
8/7/2017-6:00	39.08	39.08	39.07	41.23	41.35	41.98	38.99
8/7/2017-7:00	39.06	39.05	39.04	41.23	41.3	41.92	38.95
8/7/2017-8:00	39.02	39	38.98	41.2	41.21	41.84	38.89
8/7/2017-9:00	38.96	38.93	38.91	41.15	41.08	41.74	38.81
8/7/2017-10:00	38.89	38.85	38.82	41.08	40.94	41.63	38.72
8/7/2017-11:00	38.81	38.77	38.72	40.99	40.78	41.51	38.62

8/7/2017-12:00	38.73	38.67	38.63	40.88	40.62	41.4	38.52
8/7/2017-13:00	38.65	38.59	38.54	40.77	40.47	41.29	38.42
8/7/2017-14:00	38.58	38.51	38.46	40.67	40.34	41.21	38.34
8/7/2017-15:00	38.51	38.45	38.39	40.58	40.24	41.14	38.28
8/7/2017-16:00	38.47	38.4	38.35	40.5	40.18	41.11	38.24
8/7/2017-17:00	38.44	38.38	38.33	40.44	40.15	41.1	38.22
8/7/2017-18:00	38.43	38.38	38.33	40.41	40.17	41.12	38.23
8/7/2017-19:00	38.45	38.4	38.36	40.4	40.23	41.18	38.26
8/7/2017-20:00	38.48	38.44	38.41	40.43	40.33	41.26	38.32
8/7/2017-21:00	38.54	38.51	38.49	40.48	40.47	41.36	38.4
8/7/2017-22:00	38.61	38.59	38.58	40.55	40.63	41.48	38.5
8/7/2017-23:00	38.69	38.68	38.68	40.65	40.81	41.61	38.6
8/8/2017-0:00	38.77	38.78	38.79	40.77	41	41.74	38.71
8/8/2017-1:00	38.86	38.88	38.89	40.89	41.19	41.87	38.83
8/8/2017-2:00	38.95	38.97	38.99	41.02	41.36	41.98	38.93
8/8/2017-3:00	39.03	39.06	39.08	41.14	41.51	42.08	39.02
8/8/2017-4:00	39.1	39.13	39.15	41.26	41.63	42.15	39.09
8/8/2017-5:00	39.15	39.18	39.21	41.35	41.72	42.2	39.14
8/8/2017-6:00	39.19	39.22	39.24	41.43	41.76	42.22	39.17
8/8/2017-7:00	39.21	39.23	39.25	41.48	41.77	42.21	39.17
8/8/2017-8:00	39.21	39.22	39.23	41.51	41.74	42.18	39.16
8/8/2017-9:00	39.19	39.2	39.2	41.51	41.67	42.13	39.12
8/8/2017-10:00	39.16	39.16	39.15	41.49	41.58	42.06	39.07
8/8/2017-11:00	39.11	39.11	39.1	41.45	41.48	41.98	39
8/8/2017-12:00	39.07	39.05	39.04	41.4	41.37	41.9	38.94
8/8/2017-13:00	39.02	39	38.98	41.34	41.26	41.83	38.88
8/8/2017-14:00	38.98	38.95	38.93	41.28	41.17	41.77	38.83
8/8/2017-15:00	38.95	38.92	38.89	41.22	41.1	41.73	38.79
8/8/2017-16:00	38.93	38.9	38.88	41.18	41.07	41.72	38.77
8/8/2017-17:00	38.93	38.9	38.88	41.16	41.07	41.74	38.78
8/8/2017-18:00	38.95	38.93	38.91	41.16	41.12	41.79	38.81
8/8/2017-19:00	38.98	38.97	38.96	41.18	41.2	41.86	38.87
8/8/2017-20:00	39.04	39.04	39.04	41.24	41.33	41.96	38.95
8/8/2017-21:00	39.12	39.13	39.13	41.32	41.49	42.09	39.05
8/8/2017-22:00	39.21	39.23	39.25	41.42	41.68	42.23	39.17
8/8/2017-23:00	39.32	39.35	39.37	41.55	41.89	42.39	39.3
8/9/2017-0:00	39.43	39.47	39.5	41.7	42.1	42.54	39.43
8/9/2017-1:00	39.54	39.59	39.63	41.85	42.32	42.69	39.57
8/9/2017-2:00	39.65	39.71	39.75	42	42.51	42.83	39.69
8/9/2017-3:00	39.75	39.81	39.86	42.15	42.68	42.94	39.8
8/9/2017-4:00	39.84	39.9	39.95	42.28	42.82	43.03	39.88
8/9/2017-5:00	39.91	39.97	40.02	42.4	42.91	43.09	39.95
8/9/2017-6:00	39.96	40.01	40.06	42.49	42.97	43.12	39.99
8/9/2017-7:00	39.99	40.04	40.08	42.56	42.98	43.12	40
8/9/2017-8:00	40	40.04	40.08	42.6	42.96	43.09	39.99
8/9/2017-9:00	39.99	40.03	40.05	42.61	42.9	43.04	39.96
8/9/2017-10:00	39.97	40	40.01	42.6	42.81	42.98	39.92
8/9/2017-11:00	39.94	39.96	39.97	42.57	42.71	42.91	39.87
8/9/2017-12:00	39.9	39.91	39.92	42.53	42.6	42.84	39.81
8/9/2017-13:00	39.87	39.87	39.87	42.47	42.5	42.78	39.76
8/9/2017-14:00	39.84	39.84	39.83	42.42	42.42	42.73	39.72
8/9/2017-15:00	39.82	39.81	39.8	42.38	42.36	42.7	39.69
8/9/2017-16:00	39.81	39.81	39.8	42.35	42.34	42.7	39.68

8/9/2017-17:00	39.82	39.82	39.81	42.33	42.35	42.72	39.7
8/9/2017-18:00	39.84	39.85	39.85	42.34	42.4	42.78	39.74
8/9/2017-19:00	39.89	39.9	39.9	42.37	42.49	42.86	39.8
8/9/2017-20:00	39.96	39.97	39.99	42.43	42.62	42.96	39.88
8/9/2017-21:00	40.04	40.07	40.08	42.52	42.77	43.09	39.99
8/9/2017-22:00	40.13	40.17	40.2	42.63	42.96	43.23	40.11
8/9/2017-23:00	40.24	40.29	40.32	42.75	43.16	43.38	40.23
8/10/2017-0:00	40.35	40.41	40.45	42.89	43.36	43.53	40.37
8/10/2017-1:00	40.46	40.52	40.57	43.04	43.56	43.67	40.49
8/10/2017-2:00	40.57	40.63	40.69	43.18	43.73	43.79	40.61
8/10/2017-3:00	40.66	40.73	40.79	43.32	43.89	43.9	40.7
8/10/2017-4:00	40.74	40.81	40.87	43.44	44	43.97	40.78
8/10/2017-5:00	40.8	40.87	40.92	43.55	44.08	44.02	40.84
8/10/2017-6:00	40.84	40.91	40.96	43.63	44.12	44.04	40.87
8/10/2017-7:00	40.87	40.93	40.97	43.68	44.11	44.03	40.87
8/10/2017-8:00	40.87	40.92	40.95	43.7	44.06	43.99	40.85
8/10/2017-9:00	40.85	40.89	40.92	43.7	43.98	43.93	40.81
8/10/2017-10:00	40.82	40.85	40.87	43.67	43.87	43.85	40.76
8/10/2017-11:00	40.78	40.8	40.81	43.62	43.75	43.76	40.69
8/10/2017-12:00	40.73	40.74	40.74	43.56	43.62	43.68	40.62
8/10/2017-13:00	40.68	40.69	40.68	43.49	43.49	43.6	40.56
8/10/2017-14:00	40.64	40.64	40.63	43.42	43.39	43.54	40.5
8/10/2017-15:00	40.6	40.6	40.59	43.35	43.31	43.5	40.46
8/10/2017-16:00	40.58	40.58	40.57	43.3	43.26	43.48	40.45
8/10/2017-17:00	40.58	40.58	40.57	43.27	43.26	43.49	40.45
8/10/2017-18:00	40.6	40.6	40.6	43.26	43.29	43.54	40.48
8/10/2017-19:00	40.63	40.64	40.65	43.28	43.36	43.61	40.53
8/10/2017-20:00	40.69	40.71	40.72	43.33	43.48	43.71	40.61
8/10/2017-21:00	40.77	40.79	40.82	43.4	43.63	43.83	40.71
8/10/2017-22:00	40.86	40.9	40.93	43.5	43.81	43.97	40.83
8/10/2017-23:00	40.96	41.01	41.05	43.62	44.01	44.13	40.96
8/11/2017-0:00	41.07	41.13	41.18	43.76	44.22	44.28	41.1
8/11/2017-1:00	41.19	41.26	41.31	43.9	44.43	44.43	41.23
8/11/2017-2:00	41.3	41.38	41.44	44.05	44.63	44.57	41.36
8/11/2017-3:00	41.4	41.48	41.55	44.2	44.8	44.69	41.47
8/11/2017-4:00	41.49	41.58	41.65	44.34	44.94	44.79	41.57
8/11/2017-5:00	41.57	41.65	41.72	44.46	45.05	44.86	41.64
8/11/2017-6:00	41.63	41.71	41.77	44.55	45.11	44.9	41.69
8/11/2017-7:00	41.67	41.74	41.8	44.63	45.14	44.91	41.71
8/11/2017-8:00	41.69	41.76	41.81	44.68	45.13	44.9	41.72
8/11/2017-9:00	41.69	41.75	41.8	44.7	45.08	44.86	41.7
8/11/2017-10:00	41.68	41.73	41.77	44.69	45	44.81	41.66
8/11/2017-11:00	41.65	41.7	41.73	44.67	44.91	44.74	41.62
8/11/2017-12:00	41.62	41.66	41.68	44.63	44.81	44.68	41.57
8/11/2017-13:00	41.59	41.62	41.64	44.59	44.71	44.62	41.52
8/11/2017-14:00	41.56	41.59	41.6	44.54	44.62	44.57	41.48
8/11/2017-15:00	41.54	41.56	41.57	44.49	44.55	44.54	41.45
8/11/2017-16:00	41.53	41.55	41.56	44.45	44.51	44.53	41.44
8/11/2017-17:00	41.53	41.56	41.57	44.43	44.51	44.54	41.44
8/11/2017-18:00	41.55	41.58	41.59	44.43	44.53	44.58	41.47
8/11/2017-19:00	41.59	41.62	41.64	44.45	44.59	44.64	41.52
8/11/2017-20:00	41.64	41.68	41.7	44.49	44.69	44.72	41.59
8/11/2017-21:00	41.71	41.75	41.79	44.55	44.81	44.83	41.67

8/11/2017-22:00	41.79	41.84	41.88	44.63	44.96	44.95	41.78
8/11/2017-23:00	41.88	41.94	41.99	44.73	45.13	45.08	41.89
8/12/2017-0:00	41.98	42.05	42.1	44.85	45.3	45.21	42
8/12/2017-1:00	42.08	42.15	42.21	44.97	45.46	45.33	42.11
8/12/2017-2:00	42.17	42.25	42.31	45.09	45.62	45.44	42.21
8/12/2017-3:00	42.25	42.34	42.4	45.21	45.75	45.53	42.3
8/12/2017-4:00	42.32	42.41	42.47	45.31	45.85	45.6	42.37
8/12/2017-5:00	42.38	42.46	42.52	45.4	45.91	45.64	42.42
8/12/2017-6:00	42.42	42.49	42.55	45.46	45.94	45.65	42.45
8/12/2017-7:00	42.44	42.51	42.56	45.5	45.92	45.64	42.45
8/12/2017-8:00	42.44	42.5	42.54	45.52	45.87	45.6	42.43
8/12/2017-9:00	42.42	42.47	42.51	45.51	45.79	45.54	42.39
8/12/2017-10:00	42.39	42.43	42.46	45.48	45.68	45.46	42.33
8/12/2017-11:00	42.34	42.38	42.4	45.42	45.56	45.38	42.26
8/12/2017-12:00	42.29	42.32	42.33	45.36	45.43	45.29	42.19
8/12/2017-13:00	42.24	42.26	42.27	45.28	45.3	45.21	42.13
8/12/2017-14:00	42.2	42.21	42.21	45.2	45.18	45.14	42.06
8/12/2017-15:00	42.15	42.16	42.16	45.12	45.08	45.08	42.01
8/12/2017-16:00	42.12	42.12	42.12	45.05	45	45.04	41.97
8/12/2017-17:00	42.09	42.09	42.09	45	44.94	45.01	41.94
8/12/2017-18:00	42.07	42.08	42.07	44.95	44.9	45	41.93
8/12/2017-19:00	42.07	42.07	42.07	44.91	44.89	45	41.92
8/12/2017-20:00	42.06	42.07	42.07	44.89	44.89	45.01	41.93
8/12/2017-21:00	42.07	42.07	42.07	44.87	44.9	45.02	41.94
8/12/2017-22:00	42.07	42.08	42.08	44.87	44.91	45.03	41.94
8/12/2017-23:00	42.07	42.08	42.09	44.86	44.92	45.04	41.95
8/13/2017-0:00	42.07	42.08	42.09	44.85	44.92	45.04	41.95
8/13/2017-1:00	42.07	42.08	42.08	44.84	44.9	45.03	41.94
8/13/2017-2:00	42.05	42.06	42.05	44.82	44.87	45	41.92
8/13/2017-3:00	42.02	42.02	42.02	44.79	44.81	44.95	41.88
8/13/2017-4:00	41.98	41.98	41.97	44.74	44.73	44.89	41.83
8/13/2017-5:00	41.93	41.92	41.9	44.68	44.62	44.8	41.76
8/13/2017-6:00	41.86	41.84	41.82	44.6	44.49	44.7	41.68
8/13/2017-7:00	41.78	41.75	41.73	44.5	44.33	44.58	41.58
8/13/2017-8:00	41.68	41.65	41.61	44.38	44.15	44.44	41.46
8/13/2017-9:00	41.58	41.53	41.49	44.24	43.94	44.29	41.33
8/13/2017-10:00	41.46	41.4	41.35	44.09	43.72	44.13	41.19
8/13/2017-11:00	41.33	41.26	41.2	43.92	43.48	43.96	41.04
8/13/2017-12:00	41.19	41.12	41.05	43.74	43.24	43.78	40.88
8/13/2017-13:00	41.06	40.97	40.9	43.55	43	43.61	40.73
8/13/2017-14:00	40.92	40.83	40.75	43.36	42.77	43.45	40.58
8/13/2017-15:00	40.79	40.69	40.61	43.17	42.56	43.3	40.44
8/13/2017-16:00	40.67	40.57	40.48	42.99	42.37	43.17	40.32
8/13/2017-17:00	40.56	40.46	40.38	42.83	42.22	43.06	40.21
8/13/2017-18:00	40.48	40.37	40.29	42.68	42.1	42.99	40.13
8/13/2017-19:00	40.41	40.31	40.23	42.56	42.02	42.94	40.07
8/13/2017-20:00	40.35	40.26	40.19	42.47	41.98	42.92	40.04
8/13/2017-21:00	40.32	40.24	40.17	42.4	41.98	42.92	40.02
8/13/2017-22:00	40.31	40.23	40.17	42.36	42.01	42.94	40.03
8/13/2017-23:00	40.3	40.23	40.18	42.33	42.06	42.98	40.05
8/14/2017-0:00	40.31	40.25	40.2	42.33	42.13	43.02	40.07
8/14/2017-1:00	40.32	40.26	40.22	42.34	42.19	43.06	40.1
8/14/2017-2:00	40.33	40.28	40.24	42.36	42.25	43.09	40.13

8/14/2017-3:00	40.33	40.29	40.25	42.37	42.3	43.11	40.14
8/14/2017-4:00	40.33	40.29	40.25	42.38	42.33	43.11	40.14
8/14/2017-5:00	40.31	40.27	40.24	42.39	42.33	43.09	40.13
8/14/2017-6:00	40.29	40.25	40.21	42.37	42.3	43.06	40.1
8/14/2017-7:00	40.25	40.21	40.17	42.35	42.24	43	40.06
8/14/2017-8:00	40.2	40.15	40.11	42.3	42.15	42.92	39.99
8/14/2017-9:00	40.13	40.08	40.03	42.23	42.04	42.82	39.91
8/14/2017-10:00	40.05	39.99	39.93	42.15	41.89	42.71	39.81
8/14/2017-11:00	39.96	39.89	39.83	42.04	41.72	42.58	39.7
8/14/2017-12:00	39.85	39.77	39.7	41.92	41.54	42.43	39.58
8/14/2017-13:00	39.74	39.65	39.57	41.78	41.34	42.28	39.44
8/14/2017-14:00	39.62	39.52	39.44	41.62	41.13	42.13	39.3
8/14/2017-15:00	39.49	39.39	39.3	41.46	40.92	41.97	39.16
8/14/2017-16:00	39.36	39.25	39.16	41.3	40.71	41.81	39.02
8/14/2017-17:00	39.24	39.12	39.02	41.13	40.5	41.66	38.88
8/14/2017-18:00	39.11	38.99	38.89	40.96	40.3	41.52	38.75
8/14/2017-19:00	38.99	38.86	38.76	40.79	40.12	41.38	38.62
8/14/2017-20:00	38.87	38.74	38.63	40.62	39.94	41.24	38.49
8/14/2017-21:00	38.75	38.61	38.5	40.46	39.77	41.11	38.37
8/14/2017-22:00	38.63	38.49	38.38	40.3	39.6	40.99	38.24
8/14/2017-23:00	38.51	38.37	38.26	40.14	39.43	40.86	38.12
8/15/2017-0:00	38.39	38.25	38.13	39.98	39.27	40.73	38
8/15/2017-1:00	38.27	38.12	38	39.83	39.1	40.59	37.87
8/15/2017-2:00	38.14	37.99	37.87	39.66	38.92	40.45	37.73
8/15/2017-3:00	38	37.85	37.73	39.49	38.73	40.29	37.59
8/15/2017-4:00	37.87	37.71	37.58	39.32	38.53	40.13	37.45
8/15/2017-5:00	37.72	37.55	37.42	39.14	38.32	39.96	37.29
8/15/2017-6:00	37.57	37.39	37.26	38.95	38.1	39.79	37.12
8/15/2017-7:00	37.4	37.23	37.09	38.75	37.86	39.6	36.95
8/15/2017-8:00	37.24	37.05	36.91	38.54	37.62	39.4	36.77
8/15/2017-9:00	37.06	36.87	36.72	38.32	37.36	39.2	36.59
8/15/2017-10:00	36.88	36.69	36.53	38.09	37.1	38.99	36.39
8/15/2017-11:00	36.7	36.5	36.34	37.86	36.84	38.79	36.2
8/15/2017-12:00	36.53	36.32	36.15	37.63	36.58	38.59	36.02
8/15/2017-13:00	36.35	36.14	35.97	37.4	36.34	38.4	35.83
8/15/2017-14:00	36.18	35.97	35.8	37.18	36.11	38.22	35.66
8/15/2017-15:00	36.03	35.81	35.64	36.97	35.91	38.07	35.51
8/15/2017-16:00	35.88	35.67	35.5	36.78	35.74	37.93	35.37
8/15/2017-17:00	35.75	35.54	35.37	36.6	35.6	37.82	35.25
8/15/2017-18:00	35.64	35.43	35.27	36.45	35.49	37.73	35.16
8/15/2017-19:00	35.55	35.35	35.19	36.32	35.42	37.67	35.08
8/15/2017-20:00	35.48	35.28	35.13	36.21	35.39	37.64	35.03
8/15/2017-21:00	35.42	35.24	35.1	36.14	35.39	37.63	35
8/15/2017-22:00	35.39	35.21	35.08	36.09	35.42	37.64	34.99
8/15/2017-23:00	35.36	35.2	35.07	36.06	35.47	37.66	35
8/16/2017-0:00	35.35	35.19	35.08	36.05	35.54	37.69	35.01
8/16/2017-1:00	35.34	35.19	35.09	36.06	35.61	37.72	35.02
8/16/2017-2:00	35.34	35.2	35.1	36.07	35.68	37.75	35.04
8/16/2017-3:00	35.33	35.2	35.1	36.09	35.74	37.76	35.05
8/16/2017-4:00	35.32	35.19	35.1	36.1	35.78	37.76	35.04
8/16/2017-5:00	35.29	35.17	35.08	36.11	35.8	37.75	35.03
8/16/2017-6:00	35.26	35.14	35.05	36.1	35.79	37.71	35
8/16/2017-7:00	35.22	35.09	35	36.08	35.75	37.66	34.95

8/16/2017-8:00	35.16	35.04	34.94	36.05	35.68	37.59	34.89
8/16/2017-9:00	35.09	34.97	34.87	35.99	35.59	37.5	34.81
8/16/2017-10:00	35.02	34.89	34.79	35.93	35.49	37.4	34.73
8/16/2017-11:00	34.94	34.8	34.7	35.85	35.38	37.3	34.64
8/16/2017-12:00	34.86	34.72	34.61	35.76	35.26	37.21	34.55
8/16/2017-13:00	34.78	34.64	34.53	35.68	35.16	37.13	34.47
8/16/2017-14:00	34.71	34.57	34.47	35.6	35.08	37.06	34.4
8/16/2017-15:00	34.66	34.52	34.41	35.53	35.02	37.01	34.35
8/16/2017-16:00	34.62	34.48	34.38	35.48	35	37	34.32
8/16/2017-17:00	34.6	34.47	34.37	35.45	35.01	37	34.32
8/16/2017-18:00	34.6	34.47	34.39	35.44	35.07	37.04	34.33
8/16/2017-19:00	34.61	34.5	34.42	35.46	35.16	37.1	34.38
8/16/2017-20:00	34.65	34.55	34.48	35.51	35.29	37.19	34.44
8/16/2017-21:00	34.71	34.62	34.56	35.58	35.45	37.31	34.53
8/16/2017-22:00	34.78	34.71	34.66	35.68	35.64	37.43	34.63
8/16/2017-23:00	34.87	34.8	34.76	35.8	35.84	37.57	34.74
8/17/2017-0:00	34.96	34.91	34.88	35.94	36.05	37.7	34.86
8/17/2017-1:00	35.05	35.01	34.98	36.08	36.25	37.83	34.97
8/17/2017-2:00	35.14	35.1	35.08	36.22	36.43	37.95	35.07
8/17/2017-3:00	35.22	35.19	35.17	36.35	36.6	38.04	35.16
8/17/2017-4:00	35.28	35.26	35.24	36.48	36.72	38.11	35.23
8/17/2017-5:00	35.33	35.31	35.29	36.58	36.82	38.16	35.28
8/17/2017-6:00	35.37	35.34	35.32	36.67	36.87	38.17	35.3
8/17/2017-7:00	35.38	35.35	35.33	36.73	36.88	38.16	35.3
8/17/2017-8:00	35.38	35.34	35.31	36.76	36.86	38.13	35.28
8/17/2017-9:00	35.36	35.31	35.28	36.77	36.8	38.07	35.24
8/17/2017-10:00	35.32	35.27	35.23	36.76	36.72	38	35.19
8/17/2017-11:00	35.28	35.22	35.17	36.73	36.63	37.92	35.12
8/17/2017-12:00	35.23	35.17	35.12	36.68	36.53	37.85	35.06
8/17/2017-13:00	35.19	35.12	35.06	36.63	36.44	37.78	35
8/17/2017-14:00	35.15	35.07	35.01	36.58	36.36	37.73	34.95
8/17/2017-15:00	35.12	35.04	34.98	36.54	36.31	37.69	34.91
8/17/2017-16:00	35.1	35.02	34.96	36.5	36.28	37.68	34.9
8/17/2017-17:00	35.09	35.02	34.96	36.49	36.29	37.7	34.9
8/17/2017-18:00	35.11	35.04	34.99	36.5	36.34	37.74	34.93
8/17/2017-19:00	35.14	35.08	35.03	36.53	36.43	37.8	34.98
8/17/2017-20:00	35.19	35.14	35.1	36.58	36.55	37.89	35.05
8/17/2017-21:00	35.26	35.22	35.18	36.66	36.7	38.01	35.14
8/17/2017-22:00	35.34	35.31	35.29	36.76	36.88	38.13	35.24
8/17/2017-23:00	35.44	35.41	35.4	36.88	37.07	38.27	35.36
8/18/2017-0:00	35.53	35.52	35.51	37.02	37.28	38.41	35.48
8/18/2017-1:00	35.63	35.63	35.63	37.16	37.47	38.54	35.59
8/18/2017-2:00	35.73	35.73	35.74	37.3	37.66	38.67	35.7
8/18/2017-3:00	35.82	35.83	35.83	37.44	37.82	38.77	35.8
8/18/2017-4:00	35.9	35.91	35.92	37.57	37.96	38.85	35.88
8/18/2017-5:00	35.96	35.97	35.98	37.69	38.06	38.91	35.94
8/18/2017-6:00	36.01	36.02	36.03	37.78	38.13	38.95	35.98
8/18/2017-7:00	36.05	36.05	36.05	37.86	38.16	38.96	36
8/18/2017-8:00	36.06	36.06	36.05	37.91	38.16	38.94	36
8/18/2017-9:00	36.06	36.05	36.04	37.93	38.13	38.91	35.98
8/18/2017-10:00	36.04	36.03	36.01	37.94	38.07	38.86	35.94
8/18/2017-11:00	36.02	35.99	35.97	37.92	37.99	38.8	35.9
8/18/2017-12:00	35.98	35.95	35.92	37.89	37.9	38.73	35.85



8/18/2017-13:00	35.95	35.91	35.88	37.85	37.82	38.68	35.8
8/18/2017-14:00	35.92	35.88	35.84	37.81	37.75	38.63	35.76
8/18/2017-15:00	35.9	35.85	35.81	37.78	37.69	38.6	35.72
8/18/2017-16:00	35.88	35.84	35.79	37.75	37.66	38.58	35.71
8/18/2017-17:00	35.88	35.84	35.8	37.74	37.66	38.6	35.71
8/18/2017-18:00	35.9	35.85	35.82	37.74	37.7	38.63	35.73
8/18/2017-19:00	35.93	35.89	35.86	37.76	37.76	38.69	35.78
8/18/2017-20:00	35.97	35.94	35.91	37.81	37.86	38.76	35.84
8/18/2017-21:00	36.03	36.01	35.99	37.87	37.99	38.86	35.91
8/18/2017-22:00	36.1	36.09	36.07	37.95	38.13	38.97	36
8/18/2017-23:00	36.18	36.17	36.17	38.05	38.29	39.08	36.1
8/19/2017-0:00	36.27	36.26	36.26	38.16	38.45	39.2	36.2
8/19/2017-1:00	36.35	36.35	36.36	38.28	38.61	39.3	36.29
8/19/2017-2:00	36.43	36.44	36.44	38.39	38.75	39.4	36.38
8/19/2017-3:00	36.5	36.51	36.52	38.5	38.87	39.47	36.45
8/19/2017-4:00	36.55	36.56	36.57	38.6	38.96	39.53	36.51
8/19/2017-5:00	36.59	36.61	36.61	38.67	39.02	39.55	36.54
8/19/2017-6:00	36.62	36.63	36.63	38.73	39.04	39.56	36.56
8/19/2017-7:00	36.63	36.63	36.63	38.77	39.02	39.54	36.55
8/19/2017-8:00	36.62	36.61	36.6	38.78	38.97	39.49	36.52
8/19/2017-9:00	36.59	36.57	36.56	38.77	38.89	39.42	36.47
8/19/2017-10:00	36.54	36.52	36.5	38.73	38.78	39.34	36.4
8/19/2017-11:00	36.49	36.46	36.42	38.67	38.65	39.24	36.32
8/19/2017-12:00	36.43	36.39	36.34	38.6	38.51	39.14	36.24
8/19/2017-13:00	36.36	36.31	36.26	38.51	38.37	39.04	36.15
8/19/2017-14:00	36.3	36.24	36.19	38.42	38.24	38.95	36.07
8/19/2017-15:00	36.23	36.17	36.12	38.33	38.12	38.87	36
8/19/2017-16:00	36.18	36.12	36.06	38.25	38.02	38.81	35.94
8/19/2017-17:00	36.14	36.07	36.01	38.18	37.94	38.76	35.89
8/19/2017-18:00	36.1	36.04	35.98	38.12	37.9	38.74	35.86
8/19/2017-19:00	36.08	36.02	35.96	38.07	37.88	38.73	35.85
8/19/2017-20:00	36.07	36.01	35.96	38.04	37.88	38.74	35.84
8/19/2017-21:00	36.07	36.02	35.97	38.03	37.91	38.76	35.86
8/19/2017-22:00	36.08	36.03	35.99	38.03	37.95	38.8	35.88
8/19/2017-23:00	36.1	36.05	36.01	38.04	38.01	38.84	35.91
8/20/2017-0:00	36.12	36.08	36.04	38.07	38.07	38.88	35.94
8/20/2017-1:00	36.14	36.1	36.07	38.1	38.13	38.91	35.97
8/20/2017-2:00	36.16	36.12	36.09	38.12	38.17	38.93	35.99
8/20/2017-3:00	36.17	36.13	36.1	38.15	38.2	38.94	36
8/20/2017-4:00	36.17	36.13	36.1	38.16	38.21	38.94	36
8/20/2017-5:00	36.15	36.11	36.08	38.16	38.19	38.91	35.98
8/20/2017-6:00	36.13	36.08	36.04	38.15	38.14	38.86	35.94
8/20/2017-7:00	36.09	36.04	35.99	38.11	38.07	38.8	35.89
8/20/2017-8:00	36.03	35.98	35.93	38.06	37.96	38.71	35.82
8/20/2017-9:00	35.96	35.9	35.85	37.99	37.83	38.61	35.73
8/20/2017-10:00	35.89	35.82	35.75	37.9	37.69	38.5	35.64
8/20/2017-11:00	35.8	35.72	35.65	37.8	37.53	38.38	35.53
8/20/2017-12:00	35.71	35.63	35.55	37.69	37.37	38.26	35.43
8/20/2017-13:00	35.62	35.53	35.45	37.57	37.22	38.15	35.33
8/20/2017-14:00	35.54	35.44	35.36	37.45	37.08	38.05	35.24
8/20/2017-15:00	35.46	35.36	35.28	37.35	36.96	37.97	35.16
8/20/2017-16:00	35.4	35.3	35.22	37.25	36.87	37.91	35.09
8/20/2017-17:00	35.35	35.25	35.17	37.17	36.8	37.87	35.05

8/20/2017-18:00	35.31	35.22	35.14	37.1	36.78	37.85	35.02
8/20/2017-19:00	35.29	35.21	35.13	37.06	36.78	37.86	35.02
8/20/2017-20:00	35.29	35.21	35.14	37.04	36.82	37.89	35.03
8/20/2017-21:00	35.3	35.23	35.17	37.04	36.88	37.94	35.06
8/20/2017-22:00	35.33	35.26	35.21	37.06	36.97	38	35.11
8/20/2017-23:00	35.36	35.3	35.26	37.1	37.07	38.07	35.16
8/21/2017-0:00	35.4	35.35	35.31	37.15	37.17	38.14	35.22
8/21/2017-1:00	35.44	35.39	35.36	37.21	37.28	38.2	35.27
8/21/2017-2:00	35.48	35.44	35.41	37.27	37.37	38.26	35.32
8/21/2017-3:00	35.51	35.47	35.44	37.33	37.44	38.3	35.36
8/21/2017-4:00	35.53	35.49	35.46	37.38	37.49	38.32	35.38
8/21/2017-5:00	35.53	35.5	35.47	37.41	37.51	38.31	35.38
8/21/2017-6:00	35.52	35.49	35.45	37.42	37.49	38.29	35.37
8/21/2017-7:00	35.5	35.46	35.42	37.42	37.45	38.24	35.33
8/21/2017-8:00	35.46	35.41	35.37	37.39	37.37	38.17	35.27
8/21/2017-9:00	35.4	35.35	35.3	37.34	37.26	38.08	35.2
8/21/2017-10:00	35.34	35.27	35.22	37.27	37.12	37.97	35.11
8/21/2017-11:00	35.26	35.19	35.12	37.19	36.98	37.86	35.02
8/21/2017-12:00	35.18	35.1	35.03	37.09	36.82	37.75	34.92
8/21/2017-13:00	35.09	35.01	34.93	36.98	36.67	37.64	34.82
8/21/2017-14:00	35.01	34.92	34.84	36.88	36.53	37.54	34.73
8/21/2017-15:00	34.94	34.85	34.77	36.77	36.41	37.46	34.65
8/21/2017-16:00	34.88	34.78	34.7	36.68	36.32	37.39	34.59
8/21/2017-17:00	34.83	34.73	34.66	36.6	36.26	37.35	34.54
8/21/2017-18:00	34.79	34.7	34.63	36.54	36.22	37.34	34.52
8/21/2017-19:00	34.77	34.69	34.62	36.5	36.23	37.34	34.51
8/21/2017-20:00	34.77	34.69	34.63	36.48	36.26	37.37	34.52
8/21/2017-21:00	34.78	34.71	34.65	36.48	36.32	37.42	34.55
8/21/2017-22:00	34.81	34.74	34.69	36.5	36.4	37.48	34.6
8/21/2017-23:00	34.84	34.78	34.74	36.54	36.5	37.54	34.65
8/22/2017-0:00	34.88	34.83	34.79	36.59	36.61	37.61	34.7
8/22/2017-1:00	34.92	34.87	34.84	36.65	36.7	37.67	34.75
8/22/2017-2:00	34.95	34.91	34.88	36.71	36.79	37.72	34.8
8/22/2017-3:00	34.98	34.94	34.91	36.76	36.85	37.75	34.83
8/22/2017-4:00	34.99	34.95	34.92	36.8	36.89	37.76	34.84
8/22/2017-5:00	34.99	34.95	34.92	36.82	36.89	37.75	34.83
8/22/2017-6:00	34.97	34.93	34.89	36.83	36.86	37.71	34.8
8/22/2017-7:00	34.94	34.89	34.85	36.81	36.79	37.64	34.76
8/22/2017-8:00	34.89	34.83	34.78	36.77	36.69	37.56	34.69
8/22/2017-9:00	34.82	34.76	34.7	36.71	36.57	37.45	34.6
8/22/2017-10:00	34.74	34.67	34.61	36.62	36.42	37.34	34.5
8/22/2017-11:00	34.66	34.58	34.51	36.52	36.25	37.21	34.4
8/22/2017-12:00	34.57	34.48	34.4	36.41	36.09	37.09	34.29
8/22/2017-13:00	34.48	34.39	34.31	36.3	35.94	36.98	34.19
8/22/2017-14:00	34.4	34.3	34.22	36.19	35.8	36.89	34.1
8/22/2017-15:00	34.33	34.23	34.15	36.09	35.7	36.82	34.04
8/22/2017-16:00	34.28	34.18	34.1	36.01	35.64	36.79	33.99
8/22/2017-17:00	34.25	34.16	34.08	35.94	35.61	36.78	33.97
8/22/2017-18:00	34.24	34.15	34.08	35.91	35.64	36.8	33.98
8/22/2017-19:00	34.25	34.18	34.11	35.91	35.7	36.86	34.01
8/22/2017-20:00	34.29	34.22	34.17	35.94	35.82	36.95	34.08
8/22/2017-21:00	34.35	34.29	34.25	35.99	35.97	37.06	34.16
8/22/2017-22:00	34.42	34.38	34.35	36.08	36.15	37.2	34.27

8/22/2017-23:00	34.51	34.48	34.46	36.19	36.36	37.35	34.39
8/23/2017-0:00	34.61	34.59	34.58	36.33	36.58	37.5	34.52
8/23/2017-1:00	34.72	34.71	34.71	36.47	36.79	37.64	34.65
8/23/2017-2:00	34.82	34.82	34.82	36.62	37	37.78	34.77
8/23/2017-3:00	34.91	34.92	34.93	36.77	37.18	37.9	34.87
8/23/2017-4:00	34.99	35.01	35.02	36.9	37.33	37.99	34.96
8/23/2017-5:00	35.06	35.08	35.09	37.03	37.45	38.06	35.04
8/23/2017-6:00	35.11	35.13	35.14	37.13	37.53	38.11	35.08
8/23/2017-7:00	35.15	35.16	35.17	37.21	37.58	38.12	35.11
8/23/2017-8:00	35.16	35.17	35.18	37.26	37.58	38.11	35.11
8/23/2017-9:00	35.16	35.17	35.16	37.3	37.55	38.08	35.09
8/23/2017-10:00	35.15	35.14	35.13	37.3	37.49	38.03	35.06
8/23/2017-11:00	35.12	35.11	35.09	37.29	37.41	37.97	35.01
8/23/2017-12:00	35.09	35.07	35.05	37.26	37.32	37.91	34.96
8/23/2017-13:00	35.05	35.03	35	37.22	37.23	37.84	34.91
8/23/2017-14:00	35.02	34.99	34.96	37.17	37.15	37.79	34.87
8/23/2017-15:00	34.99	34.96	34.93	37.13	37.08	37.76	34.83
8/23/2017-16:00	34.98	34.94	34.91	37.1	37.05	37.74	34.81
8/23/2017-17:00	34.97	34.94	34.91	37.08	37.04	37.75	34.82
8/23/2017-18:00	34.98	34.95	34.93	37.08	37.07	37.78	34.84
8/23/2017-19:00	35.01	34.99	34.96	37.1	37.13	37.84	34.87
8/23/2017-20:00	35.05	35.04	35.02	37.14	37.22	37.91	34.93
8/23/2017-21:00	35.11	35.1	35.09	37.2	37.34	38	35.01
8/23/2017-22:00	35.18	35.18	35.17	37.28	37.48	38.11	35.1
8/23/2017-23:00	35.26	35.26	35.26	37.37	37.63	38.22	35.19
8/24/2017-0:00	35.34	35.35	35.36	37.47	37.78	38.33	35.29
8/24/2017-1:00	35.42	35.44	35.45	37.58	37.93	38.44	35.38
8/24/2017-2:00	35.5	35.52	35.53	37.69	38.07	38.53	35.47
8/24/2017-3:00	35.56	35.59	35.61	37.8	38.19	38.61	35.54
8/24/2017-4:00	35.62	35.65	35.67	37.89	38.28	38.66	35.59
8/24/2017-5:00	35.67	35.69	35.71	37.97	38.34	38.7	35.63
8/24/2017-6:00	35.69	35.71	35.73	38.03	38.36	38.71	35.65
8/24/2017-7:00	35.71	35.72	35.73	38.07	38.35	38.69	35.65
8/24/2017-8:00	35.7	35.71	35.71	38.08	38.31	38.65	35.63
8/24/2017-9:00	35.68	35.68	35.68	38.07	38.24	38.6	35.59
8/24/2017-10:00	35.65	35.64	35.63	38.05	38.15	38.53	35.53
8/24/2017-11:00	35.6	35.59	35.57	38	38.04	38.45	35.47
8/24/2017-12:00	35.55	35.53	35.51	37.94	37.92	38.37	35.4
8/24/2017-13:00	35.51	35.48	35.45	37.88	37.81	38.29	35.34
8/24/2017-14:00	35.46	35.43	35.4	37.81	37.72	38.24	35.28
8/24/2017-15:00	35.43	35.39	35.36	37.75	37.65	38.2	35.25
8/24/2017-16:00	35.41	35.37	35.34	37.71	37.61	38.18	35.22
8/24/2017-17:00	35.4	35.37	35.34	37.68	37.6	38.19	35.22
8/24/2017-18:00	35.41	35.38	35.35	37.67	37.63	38.22	35.24
8/24/2017-19:00	35.44	35.41	35.39	37.68	37.69	38.28	35.28
8/24/2017-20:00	35.48	35.46	35.44	37.71	37.78	38.35	35.34
8/24/2017-21:00	35.53	35.52	35.51	37.76	37.9	38.44	35.41
8/24/2017-22:00	35.59	35.59	35.58	37.83	38.02	38.53	35.49
8/24/2017-23:00	35.65	35.66	35.66	37.91	38.15	38.62	35.56
8/25/2017-0:00	35.72	35.72	35.73	38	38.27	38.71	35.64
8/25/2017-1:00	35.77	35.79	35.79	38.08	38.38	38.78	35.71
8/25/2017-2:00	35.82	35.84	35.85	38.16	38.47	38.84	35.76
8/25/2017-3:00	35.86	35.88	35.88	38.23	38.53	38.87	35.8

8/25/2017-4:00	35.88	35.9	35.9	38.28	38.57	38.89	35.82
8/25/2017-5:00	35.89	35.9	35.91	38.32	38.56	38.88	35.82
8/25/2017-6:00	35.89	35.89	35.89	38.33	38.53	38.84	35.79
8/25/2017-7:00	35.87	35.86	35.86	38.32	38.47	38.79	35.76
8/25/2017-8:00	35.83	35.82	35.8	38.29	38.37	38.71	35.7
8/25/2017-9:00	35.77	35.75	35.73	38.23	38.24	38.62	35.62
8/25/2017-10:00	35.7	35.68	35.65	38.16	38.1	38.51	35.53
8/25/2017-11:00	35.63	35.59	35.55	38.06	37.93	38.39	35.43
8/25/2017-12:00	35.54	35.49	35.45	37.96	37.76	38.27	35.32
8/25/2017-13:00	35.45	35.4	35.34	37.84	37.59	38.14	35.22
8/25/2017-14:00	35.36	35.3	35.24	37.71	37.42	38.03	35.11
8/25/2017-15:00	35.27	35.21	35.14	37.59	37.26	37.92	35.01
8/25/2017-16:00	35.19	35.12	35.05	37.47	37.12	37.82	34.92
8/25/2017-17:00	35.12	35.04	34.97	37.35	36.99	37.74	34.84
8/25/2017-18:00	35.05	34.97	34.9	37.25	36.89	37.67	34.77
8/25/2017-19:00	34.99	34.91	34.84	37.15	36.8	37.61	34.71
8/25/2017-20:00	34.94	34.86	34.79	37.07	36.74	37.57	34.66
8/25/2017-21:00	34.89	34.81	34.75	36.99	36.69	37.53	34.62
8/25/2017-22:00	34.85	34.78	34.71	36.93	36.65	37.5	34.59
8/25/2017-23:00	34.82	34.74	34.68	36.88	36.61	37.47	34.56
8/26/2017-0:00	34.78	34.71	34.65	36.83	36.58	37.44	34.53
8/26/2017-1:00	34.74	34.67	34.61	36.78	36.54	37.41	34.49
8/26/2017-2:00	34.7	34.63	34.57	36.73	36.49	37.36	34.45
8/26/2017-3:00	34.65	34.58	34.52	36.67	36.43	37.31	34.4
8/26/2017-4:00	34.59	34.52	34.45	36.6	36.35	37.24	34.34
8/26/2017-5:00	34.53	34.45	34.38	36.53	36.25	37.15	34.26
8/26/2017-6:00	34.45	34.36	34.29	36.44	36.13	37.05	34.17
8/26/2017-7:00	34.36	34.27	34.19	36.34	35.98	36.93	34.07
8/26/2017-8:00	34.26	34.16	34.08	36.22	35.82	36.8	33.96
8/26/2017-9:00	34.15	34.04	33.96	36.08	35.64	36.66	33.83
8/26/2017-10:00	34.03	33.92	33.83	35.94	35.45	36.51	33.7
8/26/2017-11:00	33.91	33.79	33.69	35.79	35.25	36.36	33.57
8/26/2017-12:00	33.79	33.67	33.56	35.63	35.06	36.22	33.43
8/26/2017-13:00	33.68	33.55	33.44	35.48	34.88	36.09	33.31
8/26/2017-14:00	33.57	33.44	33.33	35.33	34.73	35.98	33.21
8/26/2017-15:00	33.48	33.35	33.24	35.19	34.61	35.9	33.12
8/26/2017-16:00	33.41	33.28	33.17	35.08	34.52	35.84	33.05
8/26/2017-17:00	33.35	33.23	33.13	34.99	34.48	35.81	33.01
8/26/2017-18:00	33.32	33.2	33.11	34.92	34.48	35.81	33
8/26/2017-19:00	33.31	33.2	33.12	34.89	34.52	35.85	33.01
8/26/2017-20:00	33.32	33.22	33.15	34.89	34.6	35.91	33.05
8/26/2017-21:00	33.35	33.26	33.2	34.91	34.72	35.99	33.11
8/26/2017-22:00	33.39	33.32	33.27	34.96	34.86	36.09	33.18
8/26/2017-23:00	33.45	33.39	33.35	35.04	35.02	36.2	33.27
8/27/2017-0:00	33.52	33.47	33.43	35.13	35.19	36.31	33.36
8/27/2017-1:00	33.59	33.55	33.52	35.23	35.36	36.42	33.45
8/27/2017-2:00	33.65	33.62	33.6	35.33	35.51	36.51	33.54
8/27/2017-3:00	33.71	33.68	33.67	35.43	35.64	36.59	33.61
8/27/2017-4:00	33.76	33.74	33.72	35.53	35.74	36.65	33.66
8/27/2017-5:00	33.8	33.77	33.76	35.6	35.82	36.68	33.7
8/27/2017-6:00	33.82	33.8	33.78	35.66	35.85	36.69	33.72
8/27/2017-7:00	33.82	33.8	33.78	35.7	35.86	36.68	33.71
8/27/2017-8:00	33.81	33.78	33.76	35.72	35.83	36.64	33.69

8/27/2017-9:00	33.79	33.75	33.72	35.71	35.77	36.59	33.65
8/27/2017-10:00	33.75	33.71	33.67	35.69	35.68	36.52	33.59
8/27/2017-11:00	33.7	33.66	33.61	35.65	35.58	36.44	33.53
8/27/2017-12:00	33.65	33.6	33.55	35.59	35.48	36.36	33.46
8/27/2017-13:00	33.6	33.54	33.49	35.53	35.38	36.29	33.4
8/27/2017-14:00	33.55	33.49	33.44	35.47	35.29	36.23	33.35
8/27/2017-15:00	33.52	33.45	33.4	35.42	35.22	36.19	33.31
8/27/2017-16:00	33.49	33.43	33.38	35.37	35.19	36.17	33.28
8/27/2017-17:00	33.48	33.42	33.37	35.35	35.19	36.18	33.28
8/27/2017-18:00	33.49	33.43	33.39	35.34	35.22	36.21	33.3
8/27/2017-19:00	33.51	33.47	33.43	35.35	35.29	36.27	33.34
8/27/2017-20:00	33.56	33.52	33.48	35.39	35.39	36.35	33.4
8/27/2017-21:00	33.61	33.58	33.56	35.46	35.52	36.45	33.48
8/27/2017-22:00	33.69	33.67	33.65	35.54	35.68	36.57	33.58
8/27/2017-23:00	33.77	33.76	33.75	35.64	35.85	36.69	33.68
8/28/2017-0:00	33.86	33.85	33.85	35.76	36.03	36.81	33.79
8/28/2017-1:00	33.95	33.95	33.96	35.88	36.2	36.93	33.89
8/28/2017-2:00	34.03	34.04	34.05	36.01	36.36	37.04	33.99
8/28/2017-3:00	34.11	34.12	34.13	36.13	36.5	37.12	34.07
8/28/2017-4:00	34.17	34.19	34.2	36.23	36.61	37.19	34.14
8/28/2017-5:00	34.22	34.24	34.25	36.32	36.68	37.23	34.18
8/28/2017-6:00	34.25	34.27	34.28	36.39	36.72	37.25	34.21
8/28/2017-7:00	34.27	34.28	34.28	36.44	36.72	37.24	34.21
8/28/2017-8:00	34.27	34.27	34.27	36.47	36.68	37.2	34.19
8/28/2017-9:00	34.25	34.24	34.23	36.46	36.62	37.14	34.15
8/28/2017-10:00	34.22	34.2	34.18	36.44	36.52	37.07	34.09
8/28/2017-11:00	34.17	34.15	34.12	36.4	36.41	36.99	34.03
8/28/2017-12:00	34.12	34.09	34.06	36.34	36.3	36.9	33.96
8/28/2017-13:00	34.07	34.03	33.99	36.27	36.18	36.82	33.89
8/28/2017-14:00	34.02	33.98	33.94	36.2	36.08	36.76	33.83
8/28/2017-15:00	33.98	33.94	33.89	36.14	35.99	36.71	33.78
8/28/2017-16:00	33.95	33.9	33.86	36.09	35.94	36.68	33.75
8/28/2017-17:00	33.94	33.89	33.85	36.05	35.92	36.67	33.74
8/28/2017-18:00	33.94	33.89	33.85	36.03	35.93	36.69	33.75
8/28/2017-19:00	33.95	33.92	33.88	36.03	35.98	36.74	33.78
8/28/2017-20:00	33.99	33.96	33.93	36.05	36.06	36.81	33.83
8/28/2017-21:00	34.04	34.01	33.99	36.1	36.17	36.89	33.9
8/28/2017-22:00	34.1	34.08	34.07	36.17	36.3	36.99	33.98
8/28/2017-23:00	34.17	34.16	34.15	36.25	36.44	37.1	34.06
8/29/2017-0:00	34.24	34.24	34.24	36.34	36.59	37.2	34.15
8/29/2017-1:00	34.31	34.32	34.32	36.44	36.73	37.3	34.24
8/29/2017-2:00	34.38	34.39	34.4	36.54	36.85	37.38	34.31
8/29/2017-3:00	34.44	34.45	34.46	36.63	36.95	37.44	34.37
8/29/2017-4:00	34.48	34.49	34.5	36.71	37.02	37.47	34.41
8/29/2017-5:00	34.51	34.52	34.52	36.77	37.05	37.48	34.43
8/29/2017-6:00	34.52	34.52	34.52	36.8	37.05	37.47	34.43
8/29/2017-7:00	34.51	34.5	34.5	36.81	37	37.42	34.4
8/29/2017-8:00	34.48	34.47	34.45	36.8	36.92	37.35	34.35
8/29/2017-9:00	34.43	34.41	34.39	36.76	36.8	37.26	34.28
8/29/2017-10:00	34.37	34.34	34.31	36.69	36.66	37.15	34.19
8/29/2017-11:00	34.29	34.26	34.22	36.61	36.5	37.04	34.1
8/29/2017-12:00	34.21	34.17	34.12	36.51	36.34	36.92	34
8/29/2017-13:00	34.14	34.08	34.03	36.4	36.18	36.81	33.9

8/29/2017-14:00	34.06	34	33.94	36.3	36.04	36.72	33.82
8/29/2017-15:00	34	33.94	33.88	36.2	35.93	36.65	33.75
8/29/2017-16:00	33.95	33.89	33.83	36.12	35.85	36.61	33.7
8/29/2017-17:00	33.92	33.86	33.8	36.05	35.81	36.59	33.68
8/29/2017-18:00	33.91	33.85	33.8	36.01	35.82	36.61	33.68
8/29/2017-19:00	33.92	33.87	33.82	36	35.86	36.65	33.71
8/29/2017-20:00	33.95	33.91	33.87	36.02	35.95	36.73	33.76
8/29/2017-21:00	34	33.97	33.94	36.06	36.08	36.83	33.84
8/29/2017-22:00	34.06	34.04	34.03	36.13	36.24	36.94	33.93
8/29/2017-23:00	34.14	34.13	34.12	36.22	36.41	37.07	34.03
8/30/2017-0:00	34.23	34.23	34.23	36.33	36.59	37.2	34.14
8/30/2017-1:00	34.31	34.32	34.33	36.45	36.76	37.32	34.25
8/30/2017-2:00	34.39	34.41	34.42	36.57	36.92	37.42	34.34
8/30/2017-3:00	34.46	34.48	34.5	36.68	37.06	37.51	34.42
8/30/2017-4:00	34.53	34.55	34.56	36.78	37.17	37.57	34.49
8/30/2017-5:00	34.57	34.59	34.61	36.87	37.24	37.62	34.53
8/30/2017-6:00	34.6	34.62	34.64	36.94	37.28	37.63	34.56
8/30/2017-7:00	34.61	34.63	34.64	36.98	37.28	37.62	34.56
8/30/2017-8:00	34.61	34.62	34.62	37	37.24	37.58	34.53
8/30/2017-9:00	34.58	34.59	34.58	37	37.17	37.52	34.49
8/30/2017-10:00	34.55	34.54	34.53	36.97	37.06	37.44	34.43
8/30/2017-11:00	34.49	34.48	34.46	36.91	36.93	37.34	34.35
8/30/2017-12:00	34.42	34.4	34.37	36.84	36.78	37.23	34.26
8/30/2017-13:00	34.35	34.31	34.28	36.75	36.62	37.12	34.17
8/30/2017-14:00	34.27	34.22	34.18	36.64	36.45	37	34.06
8/30/2017-15:00	34.18	34.13	34.08	36.53	36.29	36.88	33.96
8/30/2017-16:00	34.1	34.04	33.99	36.41	36.13	36.78	33.86
8/30/2017-17:00	34.02	33.96	33.9	36.3	35.99	36.68	33.77
8/30/2017-18:00	33.95	33.88	33.82	36.19	35.86	36.6	33.7
8/30/2017-19:00	33.89	33.82	33.76	36.09	35.76	36.53	33.63
8/30/2017-20:00	33.83	33.76	33.7	36	35.68	36.48	33.58
8/30/2017-21:00	33.79	33.72	33.66	35.92	35.62	36.44	33.53
8/30/2017-22:00	33.75	33.68	33.62	35.86	35.58	36.42	33.5
8/30/2017-23:00	33.71	33.65	33.59	35.8	35.55	36.39	33.47
8/31/2017-0:00	33.68	33.62	33.56	35.76	35.52	36.37	33.45
8/31/2017-1:00	33.65	33.59	33.53	35.71	35.5	36.34	33.42
8/31/2017-2:00	33.62	33.55	33.5	35.67	35.46	36.31	33.39
8/31/2017-3:00	33.58	33.51	33.46	35.62	35.41	36.27	33.35
8/31/2017-4:00	33.53	33.46	33.41	35.57	35.35	36.21	33.3
8/31/2017-5:00	33.47	33.41	33.35	35.51	35.27	36.14	33.24
8/31/2017-6:00	33.41	33.34	33.28	35.43	35.17	36.06	33.16
8/31/2017-7:00	33.34	33.26	33.19	35.35	35.06	35.96	33.08
8/31/2017-8:00	33.25	33.17	33.1	35.25	34.92	35.85	32.98
8/31/2017-9:00	33.16	33.07	32.99	35.14	34.77	35.73	32.88
8/31/2017-10:00	33.06	32.96	32.88	35.02	34.61	35.61	32.76
8/31/2017-11:00	32.96	32.85	32.77	34.89	34.44	35.48	32.65
8/31/2017-12:00	32.85	32.75	32.66	34.76	34.27	35.36	32.53
8/31/2017-13:00	32.75	32.64	32.55	34.62	34.12	35.24	32.43
8/31/2017-14:00	32.66	32.55	32.46	34.5	33.99	35.15	32.33
8/31/2017-15:00	32.58	32.47	32.38	34.38	33.88	35.07	32.26
8/31/2017-16:00	32.52	32.41	32.32	34.28	33.81	35.03	32.2
8/31/2017-17:00	32.47	32.37	32.28	34.21	33.78	35.01	32.17
8/31/2017-18:00	32.45	32.35	32.27	34.15	33.78	35.01	32.16

8/31/2017-19:00	32.44	32.35	32.28	34.13	33.83	35.05	32.18
8/31/2017-20:00	32.46	32.38	32.32	34.14	33.91	35.11	32.22
8/31/2017-21:00	32.5	32.43	32.37	34.17	34.03	35.2	32.29
8/31/2017-22:00	32.55	32.49	32.45	34.23	34.18	35.3	32.36
8/31/2017-23:00	32.61	32.56	32.53	34.3	34.34	35.41	32.45
9/1/2017-0:00	32.68	32.64	32.62	34.4	34.51	35.53	32.55
9/1/2017-1:00	32.75	32.72	32.71	34.5	34.67	35.64	32.64
9/1/2017-2:00	32.82	32.8	32.79	34.61	34.83	35.73	32.73
9/1/2017-3:00	32.88	32.87	32.86	34.71	34.96	35.81	32.8
9/1/2017-4:00	32.94	32.93	32.92	34.81	35.06	35.87	32.86
9/1/2017-5:00	32.98	32.97	32.96	34.89	35.14	35.91	32.9
9/1/2017-6:00	33	32.99	32.99	34.96	35.18	35.93	32.92
9/1/2017-7:00	33.01	33	32.99	35	35.19	35.92	32.92
9/1/2017-8:00	33.01	32.99	32.98	35.02	35.16	35.89	32.9
9/1/2017-9:00	32.99	32.96	32.94	35.02	35.11	35.83	32.87
9/1/2017-10:00	32.95	32.92	32.9	35	35.02	35.77	32.81
9/1/2017-11:00	32.91	32.87	32.84	34.96	34.92	35.69	32.75
9/1/2017-12:00	32.85	32.81	32.77	34.9	34.81	35.6	32.68
9/1/2017-13:00	32.8	32.75	32.7	34.84	34.7	35.52	32.61
9/1/2017-14:00	32.74	32.69	32.64	34.77	34.59	35.45	32.54
9/1/2017-15:00	32.69	32.64	32.58	34.7	34.5	35.39	32.49
9/1/2017-16:00	32.65	32.59	32.54	34.64	34.43	35.34	32.44
9/1/2017-17:00	32.62	32.56	32.51	34.58	34.38	35.32	32.41
9/1/2017-18:00	32.61	32.55	32.5	34.55	34.37	35.31	32.4
9/1/2017-19:00	32.6	32.55	32.5	34.53	34.38	35.33	32.41
9/1/2017-20:00	32.62	32.57	32.53	34.53	34.42	35.37	32.43
9/1/2017-21:00	32.64	32.6	32.56	34.55	34.49	35.42	32.47
9/1/2017-22:00	32.68	32.64	32.61	34.58	34.58	35.49	32.53
9/1/2017-23:00	32.72	32.69	32.67	34.64	34.69	35.56	32.58
9/2/2017-0:00	32.77	32.74	32.73	34.7	34.79	35.64	32.65
9/2/2017-1:00	32.81	32.8	32.78	34.76	34.89	35.7	32.7
9/2/2017-2:00	32.86	32.84	32.83	34.83	34.98	35.75	32.75
9/2/2017-3:00	32.89	32.87	32.86	34.89	35.05	35.79	32.79
9/2/2017-4:00	32.91	32.9	32.88	34.93	35.09	35.8	32.8
9/2/2017-5:00	32.92	32.9	32.89	34.96	35.09	35.8	32.8
9/2/2017-6:00	32.91	32.89	32.87	34.98	35.07	35.76	32.79
9/2/2017-7:00	32.88	32.86	32.83	34.97	35.01	35.71	32.75
9/2/2017-8:00	32.84	32.81	32.78	34.94	34.92	35.63	32.69
9/2/2017-9:00	32.79	32.75	32.71	34.88	34.8	35.54	32.61
9/2/2017-10:00	32.72	32.67	32.62	34.81	34.66	35.43	32.52
9/2/2017-11:00	32.64	32.58	32.53	34.72	34.51	35.31	32.42
9/2/2017-12:00	32.56	32.49	32.43	34.61	34.35	35.2	32.32
9/2/2017-13:00	32.47	32.4	32.33	34.5	34.19	35.08	32.22
9/2/2017-14:00	32.39	32.31	32.24	34.39	34.05	34.98	32.13
9/2/2017-15:00	32.32	32.24	32.16	34.29	33.92	34.9	32.05
9/2/2017-16:00	32.26	32.17	32.1	34.19	33.83	34.84	31.98
9/2/2017-17:00	32.21	32.13	32.06	34.11	33.77	34.8	31.94
9/2/2017-18:00	32.18	32.1	32.03	34.05	33.75	34.8	31.92
9/2/2017-19:00	32.17	32.09	32.03	34.02	33.76	34.81	31.92
9/2/2017-20:00	32.17	32.11	32.05	34	33.81	34.85	31.95
9/2/2017-21:00	32.2	32.14	32.09	34.02	33.89	34.91	31.99
9/2/2017-22:00	32.23	32.18	32.14	34.05	33.99	34.99	32.04
9/2/2017-23:00	32.27	32.23	32.19	34.1	34.1	35.07	32.11

9/3/2017-0:00	32.32	32.28	32.26	34.16	34.22	35.14	32.17
9/3/2017-1:00	32.37	32.34	32.31	34.23	34.34	35.22	32.23
9/3/2017-2:00	32.41	32.38	32.36	34.3	34.43	35.28	32.29
9/3/2017-3:00	32.44	32.42	32.4	34.36	34.51	35.32	32.33
9/3/2017-4:00	32.46	32.44	32.43	34.42	34.56	35.34	32.35
9/3/2017-5:00	32.48	32.45	32.43	34.46	34.58	35.34	32.36
9/3/2017-6:00	32.47	32.45	32.42	34.48	34.57	35.32	32.34
9/3/2017-7:00	32.45	32.42	32.4	34.48	34.53	35.28	32.31
9/3/2017-8:00	32.42	32.38	32.35	34.46	34.46	35.21	32.26
9/3/2017-9:00	32.36	32.32	32.28	34.41	34.35	35.12	32.19
9/3/2017-10:00	32.3	32.25	32.21	34.35	34.23	35.02	32.11
9/3/2017-11:00	32.23	32.17	32.11	34.27	34.08	34.91	32.01
9/3/2017-12:00	32.14	32.08	32.02	34.17	33.92	34.79	31.91
9/3/2017-13:00	32.06	31.98	31.92	34.06	33.76	34.68	31.81
9/3/2017-14:00	31.97	31.89	31.82	33.95	33.61	34.57	31.71
9/3/2017-15:00	31.89	31.81	31.73	33.84	33.47	34.47	31.62
9/3/2017-16:00	31.82	31.73	31.66	33.73	33.36	34.39	31.54
9/3/2017-17:00	31.76	31.67	31.59	33.64	33.27	34.33	31.48
9/3/2017-18:00	31.71	31.62	31.55	33.56	33.21	34.3	31.44
9/3/2017-19:00	31.68	31.6	31.53	33.5	33.18	34.29	31.42
9/3/2017-20:00	31.66	31.58	31.52	33.47	33.19	34.3	31.42
9/3/2017-21:00	31.66	31.59	31.53	33.45	33.23	34.33	31.43
9/3/2017-22:00	31.67	31.61	31.56	33.45	33.29	34.37	31.46
9/3/2017-23:00	31.7	31.64	31.59	33.47	33.37	34.42	31.5
9/4/2017-0:00	31.72	31.67	31.63	33.51	33.45	34.48	31.54
9/4/2017-1:00	31.75	31.7	31.66	33.54	33.53	34.53	31.58
9/4/2017-2:00	31.77	31.73	31.69	33.58	33.6	34.56	31.61
9/4/2017-3:00	31.79	31.74	31.71	33.62	33.65	34.59	31.63
9/4/2017-4:00	31.79	31.75	31.72	33.65	33.67	34.59	31.64
9/4/2017-5:00	31.79	31.74	31.71	33.66	33.67	34.57	31.63
9/4/2017-6:00	31.77	31.72	31.68	33.66	33.64	34.54	31.6
9/4/2017-7:00	31.73	31.68	31.64	33.64	33.58	34.48	31.55
9/4/2017-8:00	31.68	31.63	31.58	33.6	33.49	34.4	31.49
9/4/2017-9:00	31.62	31.56	31.51	33.54	33.38	34.3	31.41
9/4/2017-10:00	31.55	31.48	31.42	33.46	33.24	34.19	31.32
9/4/2017-11:00	31.46	31.39	31.32	33.37	33.09	34.08	31.22
9/4/2017-12:00	31.38	31.3	31.22	33.26	32.94	33.96	31.12
9/4/2017-13:00	31.29	31.2	31.13	33.15	32.79	33.86	31.02
9/4/2017-14:00	31.22	31.12	31.04	33.04	32.66	33.77	30.94
9/4/2017-15:00	31.15	31.05	30.97	32.95	32.56	33.7	30.86
9/4/2017-16:00	31.09	31	30.92	32.86	32.48	33.65	30.81
9/4/2017-17:00	31.06	30.97	30.89	32.8	32.45	33.63	30.79
9/4/2017-18:00	31.04	30.96	30.89	32.76	32.46	33.65	30.79
9/4/2017-19:00	31.05	30.97	30.91	32.74	32.51	33.69	30.81
9/4/2017-20:00	31.07	31	30.95	32.76	32.6	33.76	30.86
9/4/2017-21:00	31.11	31.06	31.01	32.8	32.73	33.86	30.93
9/4/2017-22:00	31.17	31.12	31.09	32.87	32.88	33.96	31.01
9/4/2017-23:00	31.24	31.2	31.18	32.96	33.04	34.08	31.11
9/5/2017-0:00	31.31	31.29	31.27	33.06	33.21	34.19	31.2
9/5/2017-1:00	31.39	31.37	31.36	33.17	33.38	34.3	31.3
9/5/2017-2:00	31.46	31.45	31.44	33.28	33.53	34.4	31.38
9/5/2017-3:00	31.52	31.52	31.51	33.38	33.65	34.47	31.46
9/5/2017-4:00	31.57	31.57	31.57	33.48	33.76	34.53	31.51



9/5/2017-5:00	31.61	31.61	31.61	33.56	33.82	34.57	31.55
9/5/2017-6:00	31.64	31.63	31.63	33.62	33.86	34.58	31.57
9/5/2017-7:00	31.65	31.64	31.63	33.66	33.86	34.57	31.57
9/5/2017-8:00	31.64	31.63	31.62	33.68	33.84	34.54	31.55
9/5/2017-9:00	31.62	31.6	31.58	33.68	33.78	34.49	31.51
9/5/2017-10:00	31.59	31.56	31.54	33.66	33.7	34.42	31.46
9/5/2017-11:00	31.55	31.51	31.48	33.62	33.6	34.35	31.4
9/5/2017-12:00	31.5	31.46	31.42	33.57	33.5	34.27	31.34
9/5/2017-13:00	31.45	31.41	31.37	33.51	33.4	34.2	31.28
9/5/2017-14:00	31.41	31.36	31.32	33.46	33.32	34.15	31.23
9/5/2017-15:00	31.38	31.33	31.28	33.41	33.26	34.11	31.19
9/5/2017-16:00	31.36	31.31	31.27	33.37	33.23	34.1	31.18
9/5/2017-17:00	31.35	31.31	31.27	33.35	33.23	34.12	31.18
9/5/2017-18:00	31.37	31.33	31.3	33.35	33.28	34.16	31.21
9/5/2017-19:00	31.41	31.37	31.35	33.38	33.37	34.24	31.26
9/5/2017-20:00	31.46	31.44	31.42	33.43	33.5	34.34	31.34
9/5/2017-21:00	31.54	31.52	31.51	33.51	33.66	34.46	31.44
9/5/2017-22:00	31.62	31.62	31.62	33.62	33.84	34.6	31.55
9/5/2017-23:00	31.72	31.73	31.74	33.74	34.04	34.74	31.68
9/6/2017-0:00	31.82	31.84	31.86	33.88	34.24	34.89	31.8
9/6/2017-1:00	31.92	31.95	31.97	34.02	34.43	35.02	31.92
9/6/2017-2:00	32.02	32.05	32.08	34.16	34.61	35.14	32.02
9/6/2017-3:00	32.11	32.14	32.17	34.29	34.76	35.23	32.12
9/6/2017-4:00	32.18	32.22	32.25	34.42	34.88	35.31	32.19
9/6/2017-5:00	32.24	32.27	32.3	34.52	34.96	35.35	32.24
9/6/2017-6:00	32.28	32.31	32.34	34.6	35.01	35.38	32.28
9/6/2017-7:00	32.3	32.33	32.35	34.66	35.01	35.37	32.28
9/6/2017-8:00	32.31	32.33	32.34	34.69	34.99	35.34	32.27
9/6/2017-9:00	32.3	32.31	32.32	34.7	34.93	35.3	32.24
9/6/2017-10:00	32.27	32.28	32.27	34.69	34.84	35.23	32.19
9/6/2017-11:00	32.23	32.23	32.22	34.65	34.74	35.16	32.14
9/6/2017-12:00	32.19	32.18	32.17	34.6	34.63	35.08	32.07
9/6/2017-13:00	32.15	32.13	32.11	34.55	34.52	35.01	32.01
9/6/2017-14:00	32.11	32.09	32.06	34.49	34.43	34.95	31.96
9/6/2017-15:00	32.08	32.05	32.03	34.43	34.36	34.91	31.93
9/6/2017-16:00	32.06	32.04	32.01	34.39	34.32	34.9	31.91
9/6/2017-17:00	32.06	32.04	32.01	34.37	34.33	34.92	31.92
9/6/2017-18:00	32.08	32.06	32.04	34.37	34.37	34.97	31.95
9/6/2017-19:00	32.12	32.11	32.1	34.4	34.45	35.04	32
9/6/2017-20:00	32.18	32.18	32.17	34.45	34.58	35.14	32.09
9/6/2017-21:00	32.26	32.26	32.27	34.53	34.74	35.27	32.19
9/6/2017-22:00	32.35	32.37	32.38	34.64	34.92	35.41	32.3
9/6/2017-23:00	32.45	32.48	32.5	34.76	35.13	35.56	32.43
9/7/2017-0:00	32.56	32.6	32.63	34.9	35.33	35.71	32.56
9/7/2017-1:00	32.67	32.72	32.75	35.05	35.53	35.85	32.69
9/7/2017-2:00	32.77	32.83	32.87	35.2	35.72	35.98	32.8
9/7/2017-3:00	32.87	32.92	32.97	35.34	35.88	36.09	32.91
9/7/2017-4:00	32.95	33.01	33.05	35.47	36.01	36.17	32.99
9/7/2017-5:00	33.02	33.08	33.12	35.58	36.11	36.23	33.06
9/7/2017-6:00	33.07	33.13	33.17	35.67	36.17	36.27	33.1
9/7/2017-7:00	33.11	33.16	33.19	35.75	36.19	36.28	33.12
9/7/2017-8:00	33.12	33.17	33.2	35.79	36.18	36.27	33.12
9/7/2017-9:00	33.12	33.16	33.19	35.81	36.14	36.23	33.1

9/7/2017-10:00	33.11	33.14	33.16	35.81	36.07	36.18	33.07
9/7/2017-11:00	33.08	33.11	33.12	35.79	35.98	36.12	33.02
9/7/2017-12:00	33.05	33.06	33.07	35.75	35.88	36.05	32.97
9/7/2017-13:00	33.01	33.02	33.01	35.7	35.77	35.97	32.91
9/7/2017-14:00	32.97	32.97	32.96	35.64	35.66	35.91	32.85
9/7/2017-15:00	32.93	32.92	32.91	35.58	35.56	35.84	32.8
9/7/2017-16:00	32.89	32.88	32.86	35.52	35.47	35.79	32.75
9/7/2017-17:00	32.86	32.84	32.82	35.46	35.4	35.75	32.71
9/7/2017-18:00	32.83	32.81	32.79	35.41	35.34	35.71	32.67
9/7/2017-19:00	32.8	32.78	32.76	35.36	35.29	35.69	32.65
9/7/2017-20:00	32.78	32.77	32.74	35.32	35.26	35.67	32.63
9/7/2017-21:00	32.77	32.75	32.73	35.29	35.24	35.66	32.62
9/7/2017-22:00	32.76	32.74	32.72	35.26	35.22	35.65	32.6
9/7/2017-23:00	32.74	32.72	32.7	35.24	35.2	35.64	32.59
9/8/2017-0:00	32.73	32.71	32.69	35.21	35.18	35.63	32.58
9/8/2017-1:00	32.71	32.69	32.67	35.19	35.16	35.6	32.56
9/8/2017-2:00	32.69	32.67	32.64	35.16	35.12	35.57	32.53
9/8/2017-3:00	32.66	32.63	32.61	35.12	35.07	35.53	32.49
9/8/2017-4:00	32.62	32.59	32.56	35.08	35	35.48	32.45
9/8/2017-5:00	32.57	32.54	32.51	35.02	34.91	35.41	32.39
9/8/2017-6:00	32.52	32.48	32.44	34.95	34.81	35.33	32.32
9/8/2017-7:00	32.45	32.4	32.36	34.87	34.69	35.24	32.24
9/8/2017-8:00	32.37	32.32	32.27	34.78	34.55	35.13	32.15
9/8/2017-9:00	32.29	32.23	32.17	34.67	34.4	35.01	32.05
9/8/2017-10:00	32.19	32.13	32.07	34.55	34.23	34.89	31.94
9/8/2017-11:00	32.09	32.02	31.95	34.42	34.05	34.75	31.82
9/8/2017-12:00	31.98	31.9	31.83	34.28	33.87	34.62	31.7
9/8/2017-13:00	31.87	31.79	31.71	34.13	33.68	34.48	31.57
9/8/2017-14:00	31.76	31.67	31.59	33.98	33.5	34.35	31.45
9/8/2017-15:00	31.66	31.56	31.48	33.83	33.33	34.23	31.34
9/8/2017-16:00	31.56	31.46	31.37	33.69	33.18	34.12	31.24
9/8/2017-17:00	31.47	31.37	31.28	33.56	33.06	34.04	31.15
9/8/2017-18:00	31.4	31.3	31.21	33.45	32.97	33.97	31.08
9/8/2017-19:00	31.35	31.25	31.16	33.35	32.91	33.94	31.04
9/8/2017-20:00	31.3	31.21	31.13	33.28	32.88	33.92	31.01
9/8/2017-21:00	31.28	31.19	31.12	33.23	32.89	33.93	31
9/8/2017-22:00	31.27	31.19	31.12	33.2	32.92	33.95	31.01
9/8/2017-23:00	31.26	31.19	31.13	33.19	32.96	33.98	31.02
9/9/2017-0:00	31.27	31.2	31.14	33.18	33.01	34.01	31.04
9/9/2017-1:00	31.27	31.2	31.16	33.19	33.06	34.03	31.06
9/9/2017-2:00	31.27	31.21	31.16	33.2	33.1	34.04	31.07
9/9/2017-3:00	31.26	31.2	31.16	33.2	33.11	34.04	31.06
9/9/2017-4:00	31.24	31.19	31.14	33.2	33.11	34.02	31.05
9/9/2017-5:00	31.22	31.16	31.11	33.18	33.08	33.98	31.02
9/9/2017-6:00	31.18	31.11	31.07	33.15	33.02	33.92	30.97
9/9/2017-7:00	31.12	31.06	31.01	33.1	32.94	33.85	30.91
9/9/2017-8:00	31.06	30.99	30.93	33.04	32.82	33.75	30.83
9/9/2017-9:00	30.98	30.9	30.84	32.95	32.69	33.64	30.73
9/9/2017-10:00	30.88	30.8	30.73	32.85	32.53	33.51	30.62
9/9/2017-11:00	30.78	30.69	30.62	32.73	32.35	33.38	30.51
9/9/2017-12:00	30.67	30.58	30.49	32.6	32.17	33.24	30.38
9/9/2017-13:00	30.56	30.46	30.37	32.46	31.98	33.1	30.26
9/9/2017-14:00	30.45	30.34	30.25	32.32	31.8	32.97	30.14

9/9/2017-15:00	30.35	30.23	30.14	32.18	31.64	32.85	30.02
9/9/2017-16:00	30.25	30.13	30.04	32.04	31.49	32.74	29.92
9/9/2017-17:00	30.16	30.05	29.95	31.91	31.37	32.66	29.84
9/9/2017-18:00	30.09	29.97	29.88	31.8	31.28	32.59	29.77
9/9/2017-19:00	30.03	29.91	29.82	31.71	31.21	32.55	29.72
9/9/2017-20:00	29.98	29.87	29.78	31.63	31.18	32.52	29.68
9/9/2017-21:00	29.94	29.84	29.76	31.58	31.17	32.51	29.66
9/9/2017-22:00	29.92	29.82	29.74	31.53	31.17	32.51	29.65
9/9/2017-23:00	29.9	29.8	29.73	31.51	31.19	32.51	29.64
9/10/2017-0:00	29.88	29.79	29.72	31.49	31.21	32.51	29.64
9/10/2017-1:00	29.87	29.78	29.72	31.47	31.23	32.51	29.63
9/10/2017-2:00	29.85	29.76	29.7	31.46	31.23	32.51	29.62
9/10/2017-3:00	29.82	29.74	29.68	31.44	31.23	32.48	29.6
9/10/2017-4:00	29.79	29.71	29.65	31.42	31.2	32.45	29.57
9/10/2017-5:00	29.75	29.67	29.61	31.39	31.16	32.4	29.53
9/10/2017-6:00	29.7	29.61	29.55	31.34	31.09	32.33	29.47
9/10/2017-7:00	29.64	29.55	29.48	31.28	31	32.25	29.4
9/10/2017-8:00	29.56	29.47	29.4	31.21	30.89	32.16	29.32
9/10/2017-9:00	29.48	29.38	29.3	31.12	30.76	32.05	29.22
9/10/2017-10:00	29.39	29.28	29.2	31.02	30.61	31.93	29.11
9/10/2017-11:00	29.29	29.18	29.09	30.9	30.45	31.8	29
9/10/2017-12:00	29.18	29.07	28.98	30.78	30.28	31.67	28.88
9/10/2017-13:00	29.08	28.96	28.86	30.65	30.12	31.54	28.77
9/10/2017-14:00	28.98	28.85	28.75	30.52	29.96	31.42	28.66
9/10/2017-15:00	28.88	28.75	28.65	30.39	29.81	31.32	28.55
9/10/2017-16:00	28.79	28.66	28.56	30.27	29.69	31.22	28.46
9/10/2017-17:00	28.71	28.58	28.48	30.16	29.59	31.15	28.39
9/10/2017-18:00	28.64	28.51	28.41	30.06	29.51	31.09	28.32
9/10/2017-19:00	28.58	28.46	28.36	29.97	29.46	31.05	28.27
9/10/2017-20:00	28.54	28.41	28.32	29.91	29.43	31.02	28.24
9/10/2017-21:00	28.5	28.38	28.29	29.85	29.41	31	28.21
9/10/2017-22:00	28.47	28.35	28.27	29.81	29.41	30.99	28.19
9/10/2017-23:00	28.44	28.33	28.24	29.78	29.41	30.98	28.17
9/11/2017-0:00	28.41	28.3	28.22	29.75	29.41	30.96	28.15
9/11/2017-1:00	28.38	28.27	28.19	29.72	29.4	30.94	28.12
9/11/2017-2:00	28.34	28.24	28.16	29.69	29.38	30.91	28.09
9/11/2017-3:00	28.3	28.19	28.12	29.65	29.34	30.86	28.05
9/11/2017-4:00	28.25	28.14	28.06	29.61	29.28	30.8	27.99
9/11/2017-5:00	28.19	28.08	27.99	29.55	29.2	30.72	27.92
9/11/2017-6:00	28.11	28	27.92	29.48	29.1	30.63	27.84
9/11/2017-7:00	28.03	27.91	27.82	29.4	28.98	30.53	27.75
9/11/2017-8:00	27.94	27.82	27.72	29.3	28.84	30.41	27.65
9/11/2017-9:00	27.84	27.71	27.61	29.18	28.68	30.28	27.53
9/11/2017-10:00	27.73	27.59	27.49	29.06	28.5	30.14	27.4
9/11/2017-11:00	27.61	27.47	27.36	28.92	28.32	29.99	27.27
9/11/2017-12:00	27.49	27.34	27.23	28.78	28.14	29.85	27.14
9/11/2017-13:00	27.37	27.22	27.1	28.63	27.96	29.71	27.02
9/11/2017-14:00	27.26	27.11	26.98	28.48	27.8	29.59	26.9
9/11/2017-15:00	27.16	27	26.88	28.34	27.66	29.48	26.79
9/11/2017-16:00	27.07	26.91	26.79	28.22	27.55	29.4	26.7
9/11/2017-17:00	26.99	26.83	26.71	28.11	27.46	29.33	26.63
9/11/2017-18:00	26.93	26.78	26.66	28.02	27.41	29.3	26.58
9/11/2017-19:00	26.88	26.74	26.63	27.96	27.4	29.28	26.56

9/11/2017-20:00	26.86	26.72	26.62	27.91	27.42	29.29	26.55
9/11/2017-21:00	26.85	26.72	26.62	27.89	27.47	29.32	26.56
9/11/2017-22:00	26.85	26.73	26.64	27.89	27.54	29.36	26.58
9/11/2017-23:00	26.86	26.74	26.66	27.91	27.62	29.4	26.61
9/12/2017-0:00	26.87	26.77	26.69	27.94	27.7	29.45	26.64
9/12/2017-1:00	26.89	26.79	26.72	27.97	27.78	29.49	26.67
9/12/2017-2:00	26.9	26.8	26.74	28.01	27.85	29.52	26.69
9/12/2017-3:00	26.9	26.81	26.75	28.04	27.9	29.53	26.71
9/12/2017-4:00	26.9	26.81	26.75	28.07	27.93	29.53	26.71
9/12/2017-5:00	26.89	26.8	26.74	28.08	27.94	29.52	26.69
9/12/2017-6:00	26.86	26.77	26.71	28.08	27.92	29.48	26.66
9/12/2017-7:00	26.82	26.73	26.66	28.06	27.87	29.42	26.62
9/12/2017-8:00	26.77	26.68	26.61	28.03	27.79	29.35	26.56
9/12/2017-9:00	26.71	26.61	26.54	27.98	27.7	29.27	26.48
9/12/2017-10:00	26.64	26.54	26.45	27.91	27.58	29.17	26.4
9/12/2017-11:00	26.56	26.45	26.36	27.83	27.45	29.06	26.3
9/12/2017-12:00	26.48	26.36	26.27	27.74	27.32	28.95	26.21
9/12/2017-13:00	26.4	26.27	26.18	27.64	27.19	28.85	26.11
9/12/2017-14:00	26.32	26.19	26.09	27.54	27.07	28.76	26.03
9/12/2017-15:00	26.25	26.12	26.02	27.45	26.97	28.69	25.95
9/12/2017-16:00	26.19	26.06	25.96	27.37	26.9	28.63	25.9
9/12/2017-17:00	26.15	26.02	25.93	27.31	26.86	28.61	25.86
9/12/2017-18:00	26.12	26	25.91	27.27	26.86	28.61	25.85
9/12/2017-19:00	26.11	26	25.91	27.25	26.9	28.64	25.86
9/12/2017-20:00	26.12	26.02	25.94	27.25	26.97	28.69	25.89
9/12/2017-21:00	26.15	26.05	25.98	27.28	27.07	28.75	25.93
9/12/2017-22:00	26.19	26.1	26.04	27.33	27.18	28.83	25.99
9/12/2017-23:00	26.23	26.15	26.1	27.39	27.31	28.92	26.06
9/13/2017-0:00	26.28	26.21	26.16	27.47	27.44	29	26.12
9/13/2017-1:00	26.33	26.26	26.22	27.55	27.57	29.07	26.19
9/13/2017-2:00	26.37	26.31	26.27	27.62	27.67	29.13	26.24
9/13/2017-3:00	26.4	26.34	26.31	27.7	27.76	29.17	26.27
9/13/2017-4:00	26.42	26.37	26.33	27.75	27.81	29.19	26.3
9/13/2017-5:00	26.43	26.37	26.33	27.8	27.83	29.18	26.3
9/13/2017-6:00	26.42	26.36	26.32	27.82	27.82	29.16	26.28
9/13/2017-7:00	26.4	26.33	26.29	27.82	27.78	29.11	26.24
9/13/2017-8:00	26.36	26.29	26.23	27.8	27.71	29.04	26.19
9/13/2017-9:00	26.3	26.23	26.17	27.76	27.6	28.95	26.12
9/13/2017-10:00	26.24	26.15	26.08	27.7	27.48	28.84	26.03
9/13/2017-11:00	26.16	26.07	25.99	27.62	27.34	28.73	25.93
9/13/2017-12:00	26.08	25.98	25.9	27.53	27.19	28.62	25.83
9/13/2017-13:00	26	25.89	25.81	27.43	27.05	28.51	25.74
9/13/2017-14:00	25.92	25.81	25.72	27.33	26.92	28.42	25.65
9/13/2017-15:00	25.85	25.74	25.65	27.24	26.82	28.34	25.58
9/13/2017-16:00	25.79	25.68	25.59	27.16	26.74	28.29	25.52
9/13/2017-17:00	25.75	25.64	25.55	27.09	26.7	28.26	25.48
9/13/2017-18:00	25.73	25.62	25.54	27.05	26.69	28.26	25.47
9/13/2017-19:00	25.72	25.62	25.54	27.03	26.72	28.29	25.48
9/13/2017-20:00	25.73	25.64	25.57	27.03	26.79	28.34	25.51
9/13/2017-21:00	25.76	25.67	25.61	27.06	26.88	28.4	25.56
9/13/2017-22:00	25.8	25.72	25.67	27.11	27	28.48	25.62
9/13/2017-23:00	25.85	25.78	25.73	27.17	27.13	28.57	25.69
9/14/2017-0:00	25.9	25.84	25.8	27.24	27.26	28.65	25.76

9/14/2017-1:00	25.95	25.89	25.86	27.32	27.38	28.72	25.82
9/14/2017-2:00	25.99	25.94	25.91	27.4	27.48	28.78	25.87
9/14/2017-3:00	26.02	25.97	25.94	27.47	27.56	28.82	25.91
9/14/2017-4:00	26.04	25.99	25.96	27.52	27.61	28.83	25.92
9/14/2017-5:00	26.04	26	25.96	27.56	27.62	28.82	25.92
9/14/2017-6:00	26.03	25.98	25.94	27.58	27.6	28.78	25.9
9/14/2017-7:00	26	25.94	25.9	27.57	27.54	28.72	25.85
9/14/2017-8:00	25.95	25.89	25.84	27.54	27.44	28.64	25.78
9/14/2017-9:00	25.89	25.82	25.76	27.48	27.32	28.53	25.7
9/14/2017-10:00	25.81	25.73	25.66	27.41	27.17	28.41	25.6
9/14/2017-11:00	25.73	25.63	25.56	27.31	27.01	28.29	25.49
9/14/2017-12:00	25.63	25.53	25.45	27.2	26.84	28.16	25.38
9/14/2017-13:00	25.54	25.44	25.35	27.09	26.68	28.04	25.28
9/14/2017-14:00	25.46	25.35	25.26	26.98	26.54	27.94	25.18
9/14/2017-15:00	25.38	25.27	25.18	26.87	26.43	27.86	25.1
9/14/2017-16:00	25.32	25.21	25.12	26.78	26.35	27.81	25.05
9/14/2017-17:00	25.28	25.17	25.09	26.71	26.32	27.79	25.02
9/14/2017-18:00	25.27	25.16	25.08	26.67	26.33	27.81	25.02
9/14/2017-19:00	25.27	25.18	25.11	26.66	26.39	27.86	25.05
9/14/2017-20:00	25.3	25.21	25.15	26.68	26.49	27.93	25.1
9/14/2017-21:00	25.35	25.27	25.22	26.73	26.63	28.04	25.18
9/14/2017-22:00	25.41	25.35	25.31	26.81	26.8	28.15	25.27
9/14/2017-23:00	25.48	25.44	25.41	26.91	26.98	28.28	25.37
9/15/2017-0:00	25.56	25.53	25.5	27.02	27.17	28.4	25.48
9/15/2017-1:00	25.64	25.61	25.6	27.14	27.35	28.52	25.58
9/15/2017-2:00	25.72	25.7	25.69	27.26	27.51	28.62	25.67
9/15/2017-3:00	25.78	25.77	25.76	27.37	27.64	28.7	25.74
9/15/2017-4:00	25.84	25.82	25.82	27.47	27.74	28.75	25.8
9/15/2017-5:00	25.87	25.86	25.85	27.56	27.81	28.78	25.83
9/15/2017-6:00	25.9	25.88	25.87	27.62	27.84	28.79	25.84
9/15/2017-7:00	25.9	25.88	25.87	27.66	27.84	28.77	25.84
9/15/2017-8:00	25.89	25.86	25.85	27.68	27.8	28.73	25.81
9/15/2017-9:00	25.86	25.83	25.8	27.67	27.73	28.67	25.76
9/15/2017-10:00	25.82	25.78	25.75	27.65	27.64	28.59	25.7
9/15/2017-11:00	25.77	25.72	25.68	27.6	27.52	28.5	25.63
9/15/2017-12:00	25.71	25.66	25.61	27.54	27.4	28.41	25.55
9/15/2017-13:00	25.65	25.59	25.54	27.46	27.28	28.32	25.48
9/15/2017-14:00	25.59	25.53	25.47	27.39	27.17	28.24	25.41
9/15/2017-15:00	25.54	25.47	25.41	27.32	27.08	28.19	25.35
9/15/2017-16:00	25.51	25.43	25.38	27.26	27.02	28.15	25.31
9/15/2017-17:00	25.48	25.41	25.36	27.21	26.99	28.14	25.29
9/15/2017-18:00	25.48	25.41	25.36	27.19	27	28.15	25.29
9/15/2017-19:00	25.49	25.43	25.38	27.19	27.05	28.19	25.32
9/15/2017-20:00	25.52	25.46	25.42	27.21	27.14	28.26	25.37
9/15/2017-21:00	25.57	25.52	25.49	27.26	27.25	28.35	25.43
9/15/2017-22:00	25.62	25.59	25.56	27.32	27.39	28.45	25.51
9/15/2017-23:00	25.69	25.66	25.65	27.41	27.54	28.56	25.6
9/16/2017-0:00	25.77	25.75	25.73	27.51	27.7	28.66	25.69
9/16/2017-1:00	25.84	25.82	25.82	27.61	27.85	28.76	25.78
9/16/2017-2:00	25.91	25.9	25.9	27.72	27.98	28.85	25.86
9/16/2017-3:00	25.97	25.96	25.96	27.82	28.1	28.92	25.93
9/16/2017-4:00	26.02	26.01	26.02	27.9	28.19	28.97	25.98
9/16/2017-5:00	26.06	26.05	26.05	27.98	28.25	29	26.01

9/16/2017-6:00	26.08	26.07	26.07	28.04	28.28	29.01	26.02
9/16/2017-7:00	26.09	26.08	26.07	28.07	28.27	28.99	26.02
9/16/2017-8:00	26.08	26.06	26.05	28.09	28.24	28.96	26
9/16/2017-9:00	26.05	26.03	26.01	28.08	28.17	28.9	25.96
9/16/2017-10:00	26.02	25.99	25.96	28.06	28.09	28.83	25.9
9/16/2017-11:00	25.97	25.94	25.9	28.01	27.98	28.75	25.83
9/16/2017-12:00	25.92	25.88	25.84	27.95	27.87	28.67	25.76
9/16/2017-13:00	25.87	25.82	25.77	27.89	27.76	28.59	25.7
9/16/2017-14:00	25.82	25.76	25.71	27.82	27.66	28.52	25.63
9/16/2017-15:00	25.77	25.72	25.67	27.76	27.58	28.47	25.59
9/16/2017-16:00	25.74	25.68	25.63	27.7	27.53	28.44	25.55
9/16/2017-17:00	25.73	25.67	25.62	27.66	27.51	28.44	25.54
9/16/2017-18:00	25.73	25.67	25.63	27.65	27.53	28.46	25.55
9/16/2017-19:00	25.75	25.7	25.66	27.65	27.58	28.51	25.59
9/16/2017-20:00	25.78	25.74	25.71	27.68	27.68	28.59	25.64
9/16/2017-21:00	25.84	25.8	25.78	27.74	27.8	28.68	25.71
9/16/2017-22:00	25.9	25.88	25.86	27.81	27.94	28.79	25.8
9/16/2017-23:00	25.97	25.96	25.95	27.9	28.1	28.9	25.89
9/17/2017-0:00	26.05	26.04	26.04	28	28.25	29.01	25.99
9/17/2017-1:00	26.13	26.13	26.13	28.11	28.4	29.11	26.08
9/17/2017-2:00	26.2	26.2	26.21	28.22	28.54	29.2	26.16
9/17/2017-3:00	26.26	26.27	26.28	28.32	28.65	29.27	26.22
9/17/2017-4:00	26.31	26.32	26.33	28.41	28.74	29.32	26.27
9/17/2017-5:00	26.35	26.36	26.36	28.48	28.79	29.35	26.31
9/17/2017-6:00	26.37	26.38	26.38	28.53	28.82	29.35	26.32
9/17/2017-7:00	26.38	26.38	26.38	28.57	28.81	29.33	26.31
9/17/2017-8:00	26.37	26.37	26.36	28.58	28.77	29.29	26.29
9/17/2017-9:00	26.35	26.33	26.32	28.57	28.7	29.24	26.25
9/17/2017-10:00	26.31	26.29	26.27	28.54	28.6	29.16	26.19
9/17/2017-11:00	26.26	26.23	26.2	28.49	28.49	29.08	26.12
9/17/2017-12:00	26.21	26.17	26.14	28.43	28.37	28.99	26.05
9/17/2017-13:00	26.15	26.11	26.07	28.36	28.25	28.91	25.98
9/17/2017-14:00	26.1	26.05	26.01	28.28	28.14	28.84	25.91
9/17/2017-15:00	26.06	26	25.96	28.21	28.06	28.79	25.86
9/17/2017-16:00	26.03	25.97	25.93	28.16	28	28.76	25.83
9/17/2017-17:00	26.01	25.96	25.92	28.12	27.99	28.76	25.82
9/17/2017-18:00	26.01	25.97	25.93	28.1	28.01	28.79	25.84
9/17/2017-19:00	26.04	26	25.97	28.11	28.07	28.85	25.88
9/17/2017-20:00	26.08	26.05	26.02	28.15	28.18	28.93	25.94
9/17/2017-21:00	26.14	26.12	26.1	28.21	28.31	29.04	26.02
9/17/2017-22:00	26.22	26.2	26.19	28.29	28.47	29.16	26.12
9/17/2017-23:00	26.3	26.3	26.29	28.39	28.65	29.28	26.22
9/18/2017-0:00	26.39	26.39	26.4	28.51	28.82	29.41	26.33
9/18/2017-1:00	26.47	26.48	26.49	28.63	28.99	29.52	26.43
9/18/2017-2:00	26.55	26.57	26.58	28.74	29.14	29.62	26.52
9/18/2017-3:00	26.62	26.64	26.66	28.86	29.26	29.7	26.6
9/18/2017-4:00	26.68	26.7	26.72	28.95	29.36	29.76	26.66
9/18/2017-5:00	26.72	26.74	26.76	29.04	29.42	29.79	26.7
9/18/2017-6:00	26.75	26.77	26.78	29.1	29.45	29.8	26.71
9/18/2017-7:00	26.76	26.78	26.78	29.14	29.44	29.79	26.71
9/18/2017-8:00	26.76	26.76	26.77	29.16	29.4	29.75	26.69
9/18/2017-9:00	26.73	26.73	26.73	29.15	29.33	29.69	26.65
9/18/2017-10:00	26.69	26.69	26.67	29.12	29.23	29.61	26.59

9/18/2017-11:00	26.64	26.63	26.61	29.07	29.1	29.52	26.51
9/18/2017-12:00	26.58	26.56	26.53	29	28.96	29.42	26.43
9/18/2017-13:00	26.52	26.48	26.45	28.92	28.82	29.32	26.35
9/18/2017-14:00	26.46	26.41	26.37	28.83	28.69	29.23	26.27
9/18/2017-15:00	26.4	26.35	26.31	28.74	28.58	29.16	26.2
9/18/2017-16:00	26.35	26.3	26.26	28.67	28.49	29.11	26.15
9/18/2017-17:00	26.32	26.27	26.22	28.6	28.43	29.08	26.12
9/18/2017-18:00	26.3	26.25	26.21	28.56	28.41	29.08	26.11
9/18/2017-19:00	26.3	26.26	26.22	28.54	28.44	29.11	26.12
9/18/2017-20:00	26.32	26.29	26.26	28.54	28.5	29.17	26.16
9/18/2017-21:00	26.36	26.33	26.31	28.57	28.59	29.24	26.22
9/18/2017-22:00	26.41	26.39	26.38	28.62	28.71	29.34	26.29
9/18/2017-23:00	26.47	26.46	26.45	28.69	28.84	29.43	26.37
9/19/2017-0:00	26.54	26.53	26.53	28.77	28.98	29.53	26.45
9/19/2017-1:00	26.6	26.6	26.61	28.85	29.11	29.62	26.53
9/19/2017-2:00	26.66	26.67	26.67	28.94	29.23	29.7	26.6
9/19/2017-3:00	26.71	26.72	26.73	29.02	29.33	29.76	26.66
9/19/2017-4:00	26.75	26.76	26.77	29.09	29.39	29.8	26.7
9/19/2017-5:00	26.78	26.79	26.79	29.15	29.43	29.81	26.72
9/19/2017-6:00	26.79	26.79	26.8	29.19	29.44	29.81	26.72
9/19/2017-7:00	26.78	26.78	26.79	29.2	29.41	29.77	26.71
9/19/2017-8:00	26.76	26.76	26.75	29.2	29.35	29.72	26.67
9/19/2017-9:00	26.72	26.71	26.7	29.17	29.26	29.65	26.61
9/19/2017-10:00	26.67	26.65	26.63	29.12	29.14	29.56	26.54
9/19/2017-11:00	26.61	26.58	26.55	29.05	29	29.46	26.46
9/19/2017-12:00	26.54	26.5	26.47	28.97	28.85	29.35	26.37
9/19/2017-13:00	26.47	26.42	26.38	28.87	28.7	29.25	26.28
9/19/2017-14:00	26.39	26.34	26.3	28.77	28.57	29.15	26.19
9/19/2017-15:00	26.33	26.28	26.23	28.68	28.44	29.07	26.12
9/19/2017-16:00	26.27	26.22	26.17	28.59	28.35	29.01	26.06
9/19/2017-17:00	26.23	26.18	26.13	28.51	28.28	28.98	26.02
9/19/2017-18:00	26.21	26.15	26.11	28.46	28.25	28.97	26
9/19/2017-19:00	26.19	26.14	26.1	28.42	28.25	28.98	26
9/19/2017-20:00	26.2	26.15	26.11	28.4	28.28	29.01	26.01
9/19/2017-21:00	26.21	26.17	26.14	28.4	28.34	29.05	26.05
9/19/2017-22:00	26.24	26.2	26.18	28.42	28.41	29.1	26.08
9/19/2017-23:00	26.27	26.24	26.22	28.46	28.49	29.16	26.13
9/20/2017-0:00	26.3	26.27	26.26	28.49	28.57	29.21	26.17
9/20/2017-1:00	26.32	26.3	26.29	28.53	28.63	29.25	26.21
9/20/2017-2:00	26.34	26.33	26.31	28.57	28.68	29.28	26.23
9/20/2017-3:00	26.36	26.34	26.33	28.6	28.71	29.29	26.24
9/20/2017-4:00	26.36	26.34	26.33	28.62	28.72	29.28	26.24
9/20/2017-5:00	26.35	26.33	26.31	28.62	28.69	29.25	26.22
9/20/2017-6:00	26.32	26.3	26.28	28.61	28.64	29.2	26.19
9/20/2017-7:00	26.28	26.25	26.23	28.57	28.57	29.14	26.13
9/20/2017-8:00	26.23	26.19	26.16	28.52	28.46	29.05	26.06
9/20/2017-9:00	26.17	26.12	26.08	28.45	28.33	28.95	25.98
9/20/2017-10:00	26.09	26.04	25.99	28.36	28.19	28.84	25.89
9/20/2017-11:00	26.01	25.95	25.89	28.26	28.03	28.72	25.78
9/20/2017-12:00	25.92	25.85	25.79	28.15	27.86	28.6	25.68
9/20/2017-13:00	25.83	25.76	25.69	28.03	27.7	28.49	25.58
9/20/2017-14:00	25.75	25.67	25.6	27.91	27.56	28.39	25.48
9/20/2017-15:00	25.67	25.59	25.52	27.8	27.44	28.31	25.4

9/20/2017-16:00	25.61	25.53	25.46	27.7	27.34	28.25	25.34
9/20/2017-17:00	25.56	25.48	25.41	27.62	27.29	28.22	25.3
9/20/2017-18:00	25.53	25.46	25.39	27.56	27.26	28.21	25.28
9/20/2017-19:00	25.52	25.45	25.39	27.52	27.28	28.22	25.28
9/20/2017-20:00	25.52	25.46	25.41	27.51	27.32	28.26	25.31
9/20/2017-21:00	25.54	25.49	25.44	27.52	27.4	28.32	25.34
9/20/2017-22:00	25.57	25.52	25.49	27.55	27.49	28.38	25.39
9/20/2017-23:00	25.61	25.57	25.54	27.59	27.59	28.45	25.45
9/21/2017-0:00	25.65	25.62	25.59	27.64	27.7	28.52	25.51
9/21/2017-1:00	25.69	25.66	25.64	27.7	27.79	28.58	25.56
9/21/2017-2:00	25.72	25.7	25.68	27.75	27.87	28.62	25.6
9/21/2017-3:00	25.75	25.72	25.71	27.8	27.93	28.65	25.63
9/21/2017-4:00	25.76	25.74	25.72	27.84	27.96	28.66	25.64
9/21/2017-5:00	25.76	25.74	25.72	27.86	27.96	28.65	25.63
9/21/2017-6:00	25.75	25.72	25.7	27.87	27.94	28.62	25.61
9/21/2017-7:00	25.72	25.69	25.66	27.86	27.88	28.57	25.57
9/21/2017-8:00	25.68	25.64	25.61	27.82	27.79	28.49	25.51
9/21/2017-9:00	25.62	25.58	25.54	27.77	27.68	28.4	25.44
9/21/2017-10:00	25.55	25.5	25.45	27.69	27.54	28.29	25.35
9/21/2017-11:00	25.48	25.41	25.36	27.6	27.39	28.18	25.25
9/21/2017-12:00	25.39	25.32	25.26	27.5	27.23	28.06	25.15
9/21/2017-13:00	25.31	25.23	25.16	27.39	27.08	27.95	25.05
9/21/2017-14:00	25.22	25.14	25.07	27.28	26.93	27.85	24.96
9/21/2017-15:00	25.15	25.06	24.99	27.17	26.8	27.76	24.87
9/21/2017-16:00	25.08	25	24.92	27.07	26.71	27.7	24.81
9/21/2017-17:00	25.04	24.95	24.88	26.99	26.64	27.66	24.76
9/21/2017-18:00	25	24.92	24.85	26.93	26.61	27.64	24.74
9/21/2017-19:00	24.99	24.91	24.85	26.89	26.62	27.66	24.74
9/21/2017-20:00	24.99	24.92	24.86	26.87	26.66	27.69	24.76
9/21/2017-21:00	25	24.94	24.89	26.87	26.73	27.74	24.79
9/21/2017-22:00	25.03	24.97	24.93	26.9	26.81	27.8	24.83
9/21/2017-23:00	25.06	25.01	24.97	26.93	26.9	27.86	24.88
9/22/2017-0:00	25.09	25.05	25.02	26.98	27	27.92	24.93
9/22/2017-1:00	25.12	25.09	25.06	27.03	27.08	27.97	24.97
9/22/2017-2:00	25.15	25.11	25.08	27.07	27.14	28	25
9/22/2017-3:00	25.16	25.13	25.1	27.11	27.18	28.01	25.02
9/22/2017-4:00	25.16	25.13	25.1	27.13	27.19	28	25.01
9/22/2017-5:00	25.15	25.11	25.08	27.14	27.16	27.97	24.99
9/22/2017-6:00	25.12	25.07	25.04	27.12	27.11	27.91	24.95
9/22/2017-7:00	25.07	25.02	24.98	27.09	27.02	27.84	24.89
9/22/2017-8:00	25.01	24.95	24.9	27.03	26.9	27.73	24.8
9/22/2017-9:00	24.93	24.86	24.8	26.94	26.74	27.61	24.7
9/22/2017-10:00	24.83	24.76	24.69	26.84	26.57	27.48	24.59
9/22/2017-11:00	24.73	24.65	24.57	26.72	26.38	27.33	24.46
9/22/2017-12:00	24.62	24.53	24.45	26.58	26.18	27.18	24.34
9/22/2017-13:00	24.51	24.41	24.32	26.44	25.98	27.04	24.21
9/22/2017-14:00	24.4	24.29	24.2	26.29	25.8	26.91	24.09
9/22/2017-15:00	24.3	24.19	24.1	26.15	25.64	26.8	23.98
9/22/2017-16:00	24.21	24.1	24.01	26.02	25.51	26.71	23.89
9/22/2017-17:00	24.14	24.03	23.94	25.91	25.42	26.65	23.83
9/22/2017-18:00	24.09	23.98	23.9	25.83	25.37	26.63	23.79
9/22/2017-19:00	24.06	23.96	23.88	25.76	25.37	26.63	23.78
9/22/2017-20:00	24.05	23.96	23.89	25.73	25.41	26.66	23.79



9/22/2017-21:00	24.06	23.98	23.91	25.73	25.48	26.71	23.83
9/22/2017-22:00	24.08	24.01	23.96	25.75	25.57	26.78	23.87
9/22/2017-23:00	24.12	24.05	24	25.79	25.68	26.85	23.93
9/23/2017-0:00	24.15	24.1	24.06	25.84	25.8	26.93	23.99
9/23/2017-1:00	24.19	24.14	24.1	25.89	25.9	26.99	24.04
9/23/2017-2:00	24.22	24.17	24.14	25.95	25.99	27.04	24.08
9/23/2017-3:00	24.24	24.2	24.17	26	26.05	27.07	24.11
9/23/2017-4:00	24.25	24.21	24.18	26.04	26.09	27.08	24.12
9/23/2017-5:00	24.25	24.21	24.18	26.07	26.1	27.06	24.11
9/23/2017-6:00	24.23	24.19	24.16	26.07	26.08	27.03	24.09
9/23/2017-7:00	24.2	24.15	24.12	26.06	26.02	26.98	24.05
9/23/2017-8:00	24.15	24.1	24.06	26.03	25.94	26.9	23.99
9/23/2017-9:00	24.09	24.03	23.99	25.97	25.83	26.81	23.91
9/23/2017-10:00	24.02	23.96	23.9	25.9	25.69	26.7	23.82
9/23/2017-11:00	23.94	23.87	23.8	25.81	25.54	26.58	23.72
9/23/2017-12:00	23.85	23.77	23.7	25.71	25.38	26.46	23.61
9/23/2017-13:00	23.76	23.67	23.6	25.6	25.23	26.35	23.51
9/23/2017-14:00	23.68	23.58	23.51	25.48	25.08	26.24	23.41
9/23/2017-15:00	23.6	23.5	23.42	25.37	24.95	26.15	23.33
9/23/2017-16:00	23.53	23.43	23.35	25.27	24.85	26.09	23.26
9/23/2017-17:00	23.48	23.38	23.3	25.19	24.79	26.05	23.21
9/23/2017-18:00	23.44	23.35	23.28	25.13	24.76	26.03	23.19
9/23/2017-19:00	23.43	23.34	23.27	25.09	24.78	26.05	23.19
9/23/2017-20:00	23.43	23.35	23.29	25.08	24.83	26.09	23.21
9/23/2017-21:00	23.45	23.38	23.32	25.09	24.91	26.15	23.25
9/23/2017-22:00	23.48	23.42	23.37	25.12	25.01	26.22	23.3
9/23/2017-23:00	23.52	23.47	23.43	25.17	25.13	26.3	23.36
9/24/2017-0:00	23.56	23.51	23.48	25.23	25.24	26.37	23.42
9/24/2017-1:00	23.6	23.56	23.53	25.3	25.35	26.44	23.48
9/24/2017-2:00	23.64	23.6	23.58	25.36	25.44	26.49	23.52
9/24/2017-3:00	23.67	23.63	23.61	25.42	25.51	26.52	23.56
9/24/2017-4:00	23.68	23.65	23.63	25.47	25.55	26.54	23.57
9/24/2017-5:00	23.69	23.66	23.63	25.5	25.57	26.53	23.57
9/24/2017-6:00	23.68	23.64	23.62	25.52	25.56	26.51	23.56
9/24/2017-7:00	23.66	23.62	23.59	25.51	25.51	26.46	23.52
9/24/2017-8:00	23.62	23.58	23.54	25.49	25.44	26.4	23.47
9/24/2017-9:00	23.57	23.52	23.48	25.45	25.34	26.32	23.41
9/24/2017-10:00	23.51	23.45	23.4	25.39	25.23	26.22	23.33
9/24/2017-11:00	23.44	23.37	23.31	25.31	25.09	26.11	23.24
9/24/2017-12:00	23.36	23.29	23.22	25.22	24.95	26.01	23.14
9/24/2017-13:00	23.28	23.2	23.13	25.12	24.8	25.9	23.05
9/24/2017-14:00	23.2	23.12	23.05	25.02	24.67	25.81	22.96
9/24/2017-15:00	23.13	23.05	22.97	24.92	24.56	25.73	22.88
9/24/2017-16:00	23.08	22.99	22.91	24.84	24.47	25.67	22.82
9/24/2017-17:00	23.03	22.94	22.87	24.77	24.42	25.64	22.79
9/24/2017-18:00	23.01	22.92	22.85	24.72	24.4	25.63	22.77
9/24/2017-19:00	23	22.92	22.86	24.69	24.43	25.66	22.78
9/24/2017-20:00	23.01	22.94	22.88	24.69	24.48	25.7	22.8
9/24/2017-21:00	23.03	22.97	22.92	24.71	24.57	25.77	22.85
9/24/2017-22:00	23.07	23.01	22.97	24.75	24.68	25.84	22.91
9/24/2017-23:00	23.11	23.07	23.03	24.8	24.8	25.92	22.97
9/25/2017-0:00	23.16	23.12	23.09	24.87	24.92	26	23.03
9/25/2017-1:00	23.21	23.17	23.15	24.94	25.03	26.07	23.09

9/25/2017-2:00	23.25	23.22	23.2	25.01	25.13	26.13	23.14
9/25/2017-3:00	23.28	23.26	23.24	25.08	25.2	26.17	23.18
9/25/2017-4:00	23.31	23.28	23.26	25.13	25.26	26.19	23.21
9/25/2017-5:00	23.32	23.29	23.27	25.17	25.29	26.2	23.22
9/25/2017-6:00	23.32	23.29	23.27	25.2	25.29	26.18	23.21
9/25/2017-7:00	23.31	23.28	23.25	25.21	25.26	26.15	23.19
9/25/2017-8:00	23.28	23.24	23.21	25.2	25.2	26.1	23.15
9/25/2017-9:00	23.24	23.2	23.17	25.17	25.13	26.03	23.1
9/25/2017-10:00	23.19	23.15	23.1	25.13	25.03	25.96	23.03
9/25/2017-11:00	23.14	23.08	23.03	25.07	24.92	25.87	22.96
9/25/2017-12:00	23.07	23.01	22.96	25	24.8	25.78	22.88
9/25/2017-13:00	23.01	22.94	22.89	24.92	24.68	25.7	22.8
9/25/2017-14:00	22.95	22.88	22.82	24.84	24.58	25.62	22.74
9/25/2017-15:00	22.9	22.83	22.77	24.77	24.5	25.57	22.68
9/25/2017-16:00	22.87	22.79	22.73	24.71	24.45	25.54	22.65
9/25/2017-17:00	22.85	22.78	22.72	24.67	24.43	25.54	22.64
9/25/2017-18:00	22.84	22.78	22.73	24.65	24.45	25.56	22.65
9/25/2017-19:00	22.86	22.8	22.76	24.65	24.52	25.61	22.68
9/25/2017-20:00	22.9	22.84	22.81	24.68	24.61	25.69	22.73
9/25/2017-21:00	22.95	22.91	22.88	24.73	24.74	25.78	22.81
9/25/2017-22:00	23.01	22.98	22.96	24.81	24.89	25.89	22.89
9/25/2017-23:00	23.08	23.06	23.05	24.9	25.05	26	22.99
9/26/2017-0:00	23.16	23.15	23.14	25.01	25.21	26.12	23.08
9/26/2017-1:00	23.24	23.23	23.23	25.11	25.37	26.22	23.18
9/26/2017-2:00	23.31	23.31	23.31	25.22	25.51	26.31	23.26
9/26/2017-3:00	23.37	23.38	23.38	25.33	25.63	26.39	23.33
9/26/2017-4:00	23.43	23.43	23.44	25.42	25.73	26.44	23.39
9/26/2017-5:00	23.47	23.47	23.48	25.5	25.8	26.48	23.43
9/26/2017-6:00	23.5	23.5	23.5	25.57	25.84	26.5	23.45
9/26/2017-7:00	23.51	23.51	23.51	25.61	25.84	26.49	23.45
9/26/2017-8:00	23.51	23.51	23.5	25.64	25.82	26.46	23.44
9/26/2017-9:00	23.5	23.49	23.47	25.64	25.77	26.42	23.41
9/26/2017-10:00	23.47	23.45	23.43	25.63	25.7	26.36	23.36
9/26/2017-11:00	23.43	23.41	23.38	25.59	25.6	26.29	23.3
9/26/2017-12:00	23.39	23.36	23.32	25.54	25.5	26.21	23.24
9/26/2017-13:00	23.34	23.3	23.27	25.49	25.4	26.14	23.18
9/26/2017-14:00	23.29	23.25	23.21	25.43	25.3	26.08	23.12
9/26/2017-15:00	23.26	23.21	23.17	25.37	25.23	26.03	23.08
9/26/2017-16:00	23.23	23.18	23.14	25.32	25.18	26	23.05
9/26/2017-17:00	23.21	23.17	23.13	25.29	25.16	26	23.04
9/26/2017-18:00	23.21	23.17	23.13	25.27	25.17	26.02	23.05
9/26/2017-19:00	23.23	23.2	23.16	25.27	25.22	26.07	23.08
9/26/2017-20:00	23.27	23.24	23.21	25.3	25.31	26.13	23.13
9/26/2017-21:00	23.32	23.29	23.27	25.35	25.42	26.22	23.2
9/26/2017-22:00	23.38	23.36	23.35	25.42	25.55	26.31	23.27
9/26/2017-23:00	23.44	23.43	23.43	25.5	25.68	26.41	23.36
9/27/2017-0:00	23.51	23.51	23.51	25.59	25.82	26.51	23.44
9/27/2017-1:00	23.58	23.58	23.58	25.68	25.95	26.59	23.52
9/27/2017-2:00	23.64	23.64	23.65	25.77	26.06	26.67	23.58
9/27/2017-3:00	23.69	23.7	23.7	25.86	26.15	26.72	23.64
9/27/2017-4:00	23.73	23.73	23.74	25.93	26.21	26.75	23.67
9/27/2017-5:00	23.75	23.76	23.76	25.98	26.24	26.76	23.69
9/27/2017-6:00	23.76	23.76	23.76	26.02	26.24	26.75	23.69

9/27/2017-7:00	23.76	23.75	23.75	26.03	26.21	26.72	23.67
9/27/2017-8:00	23.74	23.73	23.72	26.03	26.15	26.67	23.63
9/27/2017-9:00	23.7	23.68	23.67	26	26.06	26.6	23.58
9/27/2017-10:00	23.65	23.63	23.6	25.95	25.94	26.51	23.51
9/27/2017-11:00	23.59	23.56	23.52	25.88	25.81	26.41	23.43
9/27/2017-12:00	23.52	23.48	23.44	25.8	25.67	26.31	23.34
9/27/2017-13:00	23.45	23.4	23.36	25.71	25.53	26.21	23.25
9/27/2017-14:00	23.38	23.33	23.28	25.62	25.39	26.11	23.17
9/27/2017-15:00	23.32	23.26	23.21	25.52	25.28	26.04	23.1
9/27/2017-16:00	23.27	23.21	23.15	25.44	25.19	25.98	23.04
9/27/2017-17:00	23.23	23.17	23.11	25.37	25.13	25.95	23.01
9/27/2017-18:00	23.2	23.15	23.1	25.32	25.1	25.94	22.99
9/27/2017-19:00	23.2	23.15	23.1	25.29	25.12	25.96	23
9/27/2017-20:00	23.21	23.16	23.12	25.28	25.17	26.01	23.03
9/27/2017-21:00	23.24	23.2	23.17	25.3	25.25	26.07	23.07
9/27/2017-22:00	23.28	23.25	23.22	25.34	25.35	26.15	23.13
9/27/2017-23:00	23.33	23.3	23.28	25.39	25.47	26.23	23.2
9/28/2017-0:00	23.38	23.36	23.35	25.46	25.59	26.31	23.27
9/28/2017-1:00	23.43	23.41	23.41	25.53	25.7	26.38	23.33
9/28/2017-2:00	23.47	23.46	23.46	25.6	25.8	26.44	23.39
9/28/2017-3:00	23.51	23.51	23.5	25.67	25.87	26.49	23.43
9/28/2017-4:00	23.54	23.53	23.53	25.72	25.93	26.52	23.46
9/28/2017-5:00	23.56	23.55	23.55	25.77	25.96	26.53	23.47
9/28/2017-6:00	23.56	23.55	23.55	25.79	25.96	26.52	23.47
9/28/2017-7:00	23.55	23.54	23.53	25.81	25.93	26.49	23.45
9/28/2017-8:00	23.53	23.51	23.5	25.8	25.88	26.44	23.42
9/28/2017-9:00	23.49	23.47	23.45	25.77	25.8	26.38	23.37
9/28/2017-10:00	23.45	23.42	23.39	25.73	25.7	26.3	23.3
9/28/2017-11:00	23.39	23.36	23.32	25.66	25.58	26.21	23.23
9/28/2017-12:00	23.33	23.29	23.25	25.59	25.46	26.12	23.15
9/28/2017-13:00	23.27	23.22	23.18	25.51	25.34	26.03	23.07
9/28/2017-14:00	23.21	23.15	23.11	25.43	25.22	25.95	23
9/28/2017-15:00	23.15	23.1	23.05	25.35	25.13	25.89	22.94
9/28/2017-16:00	23.11	23.05	23	25.28	25.06	25.85	22.9
9/28/2017-17:00	23.08	23.02	22.98	25.22	25.02	25.83	22.87
9/28/2017-18:00	23.07	23.01	22.97	25.19	25.01	25.84	22.87
9/28/2017-19:00	23.07	23.02	22.98	25.17	25.05	25.87	22.89
9/28/2017-20:00	23.09	23.05	23.02	25.18	25.11	25.93	22.93
9/28/2017-21:00	23.13	23.1	23.07	25.21	25.21	26	22.99
9/28/2017-22:00	23.18	23.16	23.14	25.27	25.33	26.09	23.06
9/28/2017-23:00	23.24	23.22	23.21	25.33	25.46	26.19	23.13
9/29/2017-0:00	23.3	23.29	23.29	25.42	25.6	26.28	23.21
9/29/2017-1:00	23.36	23.36	23.36	25.5	25.73	26.37	23.29
9/29/2017-2:00	23.42	23.42	23.43	25.59	25.84	26.44	23.36
9/29/2017-3:00	23.47	23.48	23.48	25.67	25.94	26.51	23.42
9/29/2017-4:00	23.52	23.52	23.53	25.75	26.02	26.55	23.46
9/29/2017-5:00	23.55	23.56	23.57	25.81	26.08	26.58	23.49
9/29/2017-6:00	23.57	23.58	23.58	25.86	26.11	26.6	23.51
9/29/2017-7:00	23.58	23.59	23.59	25.9	26.11	26.59	23.51
9/29/2017-8:00	23.58	23.58	23.58	25.91	26.09	26.57	23.5
9/29/2017-9:00	23.57	23.56	23.56	25.91	26.04	26.53	23.47
9/29/2017-10:00	23.54	23.53	23.52	25.9	25.98	26.48	23.43
9/29/2017-11:00	23.51	23.49	23.48	25.87	25.9	26.42	23.39

9/29/2017-12:00	23.47	23.45	23.43	25.82	25.81	26.35	23.33
9/29/2017-13:00	23.43	23.41	23.38	25.77	25.73	26.3	23.28
9/29/2017-14:00	23.4	23.37	23.34	25.72	25.65	26.25	23.24
9/29/2017-15:00	23.37	23.34	23.31	25.68	25.6	26.22	23.21
9/29/2017-16:00	23.35	23.32	23.29	25.64	25.57	26.2	23.19
9/29/2017-17:00	23.35	23.32	23.3	25.62	25.57	26.22	23.2
9/29/2017-18:00	23.37	23.34	23.32	25.62	25.61	26.26	23.23
9/29/2017-19:00	23.4	23.38	23.37	25.65	25.68	26.32	23.27
9/29/2017-20:00	23.45	23.44	23.43	25.69	25.79	26.41	23.34
9/29/2017-21:00	23.52	23.51	23.51	25.76	25.93	26.52	23.43
9/29/2017-22:00	23.59	23.6	23.6	25.85	26.08	26.63	23.52
9/29/2017-23:00	23.67	23.69	23.7	25.95	26.24	26.75	23.62
9/30/2017-0:00	23.76	23.78	23.8	26.06	26.4	26.86	23.72
9/30/2017-1:00	23.84	23.87	23.89	26.18	26.56	26.97	23.82
9/30/2017-2:00	23.92	23.95	23.97	26.29	26.69	27.06	23.9
9/30/2017-3:00	23.98	24.02	24.05	26.39	26.8	27.13	23.97
9/30/2017-4:00	24.04	24.08	24.1	26.49	26.89	27.19	24.03
9/30/2017-5:00	24.08	24.12	24.14	26.56	26.95	27.22	24.07
9/30/2017-6:00	24.11	24.15	24.17	26.62	26.97	27.23	24.09
9/30/2017-7:00	24.13	24.16	24.17	26.66	26.97	27.22	24.09
9/30/2017-8:00	24.13	24.15	24.16	26.68	26.94	27.2	24.08
9/30/2017-9:00	24.12	24.14	24.14	26.68	26.89	27.15	24.05
9/30/2017-10:00	24.1	24.1	24.1	26.67	26.81	27.1	24.01
9/30/2017-11:00	24.06	24.06	24.06	26.63	26.72	27.03	23.95
9/30/2017-12:00	24.03	24.02	24	26.58	26.62	26.96	23.9
9/30/2017-13:00	23.98	23.97	23.95	26.53	26.52	26.89	23.84
9/30/2017-14:00	23.94	23.93	23.9	26.47	26.42	26.84	23.79
9/30/2017-15:00	23.91	23.89	23.86	26.41	26.35	26.79	23.74
9/30/2017-16:00	23.89	23.86	23.83	26.36	26.29	26.76	23.72
9/30/2017-17:00	23.87	23.85	23.82	26.33	26.27	26.75	23.7
9/30/2017-18:00	23.87	23.85	23.82	26.3	26.26	26.77	23.7
9/30/2017-19:00	23.88	23.86	23.84	26.3	26.29	26.79	23.72
9/30/2017-20:00	23.9	23.89	23.87	26.31	26.34	26.84	23.75
9/30/2017-21:00	23.93	23.92	23.9	26.33	26.41	26.89	23.79
9/30/2017-22:00	23.97	23.96	23.95	26.37	26.48	26.95	23.84
9/30/2017-23:00	24.01	24	23.99	26.41	26.56	27	23.89
10/1/2017-0:00	24.04	24.04	24.03	26.46	26.63	27.05	23.93
10/1/2017-1:00	24.07	24.07	24.07	26.5	26.68	27.09	23.96
10/1/2017-2:00	24.09	24.09	24.09	26.54	26.72	27.11	23.98
10/1/2017-3:00	24.1	24.1	24.1	26.57	26.74	27.11	23.99
10/1/2017-4:00	24.1	24.1	24.09	26.58	26.72	27.09	23.98
10/1/2017-5:00	24.09	24.08	24.07	26.57	26.69	27.06	23.96
10/1/2017-6:00	24.06	24.05	24.03	26.55	26.62	27	23.91
10/1/2017-7:00	24.02	24	23.98	26.51	26.53	26.93	23.86
10/1/2017-8:00	23.97	23.94	23.91	26.45	26.41	26.84	23.78
10/1/2017-9:00	23.9	23.86	23.82	26.38	26.27	26.73	23.69
10/1/2017-10:00	23.82	23.77	23.73	26.28	26.11	26.61	23.59
10/1/2017-11:00	23.73	23.67	23.62	26.17	25.93	26.48	23.48
10/1/2017-12:00	23.63	23.57	23.51	26.04	25.75	26.35	23.37
10/1/2017-13:00	23.53	23.46	23.39	25.91	25.56	26.21	23.25
10/1/2017-14:00	23.43	23.35	23.28	25.77	25.38	26.08	23.13
10/1/2017-15:00	23.33	23.24	23.17	25.63	25.21	25.96	23.02
10/1/2017-16:00	23.24	23.15	23.07	25.49	25.05	25.85	22.92

10/1/2017-17:00	23.15	23.06	22.98	25.36	24.92	25.76	22.83
10/1/2017-18:00	23.07	22.98	22.9	25.24	24.8	25.69	22.75
10/1/2017-19:00	23.01	22.92	22.83	25.14	24.72	25.63	22.69
10/1/2017-20:00	22.95	22.86	22.78	25.05	24.65	25.58	22.64
10/1/2017-21:00	22.91	22.82	22.74	24.97	24.61	25.55	22.6
10/1/2017-22:00	22.87	22.78	22.71	24.9	24.57	25.52	22.57
10/1/2017-23:00	22.83	22.75	22.68	24.85	24.55	25.5	22.55
10/2/2017-0:00	22.8	22.71	22.64	24.8	24.52	25.47	22.52
10/2/2017-1:00	22.76	22.68	22.61	24.75	24.49	25.44	22.48
10/2/2017-2:00	22.71	22.63	22.57	24.7	24.44	25.39	22.44
10/2/2017-3:00	22.66	22.58	22.51	24.64	24.38	25.34	22.39
10/2/2017-4:00	22.61	22.52	22.45	24.58	24.3	25.27	22.33
10/2/2017-5:00	22.54	22.45	22.38	24.5	24.2	25.18	22.25
10/2/2017-6:00	22.46	22.37	22.29	24.42	24.08	25.08	22.17
10/2/2017-7:00	22.37	22.28	22.19	24.31	23.94	24.97	22.07
10/2/2017-8:00	22.27	22.17	22.08	24.2	23.78	24.84	21.95
10/2/2017-9:00	22.17	22.05	21.96	24.07	23.61	24.7	21.83
10/2/2017-10:00	22.05	21.93	21.83	23.92	23.42	24.55	21.7
10/2/2017-11:00	21.92	21.8	21.69	23.77	23.22	24.4	21.56
10/2/2017-12:00	21.8	21.67	21.56	23.61	23.01	24.24	21.42
10/2/2017-13:00	21.67	21.53	21.42	23.44	22.81	24.09	21.28
10/2/2017-14:00	21.55	21.41	21.29	23.28	22.63	23.96	21.15
10/2/2017-15:00	21.43	21.29	21.17	23.12	22.46	23.83	21.04
10/2/2017-16:00	21.33	21.19	21.07	22.97	22.32	23.73	20.93
10/2/2017-17:00	21.24	21.1	20.98	22.84	22.21	23.65	20.85
10/2/2017-18:00	21.17	21.03	20.91	22.73	22.13	23.6	20.79
10/2/2017-19:00	21.11	20.97	20.86	22.64	22.09	23.56	20.74
10/2/2017-20:00	21.07	20.94	20.83	22.57	22.08	23.55	20.72
10/2/2017-21:00	21.04	20.92	20.82	22.52	22.09	23.56	20.71
10/2/2017-22:00	21.02	20.91	20.82	22.5	22.12	23.57	20.71
10/2/2017-23:00	21.01	20.9	20.82	22.48	22.17	23.59	20.72
10/3/2017-0:00	21.01	20.9	20.83	22.48	22.21	23.61	20.73
10/3/2017-1:00	21	20.9	20.83	22.48	22.26	23.63	20.74
10/3/2017-2:00	20.99	20.9	20.83	22.49	22.29	23.64	20.74
10/3/2017-3:00	20.98	20.89	20.82	22.49	22.31	23.63	20.73
10/3/2017-4:00	20.96	20.87	20.8	22.49	22.31	23.61	20.72
10/3/2017-5:00	20.93	20.84	20.77	22.47	22.28	23.58	20.69
10/3/2017-6:00	20.89	20.8	20.73	22.45	22.24	23.53	20.64
10/3/2017-7:00	20.84	20.75	20.68	22.41	22.17	23.46	20.59
10/3/2017-8:00	20.78	20.69	20.61	22.35	22.08	23.38	20.52
10/3/2017-9:00	20.71	20.61	20.53	22.28	21.97	23.29	20.44
10/3/2017-10:00	20.63	20.53	20.44	22.2	21.85	23.19	20.35
10/3/2017-11:00	20.55	20.44	20.35	22.1	21.71	23.08	20.25
10/3/2017-12:00	20.46	20.34	20.25	22	21.57	22.96	20.15
10/3/2017-13:00	20.36	20.24	20.15	21.89	21.42	22.85	20.05
10/3/2017-14:00	20.28	20.15	20.05	21.78	21.29	22.75	19.95
10/3/2017-15:00	20.19	20.07	19.96	21.67	21.17	22.66	19.86
10/3/2017-16:00	20.12	19.99	19.89	21.57	21.07	22.58	19.79
10/3/2017-17:00	20.06	19.93	19.83	21.48	21	22.53	19.73
10/3/2017-18:00	20.01	19.89	19.79	21.41	20.95	22.5	19.69
10/3/2017-19:00	19.97	19.86	19.76	21.36	20.94	22.49	19.67
10/3/2017-20:00	19.95	19.84	19.76	21.32	20.96	22.5	19.67
10/3/2017-21:00	19.95	19.84	19.76	21.31	21	22.52	19.68

10/3/2017-22:00	19.95	19.85	19.78	21.31	21.05	22.56	19.7
10/3/2017-23:00	19.96	19.87	19.8	21.33	21.12	22.59	19.72
10/4/2017-0:00	19.97	19.88	19.82	21.35	21.18	22.63	19.75
10/4/2017-1:00	19.98	19.9	19.84	21.38	21.25	22.66	19.77
10/4/2017-2:00	19.99	19.91	19.86	21.4	21.3	22.68	19.79
10/4/2017-3:00	19.99	19.92	19.86	21.43	21.33	22.69	19.8
10/4/2017-4:00	19.98	19.91	19.86	21.44	21.34	22.68	19.79
10/4/2017-5:00	19.97	19.9	19.84	21.45	21.34	22.66	19.77
10/4/2017-6:00	19.94	19.87	19.81	21.44	21.31	22.62	19.74
10/4/2017-7:00	19.91	19.83	19.77	21.42	21.25	22.57	19.7
10/4/2017-8:00	19.86	19.77	19.71	21.38	21.18	22.5	19.64
10/4/2017-9:00	19.8	19.71	19.64	21.33	21.08	22.41	19.57
10/4/2017-10:00	19.73	19.64	19.56	21.26	20.97	22.32	19.48
10/4/2017-11:00	19.65	19.55	19.47	21.17	20.84	22.21	19.39
10/4/2017-12:00	19.57	19.47	19.38	21.08	20.7	22.1	19.3
10/4/2017-13:00	19.49	19.38	19.29	20.98	20.57	22	19.2
10/4/2017-14:00	19.41	19.29	19.2	20.88	20.44	21.9	19.11
10/4/2017-15:00	19.33	19.21	19.12	20.78	20.33	21.82	19.03
10/4/2017-16:00	19.26	19.15	19.05	20.69	20.24	21.76	18.97
10/4/2017-17:00	19.21	19.1	19	20.62	20.18	21.71	18.92
10/4/2017-18:00	19.17	19.06	18.97	20.56	20.15	21.69	18.89
10/4/2017-19:00	19.15	19.04	18.96	20.52	20.15	21.7	18.88
10/4/2017-20:00	19.14	19.04	18.96	20.5	20.19	21.72	18.89
10/4/2017-21:00	19.15	19.05	18.98	20.5	20.24	21.76	18.91
10/4/2017-22:00	19.16	19.07	19.01	20.52	20.32	21.8	18.94
10/4/2017-23:00	19.18	19.1	19.04	20.55	20.4	21.86	18.98
10/5/2017-0:00	19.2	19.13	19.07	20.58	20.48	21.9	19.01
10/5/2017-1:00	19.22	19.15	19.1	20.63	20.56	21.95	19.05
10/5/2017-2:00	19.24	19.18	19.13	20.67	20.62	21.98	19.07
10/5/2017-3:00	19.25	19.19	19.14	20.71	20.67	22	19.09
10/5/2017-4:00	19.26	19.19	19.15	20.74	20.7	22	19.1
10/5/2017-5:00	19.25	19.19	19.14	20.76	20.71	21.99	19.09
10/5/2017-6:00	19.23	19.17	19.12	20.76	20.69	21.96	19.07
10/5/2017-7:00	19.21	19.14	19.09	20.75	20.65	21.92	19.03
10/5/2017-8:00	19.17	19.1	19.04	20.73	20.59	21.86	18.98
10/5/2017-9:00	19.12	19.04	18.98	20.69	20.5	21.78	18.92
10/5/2017-10:00	19.06	18.98	18.91	20.63	20.4	21.7	18.85
10/5/2017-11:00	18.99	18.9	18.83	20.56	20.29	21.6	18.77
10/5/2017-12:00	18.92	18.83	18.75	20.48	20.16	21.51	18.68
10/5/2017-13:00	18.84	18.75	18.67	20.4	20.04	21.42	18.6
10/5/2017-14:00	18.77	18.67	18.59	20.31	19.93	21.33	18.52
10/5/2017-15:00	18.71	18.61	18.53	20.23	19.84	21.27	18.45
10/5/2017-16:00	18.66	18.56	18.48	20.15	19.77	21.22	18.4
10/5/2017-17:00	18.62	18.52	18.44	20.09	19.73	21.19	18.37
10/5/2017-18:00	18.6	18.5	18.43	20.05	19.73	21.19	18.36
10/5/2017-19:00	18.59	18.5	18.43	20.03	19.75	21.21	18.36
10/5/2017-20:00	18.59	18.51	18.45	20.03	19.81	21.25	18.39
10/5/2017-21:00	18.61	18.54	18.48	20.05	19.88	21.3	18.42
10/5/2017-22:00	18.64	18.57	18.52	20.09	19.98	21.36	18.47
10/5/2017-23:00	18.67	18.61	18.57	20.13	20.08	21.43	18.52
10/6/2017-0:00	18.71	18.65	18.61	20.19	20.18	21.49	18.57
10/6/2017-1:00	18.74	18.69	18.66	20.25	20.27	21.54	18.61
10/6/2017-2:00	18.77	18.73	18.69	20.31	20.35	21.59	18.65

10/6/2017-3:00	18.8	18.75	18.72	20.36	20.41	21.62	18.68
10/6/2017-4:00	18.82	18.77	18.74	20.41	20.46	21.64	18.7
10/6/2017-5:00	18.82	18.78	18.75	20.44	20.49	21.64	18.71
10/6/2017-6:00	18.82	18.78	18.74	20.47	20.49	21.63	18.7
10/6/2017-7:00	18.81	18.76	18.73	20.48	20.47	21.6	18.68
10/6/2017-8:00	18.79	18.74	18.7	20.47	20.43	21.56	18.65
10/6/2017-9:00	18.76	18.7	18.66	20.45	20.37	21.51	18.61
10/6/2017-10:00	18.72	18.66	18.61	20.42	20.3	21.45	18.55
10/6/2017-11:00	18.67	18.6	18.55	20.37	20.21	21.37	18.49
10/6/2017-12:00	18.61	18.54	18.49	20.32	20.11	21.3	18.43
10/6/2017-13:00	18.56	18.48	18.42	20.25	20.02	21.22	18.36
10/6/2017-14:00	18.5	18.42	18.36	20.18	19.92	21.15	18.29
10/6/2017-15:00	18.45	18.37	18.3	20.12	19.84	21.09	18.24
10/6/2017-16:00	18.4	18.32	18.26	20.06	19.77	21.04	18.19
10/6/2017-17:00	18.37	18.29	18.22	20	19.73	21.01	18.15
10/6/2017-18:00	18.35	18.27	18.2	19.97	19.71	21	18.14
10/6/2017-19:00	18.33	18.26	18.2	19.94	19.72	21.01	18.14
10/6/2017-20:00	18.34	18.26	18.21	19.94	19.76	21.04	18.15
10/6/2017-21:00	18.35	18.28	18.23	19.95	19.81	21.08	18.17
10/6/2017-22:00	18.37	18.31	18.26	19.97	19.88	21.12	18.21
10/6/2017-23:00	18.39	18.34	18.3	20.01	19.95	21.17	18.24
10/7/2017-0:00	18.42	18.37	18.33	20.05	20.03	21.22	18.28
10/7/2017-1:00	18.44	18.39	18.36	20.09	20.09	21.25	18.31
10/7/2017-2:00	18.46	18.42	18.38	20.13	20.15	21.28	18.34
10/7/2017-3:00	18.47	18.43	18.4	20.16	20.19	21.3	18.35
10/7/2017-4:00	18.48	18.44	18.4	20.19	20.21	21.3	18.36
10/7/2017-5:00	18.47	18.43	18.4	20.21	20.21	21.29	18.35
10/7/2017-6:00	18.46	18.41	18.38	20.21	20.19	21.26	18.33
10/7/2017-7:00	18.44	18.39	18.35	20.2	20.15	21.22	18.29
10/7/2017-8:00	18.4	18.35	18.3	20.18	20.09	21.16	18.25
10/7/2017-9:00	18.36	18.3	18.25	20.14	20.01	21.09	18.19
10/7/2017-10:00	18.3	18.23	18.18	20.08	19.91	21.01	18.12
10/7/2017-11:00	18.24	18.16	18.11	20.01	19.79	20.92	18.04
10/7/2017-12:00	18.16	18.09	18.02	19.93	19.66	20.82	17.95
10/7/2017-13:00	18.09	18	17.94	19.84	19.53	20.72	17.86
10/7/2017-14:00	18.01	17.92	17.85	19.75	19.4	20.62	17.77
10/7/2017-15:00	17.93	17.84	17.76	19.65	19.27	20.53	17.69
10/7/2017-16:00	17.86	17.77	17.69	19.55	19.16	20.45	17.61
10/7/2017-17:00	17.8	17.7	17.62	19.46	19.07	20.38	17.54
10/7/2017-18:00	17.74	17.64	17.56	19.38	18.99	20.32	17.49
10/7/2017-19:00	17.69	17.6	17.52	19.31	18.94	20.29	17.44
10/7/2017-20:00	17.66	17.56	17.49	19.25	18.91	20.26	17.41
10/7/2017-21:00	17.62	17.53	17.46	19.21	18.89	20.24	17.39
10/7/2017-22:00	17.6	17.51	17.44	19.17	18.88	20.23	17.37
10/7/2017-23:00	17.57	17.49	17.42	19.14	18.87	20.21	17.35
10/8/2017-0:00	17.55	17.46	17.39	19.11	18.86	20.19	17.33
10/8/2017-1:00	17.52	17.43	17.37	19.08	18.84	20.17	17.3
10/8/2017-2:00	17.48	17.4	17.33	19.05	18.81	20.13	17.27
10/8/2017-3:00	17.44	17.36	17.29	19.01	18.76	20.08	17.22
10/8/2017-4:00	17.39	17.31	17.24	18.97	18.7	20.02	17.17
10/8/2017-5:00	17.34	17.24	17.17	18.91	18.61	19.94	17.1
10/8/2017-6:00	17.27	17.17	17.1	18.84	18.51	19.86	17.03
10/8/2017-7:00	17.19	17.09	17.01	18.75	18.4	19.76	16.94

10/8/2017-8:00	17.11	17	16.92	18.66	18.26	19.64	16.84
10/8/2017-9:00	17.01	16.9	16.81	18.55	18.11	19.52	16.73
10/8/2017-10:00	16.91	16.79	16.69	18.43	17.94	19.39	16.61
10/8/2017-11:00	16.8	16.67	16.57	18.3	17.77	19.25	16.49
10/8/2017-12:00	16.69	16.55	16.45	18.16	17.59	19.11	16.36
10/8/2017-13:00	16.57	16.43	16.32	18.01	17.41	18.97	16.24
10/8/2017-14:00	16.46	16.32	16.2	17.87	17.24	18.85	16.12
10/8/2017-15:00	16.35	16.21	16.09	17.73	17.09	18.73	16.01
10/8/2017-16:00	16.26	16.11	15.99	17.6	16.96	18.64	15.91
10/8/2017-17:00	16.17	16.03	15.91	17.48	16.86	18.56	15.83
10/8/2017-18:00	16.1	15.96	15.85	17.38	16.79	18.51	15.77
10/8/2017-19:00	16.05	15.91	15.8	17.29	16.75	18.47	15.73
10/8/2017-20:00	16.01	15.87	15.77	17.23	16.73	18.46	15.7
10/8/2017-21:00	15.98	15.85	15.75	17.19	16.74	18.45	15.68
10/8/2017-22:00	15.95	15.83	15.74	17.16	16.76	18.46	15.68
10/8/2017-23:00	15.94	15.82	15.73	17.14	16.79	18.47	15.67
10/9/2017-0:00	15.92	15.81	15.72	17.13	16.82	18.47	15.67
10/9/2017-1:00	15.9	15.79	15.71	17.12	16.84	18.47	15.66
10/9/2017-2:00	15.88	15.78	15.7	17.11	16.84	18.45	15.65
10/9/2017-3:00	15.85	15.75	15.67	17.1	16.84	18.43	15.62
10/9/2017-4:00	15.82	15.72	15.64	17.08	16.81	18.39	15.59
10/9/2017-5:00	15.78	15.67	15.59	17.04	16.77	18.34	15.54
10/9/2017-6:00	15.73	15.62	15.54	17	16.71	18.28	15.49
10/9/2017-7:00	15.67	15.56	15.47	16.95	16.63	18.2	15.42
10/9/2017-8:00	15.6	15.48	15.4	16.88	16.53	18.11	15.34
10/9/2017-9:00	15.52	15.4	15.31	16.81	16.42	18.02	15.26
10/9/2017-10:00	15.44	15.32	15.22	16.72	16.29	17.91	15.16
10/9/2017-11:00	15.35	15.22	15.12	16.62	16.15	17.8	15.06
10/9/2017-12:00	15.25	15.12	15.02	16.51	16.01	17.68	14.95
10/9/2017-13:00	15.16	15.02	14.92	16.4	15.87	17.57	14.85
10/9/2017-14:00	15.07	14.93	14.82	16.28	15.74	17.47	14.75
10/9/2017-15:00	14.98	14.84	14.73	16.17	15.62	17.38	14.66
10/9/2017-16:00	14.9	14.76	14.65	16.07	15.52	17.3	14.59
10/9/2017-17:00	14.84	14.7	14.59	15.98	15.45	17.25	14.53
10/9/2017-18:00	14.79	14.65	14.55	15.91	15.41	17.22	14.48
10/9/2017-19:00	14.75	14.62	14.52	15.86	15.4	17.2	14.46
10/9/2017-20:00	14.73	14.6	14.51	15.82	15.41	17.21	14.45
10/9/2017-21:00	14.72	14.6	14.51	15.81	15.45	17.23	14.46
10/9/2017-22:00	14.71	14.6	14.52	15.81	15.5	17.26	14.47
10/9/2017-23:00	14.71	14.61	14.53	15.82	15.56	17.29	14.49
10/10/2017-0:00	14.72	14.62	14.55	15.84	15.62	17.31	14.51
10/10/2017-1:00	14.72	14.63	14.56	15.86	15.67	17.34	14.52
10/10/2017-2:00	14.72	14.63	14.56	15.88	15.72	17.35	14.53
10/10/2017-3:00	14.72	14.63	14.56	15.9	15.74	17.35	14.53
10/10/2017-4:00	14.71	14.62	14.55	15.91	15.75	17.34	14.52
10/10/2017-5:00	14.69	14.6	14.53	15.91	15.75	17.32	14.5
10/10/2017-6:00	14.66	14.57	14.5	15.9	15.72	17.28	14.46
10/10/2017-7:00	14.62	14.52	14.46	15.88	15.67	17.23	14.42
10/10/2017-8:00	14.57	14.47	14.4	15.84	15.6	17.16	14.36
10/10/2017-9:00	14.51	14.41	14.34	15.79	15.51	17.08	14.3
10/10/2017-10:00	14.45	14.34	14.26	15.73	15.41	17	14.22
10/10/2017-11:00	14.37	14.26	14.18	15.65	15.3	16.9	14.13
10/10/2017-12:00	14.3	14.18	14.09	15.57	15.18	16.8	14.04



10/10/2017-13:00	14.22	14.1	14	15.48	15.05	16.7	13.95
10/10/2017-14:00	14.14	14.01	13.92	15.38	14.93	16.61	13.86
10/10/2017-15:00	14.06	13.93	13.84	15.29	14.82	16.52	13.78
10/10/2017-16:00	13.99	13.86	13.76	15.2	14.73	16.45	13.71
10/10/2017-17:00	13.93	13.8	13.71	15.12	14.66	16.4	13.65
10/10/2017-18:00	13.88	13.76	13.66	15.06	14.61	16.36	13.61
10/10/2017-19:00	13.85	13.72	13.63	15.01	14.59	16.34	13.58
10/10/2017-20:00	13.82	13.7	13.61	14.97	14.59	16.34	13.57
10/10/2017-21:00	13.8	13.69	13.61	14.95	14.61	16.34	13.56
10/10/2017-22:00	13.79	13.69	13.61	14.94	14.64	16.36	13.57
10/10/2017-23:00	13.79	13.68	13.61	14.94	14.67	16.37	13.57
10/11/2017-0:00	13.78	13.68	13.61	14.94	14.7	16.37	13.57
10/11/2017-1:00	13.77	13.67	13.6	14.94	14.73	16.37	13.57
10/11/2017-2:00	13.75	13.66	13.59	14.94	14.73	16.36	13.55
10/11/2017-3:00	13.73	13.64	13.57	14.94	14.73	16.34	13.53
10/11/2017-4:00	13.7	13.61	13.53	14.92	14.7	16.3	13.5
10/11/2017-5:00	13.66	13.56	13.49	14.89	14.65	16.25	13.45
10/11/2017-6:00	13.61	13.51	13.44	14.86	14.59	16.18	13.4
10/11/2017-7:00	13.56	13.45	13.37	14.8	14.5	16.1	13.33
10/11/2017-8:00	13.49	13.38	13.29	14.74	14.4	16.01	13.25
10/11/2017-9:00	13.41	13.29	13.2	14.66	14.28	15.91	13.16
10/11/2017-10:00	13.32	13.2	13.11	14.57	14.14	15.8	13.06
10/11/2017-11:00	13.23	13.1	13.01	14.46	14	15.68	12.95
10/11/2017-12:00	13.13	13	12.9	14.35	13.85	15.56	12.84
10/11/2017-13:00	13.04	12.9	12.79	14.23	13.7	15.44	12.74
10/11/2017-14:00	12.94	12.8	12.69	14.12	13.56	15.33	12.63
10/11/2017-15:00	12.85	12.71	12.6	14	13.44	15.24	12.54
10/11/2017-16:00	12.78	12.63	12.52	13.9	13.33	15.16	12.46
10/11/2017-17:00	12.71	12.57	12.46	13.81	13.26	15.1	12.4
10/11/2017-18:00	12.66	12.52	12.41	13.73	13.22	15.07	12.36
10/11/2017-19:00	12.62	12.48	12.38	13.67	13.2	15.05	12.33
10/11/2017-20:00	12.59	12.46	12.37	13.64	13.21	15.06	12.32
10/11/2017-21:00	12.58	12.45	12.36	13.62	13.24	15.07	12.32
10/11/2017-22:00	12.57	12.45	12.37	13.61	13.29	15.09	12.33
10/11/2017-23:00	12.57	12.46	12.38	13.62	13.34	15.12	12.34
10/12/2017-0:00	12.57	12.46	12.39	13.63	13.39	15.14	12.36
10/12/2017-1:00	12.57	12.47	12.39	13.64	13.44	15.15	12.36
10/12/2017-2:00	12.56	12.46	12.39	13.66	13.47	15.15	12.36
10/12/2017-3:00	12.55	12.46	12.38	13.67	13.48	15.15	12.36
10/12/2017-4:00	12.54	12.44	12.37	13.67	13.48	15.13	12.34
10/12/2017-5:00	12.51	12.41	12.34	13.66	13.47	15.1	12.31
10/12/2017-6:00	12.48	12.38	12.3	13.64	13.43	15.05	12.27
10/12/2017-7:00	12.43	12.33	12.26	13.61	13.37	14.99	12.22
10/12/2017-8:00	12.38	12.28	12.2	13.57	13.3	14.92	12.16
10/12/2017-9:00	12.32	12.21	12.13	13.52	13.21	14.84	12.09
10/12/2017-10:00	12.25	12.14	12.05	13.45	13.11	14.76	12.01
10/12/2017-11:00	12.18	12.06	11.97	13.38	13	14.66	11.93
10/12/2017-12:00	12.1	11.98	11.89	13.29	12.88	14.57	11.84
10/12/2017-13:00	12.03	11.9	11.8	13.2	12.76	14.47	11.76
10/12/2017-14:00	11.95	11.82	11.72	13.11	12.66	14.39	11.68
10/12/2017-15:00	11.88	11.75	11.65	13.03	12.56	14.31	11.6
10/12/2017-16:00	11.82	11.69	11.59	12.95	12.49	14.26	11.54
10/12/2017-17:00	11.77	11.64	11.55	12.88	12.44	14.22	11.5

10/12/2017-18:00	11.74	11.61	11.51	12.83	12.42	14.2	11.47
10/12/2017-19:00	11.71	11.59	11.5	12.8	12.42	14.2	11.46
10/12/2017-20:00	11.7	11.58	11.5	12.78	12.45	14.21	11.46
10/12/2017-21:00	11.69	11.58	11.5	12.77	12.49	14.23	11.47
10/12/2017-22:00	11.7	11.59	11.52	12.78	12.54	14.26	11.48
10/12/2017-23:00	11.7	11.6	11.53	12.8	12.6	14.29	11.5
10/13/2017-0:00	11.71	11.62	11.55	12.83	12.66	14.32	11.52
10/13/2017-1:00	11.72	11.63	11.56	12.85	12.71	14.34	11.53
10/13/2017-2:00	11.72	11.63	11.57	12.87	12.75	14.35	11.54
10/13/2017-3:00	11.72	11.63	11.57	12.89	12.77	14.35	11.54
10/13/2017-4:00	11.7	11.62	11.56	12.9	12.78	14.34	11.53
10/13/2017-5:00	11.69	11.6	11.54	12.91	12.77	14.32	11.51
10/13/2017-6:00	11.66	11.57	11.5	12.9	12.74	14.28	11.48
10/13/2017-7:00	11.62	11.53	11.46	12.88	12.69	14.23	11.43
10/13/2017-8:00	11.58	11.48	11.41	12.84	12.63	14.17	11.38
10/13/2017-9:00	11.53	11.43	11.35	12.8	12.55	14.09	11.32
10/13/2017-10:00	11.46	11.36	11.28	12.74	12.45	14.01	11.24
10/13/2017-11:00	11.4	11.29	11.2	12.67	12.34	13.92	11.16
10/13/2017-12:00	11.32	11.21	11.12	12.59	12.22	13.83	11.08
10/13/2017-13:00	11.25	11.13	11.04	12.5	12.11	13.73	10.99
10/13/2017-14:00	11.17	11.05	10.96	12.42	12	13.65	10.91
10/13/2017-15:00	11.11	10.98	10.89	12.33	11.9	13.57	10.84
10/13/2017-16:00	11.05	10.92	10.83	12.26	11.83	13.52	10.78
10/13/2017-17:00	11	10.88	10.78	12.19	11.78	13.48	10.74
10/13/2017-18:00	10.96	10.84	10.75	12.14	11.76	13.46	10.71
10/13/2017-19:00	10.94	10.83	10.74	12.11	11.76	13.46	10.7
10/13/2017-20:00	10.93	10.82	10.74	12.09	11.79	13.48	10.7
10/13/2017-21:00	10.93	10.83	10.75	12.09	11.84	13.51	10.72
10/13/2017-22:00	10.94	10.84	10.77	12.1	11.89	13.54	10.74
10/13/2017-23:00	10.95	10.86	10.79	12.13	11.96	13.57	10.76
10/14/2017-0:00	10.96	10.87	10.81	12.15	12.02	13.6	10.78
10/14/2017-1:00	10.97	10.88	10.82	12.18	12.07	13.62	10.8
10/14/2017-2:00	10.97	10.89	10.83	12.21	12.1	13.63	10.8
10/14/2017-3:00	10.96	10.88	10.82	12.22	12.12	13.63	10.8
10/14/2017-4:00	10.95	10.87	10.81	12.23	12.12	13.61	10.78
10/14/2017-5:00	10.93	10.84	10.78	12.22	12.09	13.57	10.75
10/14/2017-6:00	10.89	10.81	10.74	12.21	12.05	13.52	10.71
10/14/2017-7:00	10.85	10.76	10.69	12.17	11.98	13.46	10.66
10/14/2017-8:00	10.79	10.7	10.63	12.13	11.89	13.38	10.59
10/14/2017-9:00	10.73	10.63	10.55	12.07	11.79	13.29	10.51
10/14/2017-10:00	10.66	10.55	10.47	11.99	11.67	13.19	10.43
10/14/2017-11:00	10.58	10.47	10.38	11.9	11.54	13.08	10.33
10/14/2017-12:00	10.49	10.38	10.28	11.81	11.4	12.98	10.24
10/14/2017-13:00	10.41	10.29	10.19	11.71	11.27	12.87	10.14
10/14/2017-14:00	10.32	10.2	10.1	11.6	11.14	12.77	10.05
10/14/2017-15:00	10.25	10.12	10.02	11.5	11.03	12.69	9.96
10/14/2017-16:00	10.18	10.05	9.95	11.41	10.94	12.62	9.89
10/14/2017-17:00	10.12	9.99	9.89	11.33	10.87	12.57	9.84
10/14/2017-18:00	10.07	9.95	9.85	11.27	10.83	12.54	9.8
10/14/2017-19:00	10.04	9.92	9.83	11.22	10.82	12.53	9.78
10/14/2017-20:00	10.02	9.9	9.82	11.19	10.83	12.53	9.77
10/14/2017-21:00	10.01	9.9	9.82	11.17	10.87	12.55	9.78
10/14/2017-22:00	10.01	9.91	9.83	11.18	10.92	12.58	9.79

10/14/2017-23:00	10.02	9.92	9.84	11.19	10.97	12.61	9.81
10/15/2017-0:00	10.02	9.93	9.86	11.21	11.03	12.63	9.83
10/15/2017-1:00	10.03	9.94	9.87	11.23	11.08	12.65	9.84
10/15/2017-2:00	10.03	9.94	9.88	11.25	11.11	12.66	9.85
10/15/2017-3:00	10.02	9.94	9.87	11.26	11.14	12.66	9.85
10/15/2017-4:00	10.01	9.93	9.86	11.27	11.14	12.65	9.84
10/15/2017-5:00	9.99	9.9	9.84	11.27	11.13	12.62	9.81
10/15/2017-6:00	9.96	9.87	9.81	11.26	11.1	12.58	9.78
10/15/2017-7:00	9.93	9.84	9.77	11.23	11.05	12.53	9.74
10/15/2017-8:00	9.88	9.79	9.71	11.2	10.99	12.47	9.68
10/15/2017-9:00	9.83	9.73	9.65	11.15	10.9	12.4	9.62
10/15/2017-10:00	9.76	9.66	9.58	11.09	10.8	12.31	9.54
10/15/2017-11:00	9.7	9.59	9.51	11.02	10.7	12.22	9.46
10/15/2017-12:00	9.62	9.51	9.42	10.94	10.58	12.13	9.38
10/15/2017-13:00	9.55	9.43	9.34	10.86	10.47	12.04	9.3
10/15/2017-14:00	9.48	9.36	9.27	10.77	10.37	11.96	9.22
10/15/2017-15:00	9.42	9.29	9.2	10.69	10.28	11.89	9.15
10/15/2017-16:00	9.36	9.24	9.15	10.62	10.21	11.84	9.1
10/15/2017-17:00	9.31	9.19	9.1	10.55	10.16	11.8	9.06
10/15/2017-18:00	9.28	9.16	9.08	10.51	10.14	11.79	9.03
10/15/2017-19:00	9.26	9.15	9.06	10.48	10.15	11.79	9.02
10/15/2017-20:00	9.25	9.14	9.06	10.46	10.18	11.8	9.02
10/15/2017-21:00	9.25	9.15	9.07	10.46	10.22	11.83	9.04
10/15/2017-22:00	9.25	9.16	9.09	10.47	10.27	11.86	9.06
10/15/2017-23:00	9.26	9.17	9.11	10.49	10.33	11.89	9.08
10/16/2017-0:00	9.27	9.19	9.12	10.52	10.39	11.92	9.1
10/16/2017-1:00	9.28	9.2	9.14	10.54	10.44	11.94	9.11
10/16/2017-2:00	9.29	9.21	9.15	10.57	10.48	11.96	9.12
10/16/2017-3:00	9.29	9.21	9.15	10.59	10.51	11.96	9.13
10/16/2017-4:00	9.28	9.2	9.15	10.61	10.52	11.96	9.12
10/16/2017-5:00	9.27	9.19	9.14	10.61	10.52	11.94	9.11
10/16/2017-6:00	9.25	9.17	9.11	10.61	10.5	11.91	9.09
10/16/2017-7:00	9.22	9.14	9.08	10.6	10.47	11.88	9.05
10/16/2017-8:00	9.19	9.11	9.04	10.58	10.42	11.83	9.01
10/16/2017-9:00	9.15	9.06	9	10.55	10.36	11.77	8.96
10/16/2017-10:00	9.1	9.01	8.94	10.5	10.29	11.71	8.91
10/16/2017-11:00	9.05	8.96	8.89	10.45	10.21	11.64	8.85
10/16/2017-12:00	9	8.9	8.82	10.4	10.12	11.57	8.78
10/16/2017-13:00	8.94	8.84	8.76	10.33	10.04	11.5	8.72
10/16/2017-14:00	8.88	8.78	8.7	10.27	9.95	11.44	8.65
10/16/2017-15:00	8.83	8.73	8.65	10.21	9.88	11.38	8.6
10/16/2017-16:00	8.79	8.68	8.6	10.15	9.83	11.34	8.56
10/16/2017-17:00	8.76	8.65	8.57	10.11	9.8	11.32	8.53
10/16/2017-18:00	8.74	8.64	8.56	10.08	9.8	11.32	8.52
10/16/2017-19:00	8.73	8.63	8.56	10.06	9.82	11.33	8.52
10/16/2017-20:00	8.73	8.64	8.57	10.06	9.86	11.36	8.53
10/16/2017-21:00	8.74	8.66	8.6	10.08	9.93	11.4	8.56
10/16/2017-22:00	8.76	8.69	8.63	10.11	10	11.45	8.6
10/16/2017-23:00	8.79	8.72	8.66	10.15	10.08	11.5	8.63
10/17/2017-0:00	8.81	8.75	8.7	10.19	10.16	11.54	8.67
10/17/2017-1:00	8.84	8.77	8.73	10.24	10.23	11.58	8.7
10/17/2017-2:00	8.86	8.8	8.75	10.28	10.29	11.61	8.73
10/17/2017-3:00	8.87	8.81	8.77	10.32	10.34	11.63	8.75

10/17/2017-4:00	8.88	8.82	8.78	10.35	10.37	11.64	8.75
10/17/2017-5:00	8.88	8.82	8.78	10.38	10.38	11.63	8.75
10/17/2017-6:00	8.87	8.81	8.77	10.39	10.37	11.62	8.74
10/17/2017-7:00	8.86	8.79	8.75	10.39	10.35	11.59	8.71
10/17/2017-8:00	8.83	8.77	8.72	10.38	10.31	11.55	8.68
10/17/2017-9:00	8.8	8.73	8.68	10.36	10.25	11.5	8.64
10/17/2017-10:00	8.76	8.69	8.63	10.32	10.19	11.44	8.59
10/17/2017-11:00	8.72	8.64	8.58	10.28	10.11	11.37	8.53
10/17/2017-12:00	8.67	8.58	8.52	10.23	10.02	11.3	8.47
10/17/2017-13:00	8.61	8.52	8.46	10.17	9.93	11.23	8.41
10/17/2017-14:00	8.56	8.47	8.4	10.11	9.85	11.17	8.35
10/17/2017-15:00	8.51	8.42	8.34	10.04	9.77	11.11	8.29
10/17/2017-16:00	8.46	8.37	8.29	9.99	9.71	11.06	8.24
10/17/2017-17:00	8.42	8.33	8.26	9.93	9.66	11.02	8.2
10/17/2017-18:00	8.39	8.3	8.23	9.89	9.63	11	8.18
10/17/2017-19:00	8.37	8.28	8.21	9.86	9.62	10.99	8.16
10/17/2017-20:00	8.36	8.27	8.2	9.84	9.62	10.99	8.15
10/17/2017-21:00	8.35	8.26	8.2	9.83	9.63	11	8.15
10/17/2017-22:00	8.34	8.26	8.2	9.82	9.65	11	8.15
10/17/2017-23:00	8.34	8.26	8.2	9.82	9.68	11.01	8.15
10/18/2017-0:00	8.33	8.26	8.2	9.82	9.7	11.02	8.15
10/18/2017-1:00	8.33	8.25	8.19	9.83	9.71	11.01	8.15
10/18/2017-2:00	8.31	8.24	8.18	9.83	9.71	11	8.13
10/18/2017-3:00	8.3	8.22	8.16	9.82	9.7	10.98	8.11
10/18/2017-4:00	8.27	8.19	8.13	9.8	9.67	10.95	8.09
10/18/2017-5:00	8.24	8.16	8.1	9.78	9.63	10.9	8.05
10/18/2017-6:00	8.2	8.12	8.05	9.75	9.57	10.85	8
10/18/2017-7:00	8.15	8.07	8	9.7	9.5	10.79	7.95
10/18/2017-8:00	8.1	8.01	7.94	9.65	9.41	10.71	7.88
10/18/2017-9:00	8.04	7.94	7.86	9.58	9.31	10.63	7.81
10/18/2017-10:00	7.97	7.86	7.79	9.51	9.2	10.54	7.73
10/18/2017-11:00	7.89	7.78	7.7	9.42	9.08	10.44	7.64
10/18/2017-12:00	7.81	7.7	7.61	9.33	8.95	10.34	7.55
10/18/2017-13:00	7.73	7.62	7.53	9.23	8.83	10.25	7.46
10/18/2017-14:00	7.66	7.54	7.45	9.14	8.72	10.16	7.38
10/18/2017-15:00	7.59	7.47	7.38	9.05	8.63	10.09	7.31
10/18/2017-16:00	7.53	7.41	7.32	8.97	8.56	10.04	7.26
10/18/2017-17:00	7.49	7.37	7.28	8.9	8.51	10.01	7.22
10/18/2017-18:00	7.46	7.35	7.26	8.85	8.51	10	7.2
10/18/2017-19:00	7.45	7.34	7.26	8.83	8.53	10.02	7.21
10/18/2017-20:00	7.45	7.35	7.27	8.82	8.58	10.05	7.22
10/18/2017-21:00	7.46	7.37	7.3	8.84	8.65	10.1	7.26
10/18/2017-22:00	7.48	7.4	7.34	8.87	8.74	10.16	7.3
10/18/2017-23:00	7.51	7.44	7.38	8.91	8.84	10.22	7.35
10/19/2017-0:00	7.55	7.48	7.43	8.96	8.94	10.28	7.39
10/19/2017-1:00	7.58	7.51	7.47	9.02	9.03	10.34	7.44
10/19/2017-2:00	7.61	7.55	7.51	9.08	9.11	10.38	7.48
10/19/2017-3:00	7.63	7.57	7.54	9.13	9.18	10.42	7.51
10/19/2017-4:00	7.65	7.59	7.56	9.17	9.23	10.44	7.53
10/19/2017-5:00	7.66	7.6	7.56	9.21	9.26	10.44	7.54
10/19/2017-6:00	7.66	7.6	7.56	9.24	9.27	10.44	7.53
10/19/2017-7:00	7.65	7.59	7.55	9.25	9.26	10.42	7.52
10/19/2017-8:00	7.63	7.57	7.53	9.25	9.24	10.39	7.5

10/19/2017-9:00	7.61	7.55	7.5	9.24	9.2	10.35	7.46
10/19/2017-10:00	7.57	7.51	7.46	9.22	9.14	10.3	7.42
10/19/2017-11:00	7.53	7.47	7.41	9.19	9.07	10.24	7.37
10/19/2017-12:00	7.49	7.42	7.36	9.15	8.99	10.18	7.32
10/19/2017-13:00	7.44	7.37	7.31	9.1	8.91	10.12	7.26
10/19/2017-14:00	7.4	7.32	7.26	9.05	8.84	10.06	7.21
10/19/2017-15:00	7.36	7.28	7.22	8.99	8.78	10.02	7.17
10/19/2017-16:00	7.33	7.24	7.18	8.95	8.73	9.98	7.13
10/19/2017-17:00	7.3	7.22	7.16	8.92	8.71	9.97	7.11
10/19/2017-18:00	7.29	7.21	7.15	8.89	8.71	9.97	7.11
10/19/2017-19:00	7.29	7.22	7.16	8.89	8.74	9.99	7.12
10/19/2017-20:00	7.3	7.23	7.18	8.9	8.78	10.03	7.14
10/19/2017-21:00	7.32	7.26	7.21	8.92	8.85	10.07	7.17
10/19/2017-22:00	7.34	7.29	7.24	8.95	8.92	10.12	7.21
10/19/2017-23:00	7.37	7.32	7.28	8.99	9	10.17	7.25
10/20/2017-0:00	7.4	7.35	7.32	9.04	9.07	10.22	7.28
10/20/2017-1:00	7.43	7.38	7.35	9.09	9.14	10.26	7.32
10/20/2017-2:00	7.45	7.41	7.38	9.13	9.2	10.28	7.34
10/20/2017-3:00	7.47	7.42	7.39	9.17	9.24	10.3	7.36
10/20/2017-4:00	7.48	7.43	7.4	9.2	9.26	10.31	7.37
10/20/2017-5:00	7.48	7.44	7.4	9.23	9.27	10.3	7.37
10/20/2017-6:00	7.47	7.43	7.39	9.24	9.26	10.29	7.36
10/20/2017-7:00	7.46	7.41	7.38	9.24	9.24	10.26	7.33
10/20/2017-8:00	7.44	7.39	7.35	9.23	9.2	10.22	7.3
10/20/2017-9:00	7.41	7.35	7.31	9.2	9.14	10.17	7.26
10/20/2017-10:00	7.37	7.31	7.26	9.17	9.07	10.11	7.21
10/20/2017-11:00	7.32	7.26	7.21	9.12	8.99	10.05	7.16
10/20/2017-12:00	7.28	7.21	7.16	9.07	8.91	9.98	7.1
10/20/2017-13:00	7.23	7.16	7.1	9.01	8.82	9.92	7.04
10/20/2017-14:00	7.18	7.1	7.04	8.95	8.74	9.85	6.98
10/20/2017-15:00	7.13	7.05	6.99	8.89	8.66	9.8	6.93
10/20/2017-16:00	7.09	7.01	6.95	8.84	8.61	9.76	6.89
10/20/2017-17:00	7.06	6.98	6.92	8.79	8.57	9.73	6.86
10/20/2017-18:00	7.04	6.96	6.9	8.76	8.55	9.72	6.84
10/20/2017-19:00	7.02	6.95	6.89	8.73	8.55	9.72	6.84
10/20/2017-20:00	7.02	6.95	6.89	8.72	8.57	9.73	6.84
10/20/2017-21:00	7.02	6.95	6.9	8.72	8.6	9.75	6.85
10/20/2017-22:00	7.03	6.97	6.92	8.73	8.64	9.78	6.87
10/20/2017-23:00	7.04	6.98	6.93	8.74	8.68	9.8	6.89
10/21/2017-0:00	7.05	6.99	6.95	8.76	8.72	9.83	6.9
10/21/2017-1:00	7.05	7	6.96	8.78	8.76	9.84	6.91
10/21/2017-2:00	7.06	7.01	6.97	8.8	8.79	9.85	6.92
10/21/2017-3:00	7.06	7.01	6.97	8.82	8.8	9.85	6.92
10/21/2017-4:00	7.05	7	6.96	8.82	8.8	9.84	6.91
10/21/2017-5:00	7.04	6.98	6.94	8.82	8.79	9.82	6.9
10/21/2017-6:00	7.02	6.96	6.92	8.81	8.76	9.79	6.87
10/21/2017-7:00	6.99	6.93	6.89	8.79	8.71	9.75	6.83
10/21/2017-8:00	6.95	6.89	6.84	8.76	8.65	9.7	6.79
10/21/2017-9:00	6.91	6.85	6.79	8.72	8.58	9.64	6.74
10/21/2017-10:00	6.86	6.79	6.74	8.67	8.5	9.57	6.68
10/21/2017-11:00	6.81	6.73	6.68	8.61	8.41	9.49	6.61
10/21/2017-12:00	6.75	6.67	6.61	8.54	8.31	9.42	6.55
10/21/2017-13:00	6.69	6.61	6.54	8.47	8.21	9.34	6.48

10/21/2017-14:00	6.63	6.55	6.48	8.4	8.12	9.28	6.41
10/21/2017-15:00	6.58	6.49	6.43	8.33	8.04	9.22	6.36
10/21/2017-16:00	6.54	6.45	6.38	8.27	7.98	9.18	6.31
10/21/2017-17:00	6.5	6.42	6.35	8.21	7.95	9.15	6.28
10/21/2017-18:00	6.48	6.4	6.33	8.18	7.94	9.15	6.27
10/21/2017-19:00	6.47	6.39	6.33	8.16	7.96	9.16	6.27
10/21/2017-20:00	6.47	6.4	6.35	8.15	7.99	9.19	6.29
10/21/2017-21:00	6.49	6.42	6.37	8.16	8.05	9.23	6.31
10/21/2017-22:00	6.5	6.44	6.4	8.19	8.12	9.27	6.35
10/21/2017-23:00	6.53	6.47	6.43	8.22	8.19	9.32	6.38
10/22/2017-0:00	6.55	6.5	6.46	8.26	8.26	9.36	6.42
10/22/2017-1:00	6.57	6.53	6.49	8.3	8.33	9.4	6.45
10/22/2017-2:00	6.59	6.55	6.51	8.34	8.38	9.43	6.47
10/22/2017-3:00	6.61	6.56	6.53	8.37	8.42	9.44	6.49
10/22/2017-4:00	6.61	6.57	6.54	8.4	8.45	9.45	6.49
10/22/2017-5:00	6.61	6.57	6.53	8.42	8.45	9.44	6.49
10/22/2017-6:00	6.6	6.56	6.52	8.43	8.44	9.42	6.48
10/22/2017-7:00	6.58	6.54	6.5	8.42	8.41	9.39	6.45
10/22/2017-8:00	6.56	6.51	6.47	8.41	8.36	9.35	6.42
10/22/2017-9:00	6.52	6.47	6.43	8.38	8.3	9.29	6.37
10/22/2017-10:00	6.48	6.42	6.37	8.34	8.23	9.23	6.32
10/22/2017-11:00	6.43	6.37	6.32	8.29	8.14	9.16	6.26
10/22/2017-12:00	6.38	6.31	6.26	8.23	8.04	9.09	6.19
10/22/2017-13:00	6.32	6.25	6.19	8.16	7.95	9.02	6.13
10/22/2017-14:00	6.27	6.19	6.13	8.1	7.86	8.95	6.07
10/22/2017-15:00	6.22	6.14	6.08	8.03	7.78	8.89	6.01
10/22/2017-16:00	6.18	6.1	6.04	7.97	7.72	8.85	5.97
10/22/2017-17:00	6.14	6.07	6	7.92	7.68	8.82	5.94
10/22/2017-18:00	6.12	6.05	5.99	7.88	7.66	8.81	5.92
10/22/2017-19:00	6.11	6.04	5.98	7.86	7.67	8.82	5.92
10/22/2017-20:00	6.11	6.04	5.99	7.85	7.7	8.85	5.94
10/22/2017-21:00	6.12	6.06	6.01	7.86	7.75	8.88	5.96
10/22/2017-22:00	6.14	6.08	6.04	7.88	7.81	8.92	5.99
10/22/2017-23:00	6.16	6.1	6.07	7.91	7.88	8.96	6.02
10/23/2017-0:00	6.18	6.13	6.1	7.94	7.95	9	6.05
10/23/2017-1:00	6.2	6.16	6.12	7.98	8.01	9.04	6.08
10/23/2017-2:00	6.22	6.18	6.15	8.02	8.06	9.07	6.1
10/23/2017-3:00	6.23	6.19	6.16	8.05	8.1	9.08	6.12
10/23/2017-4:00	6.24	6.2	6.17	8.08	8.12	9.09	6.13
10/23/2017-5:00	6.24	6.2	6.17	8.1	8.13	9.09	6.13
10/23/2017-6:00	6.23	6.19	6.16	8.11	8.13	9.08	6.12
10/23/2017-7:00	6.22	6.18	6.15	8.11	8.11	9.05	6.1
10/23/2017-8:00	6.2	6.15	6.12	8.1	8.07	9.02	6.07
10/23/2017-9:00	6.17	6.12	6.08	8.08	8.02	8.97	6.03
10/23/2017-10:00	6.13	6.08	6.04	8.04	7.96	8.92	5.99
10/23/2017-11:00	6.09	6.04	5.99	8	7.89	8.86	5.94
10/23/2017-12:00	6.05	5.99	5.94	7.96	7.81	8.8	5.88
10/23/2017-13:00	6	5.94	5.89	7.9	7.73	8.74	5.83
10/23/2017-14:00	5.96	5.89	5.84	7.85	7.66	8.69	5.78
10/23/2017-15:00	5.92	5.85	5.8	7.8	7.6	8.65	5.74
10/23/2017-16:00	5.89	5.82	5.77	7.75	7.55	8.62	5.71
10/23/2017-17:00	5.87	5.8	5.75	7.72	7.53	8.61	5.69
10/23/2017-18:00	5.86	5.79	5.75	7.69	7.54	8.61	5.69

10/23/2017-19:00	5.86	5.8	5.76	7.69	7.57	8.64	5.7
10/23/2017-20:00	5.87	5.82	5.78	7.7	7.62	8.67	5.72
10/23/2017-21:00	5.89	5.85	5.81	7.72	7.68	8.72	5.76
10/23/2017-22:00	5.92	5.88	5.85	7.76	7.76	8.78	5.8
10/23/2017-23:00	5.95	5.92	5.89	7.8	7.84	8.83	5.84
10/24/2017-0:00	5.99	5.96	5.93	7.85	7.93	8.88	5.89
10/24/2017-1:00	6.02	5.99	5.97	7.9	8	8.93	5.93
10/24/2017-2:00	6.05	6.02	6.01	7.96	8.07	8.97	5.96
10/24/2017-3:00	6.08	6.05	6.03	8	8.12	9	5.99
10/24/2017-4:00	6.09	6.07	6.05	8.04	8.16	9.02	6.01
10/24/2017-5:00	6.11	6.08	6.07	8.08	8.19	9.03	6.02
10/24/2017-6:00	6.11	6.09	6.07	8.1	8.2	9.03	6.02
10/24/2017-7:00	6.11	6.08	6.06	8.12	8.19	9.02	6.02
10/24/2017-8:00	6.1	6.07	6.05	8.12	8.17	8.99	6
10/24/2017-9:00	6.09	6.05	6.03	8.12	8.14	8.96	5.98
10/24/2017-10:00	6.06	6.03	6	8.1	8.09	8.93	5.94
10/24/2017-11:00	6.04	6	5.96	8.07	8.04	8.88	5.91
10/24/2017-12:00	6	5.96	5.93	8.04	7.97	8.83	5.86
10/24/2017-13:00	5.97	5.92	5.88	8	7.91	8.78	5.82
10/24/2017-14:00	5.93	5.88	5.84	7.96	7.85	8.74	5.78
10/24/2017-15:00	5.9	5.85	5.81	7.92	7.79	8.7	5.74
10/24/2017-16:00	5.88	5.82	5.78	7.88	7.75	8.67	5.71
10/24/2017-17:00	5.86	5.8	5.76	7.85	7.73	8.66	5.7
10/24/2017-18:00	5.85	5.79	5.75	7.83	7.72	8.66	5.69
10/24/2017-19:00	5.84	5.8	5.76	7.82	7.73	8.67	5.69
10/24/2017-20:00	5.85	5.81	5.77	7.82	7.77	8.7	5.71
10/24/2017-21:00	5.87	5.83	5.8	7.84	7.81	8.73	5.74
10/24/2017-22:00	5.89	5.85	5.82	7.86	7.87	8.77	5.76
10/24/2017-23:00	5.91	5.88	5.85	7.89	7.93	8.81	5.8
10/25/2017-0:00	5.93	5.9	5.88	7.93	7.98	8.84	5.82
10/25/2017-1:00	5.95	5.93	5.9	7.96	8.03	8.87	5.85
10/25/2017-2:00	5.97	5.94	5.92	7.99	8.07	8.89	5.87
10/25/2017-3:00	5.98	5.95	5.93	8.02	8.09	8.9	5.88
10/25/2017-4:00	5.98	5.96	5.93	8.03	8.1	8.9	5.88
10/25/2017-5:00	5.98	5.95	5.93	8.04	8.09	8.88	5.87
10/25/2017-6:00	5.97	5.93	5.91	8.04	8.07	8.86	5.85
10/25/2017-7:00	5.94	5.91	5.88	8.03	8.03	8.82	5.82
10/25/2017-8:00	5.91	5.88	5.84	8	7.97	8.77	5.78
10/25/2017-9:00	5.88	5.83	5.8	7.97	7.9	8.71	5.73
10/25/2017-10:00	5.83	5.78	5.74	7.92	7.81	8.64	5.67
10/25/2017-11:00	5.78	5.73	5.68	7.86	7.72	8.57	5.61
10/25/2017-12:00	5.73	5.67	5.62	7.79	7.62	8.49	5.54
10/25/2017-13:00	5.67	5.61	5.55	7.72	7.51	8.42	5.48
10/25/2017-14:00	5.61	5.55	5.49	7.65	7.42	8.35	5.41
10/25/2017-15:00	5.56	5.5	5.44	7.58	7.34	8.29	5.36
10/25/2017-16:00	5.52	5.45	5.4	7.52	7.28	8.25	5.32
10/25/2017-17:00	5.49	5.42	5.37	7.46	7.24	8.23	5.29
10/25/2017-18:00	5.47	5.41	5.36	7.43	7.23	8.23	5.28
10/25/2017-19:00	5.47	5.41	5.36	7.41	7.25	8.25	5.28
10/25/2017-20:00	5.47	5.42	5.38	7.41	7.29	8.28	5.3
10/25/2017-21:00	5.49	5.44	5.4	7.42	7.35	8.32	5.33
10/25/2017-22:00	5.51	5.47	5.44	7.45	7.42	8.37	5.37
10/25/2017-23:00	5.54	5.5	5.47	7.48	7.49	8.42	5.41

10/26/2017-0:00	5.57	5.53	5.51	7.52	7.57	8.47	5.45
10/26/2017-1:00	5.59	5.56	5.54	7.56	7.63	8.5	5.48
10/26/2017-2:00	5.62	5.59	5.57	7.6	7.69	8.53	5.51
10/26/2017-3:00	5.63	5.6	5.58	7.64	7.72	8.55	5.52
10/26/2017-4:00	5.64	5.61	5.59	7.66	7.74	8.55	5.53
10/26/2017-5:00	5.64	5.61	5.59	7.68	7.75	8.55	5.53
10/26/2017-6:00	5.63	5.6	5.58	7.69	7.73	8.53	5.51
10/26/2017-7:00	5.61	5.58	5.55	7.68	7.7	8.5	5.49
10/26/2017-8:00	5.59	5.55	5.52	7.67	7.65	8.45	5.46
10/26/2017-9:00	5.56	5.52	5.48	7.64	7.59	8.4	5.41
10/26/2017-10:00	5.52	5.47	5.44	7.6	7.52	8.34	5.37
10/26/2017-11:00	5.47	5.42	5.38	7.55	7.43	8.28	5.31
10/26/2017-12:00	5.43	5.37	5.33	7.49	7.35	8.21	5.25
10/26/2017-13:00	5.38	5.32	5.27	7.43	7.26	8.15	5.2
10/26/2017-14:00	5.33	5.27	5.22	7.37	7.18	8.09	5.14
10/26/2017-15:00	5.29	5.23	5.18	7.32	7.12	8.05	5.1
10/26/2017-16:00	5.26	5.2	5.15	7.27	7.07	8.02	5.07
10/26/2017-17:00	5.24	5.18	5.13	7.23	7.06	8.01	5.06
10/26/2017-18:00	5.23	5.18	5.13	7.21	7.06	8.02	5.06
10/26/2017-19:00	5.24	5.19	5.15	7.2	7.1	8.05	5.08
10/26/2017-20:00	5.25	5.21	5.18	7.22	7.16	8.1	5.11
10/26/2017-21:00	5.28	5.24	5.22	7.25	7.24	8.16	5.15
10/26/2017-22:00	5.32	5.29	5.26	7.29	7.33	8.22	5.2
10/26/2017-23:00	5.36	5.33	5.31	7.34	7.42	8.29	5.26
10/27/2017-0:00	5.4	5.38	5.37	7.4	7.52	8.35	5.31
10/27/2017-1:00	5.44	5.43	5.42	7.47	7.61	8.41	5.36
10/27/2017-2:00	5.48	5.47	5.46	7.53	7.7	8.46	5.41
10/27/2017-3:00	5.52	5.51	5.5	7.59	7.76	8.5	5.45
10/27/2017-4:00	5.54	5.53	5.53	7.64	7.82	8.53	5.48
10/27/2017-5:00	5.56	5.56	5.55	7.68	7.85	8.55	5.5
10/27/2017-6:00	5.58	5.57	5.56	7.72	7.87	8.56	5.51
10/27/2017-7:00	5.58	5.57	5.56	7.74	7.88	8.55	5.51
10/27/2017-8:00	5.58	5.57	5.56	7.76	7.86	8.54	5.5
10/27/2017-9:00	5.57	5.55	5.54	7.76	7.84	8.51	5.48
10/27/2017-10:00	5.55	5.53	5.52	7.75	7.79	8.48	5.45
10/27/2017-11:00	5.53	5.51	5.49	7.73	7.74	8.44	5.42
10/27/2017-12:00	5.5	5.48	5.45	7.7	7.69	8.39	5.38
10/27/2017-13:00	5.48	5.44	5.42	7.67	7.63	8.35	5.35
10/27/2017-14:00	5.45	5.41	5.39	7.63	7.57	8.32	5.31
10/27/2017-15:00	5.42	5.39	5.36	7.6	7.53	8.29	5.29
10/27/2017-16:00	5.41	5.37	5.34	7.57	7.5	8.27	5.27
10/27/2017-17:00	5.4	5.36	5.34	7.55	7.49	8.27	5.26
10/27/2017-18:00	5.4	5.37	5.34	7.55	7.5	8.29	5.27
10/27/2017-19:00	5.41	5.38	5.36	7.55	7.54	8.31	5.29
10/27/2017-20:00	5.43	5.41	5.38	7.57	7.58	8.35	5.32
10/27/2017-21:00	5.46	5.44	5.42	7.6	7.64	8.4	5.35
10/27/2017-22:00	5.49	5.47	5.46	7.63	7.71	8.44	5.39
10/27/2017-23:00	5.52	5.51	5.5	7.67	7.78	8.49	5.43
10/28/2017-0:00	5.55	5.54	5.53	7.72	7.85	8.54	5.47
10/28/2017-1:00	5.58	5.57	5.57	7.77	7.91	8.58	5.51
10/28/2017-2:00	5.61	5.6	5.6	7.81	7.96	8.61	5.54
10/28/2017-3:00	5.63	5.63	5.62	7.85	8	8.63	5.56
10/28/2017-4:00	5.65	5.64	5.64	7.88	8.03	8.65	5.58



10/28/2017-5:00	5.66	5.66	5.65	7.91	8.05	8.65	5.59
10/28/2017-6:00	5.67	5.66	5.65	7.93	8.05	8.65	5.59
10/28/2017-7:00	5.67	5.66	5.65	7.94	8.04	8.64	5.58
10/28/2017-8:00	5.66	5.65	5.64	7.94	8.02	8.62	5.57
10/28/2017-9:00	5.65	5.63	5.62	7.93	7.99	8.6	5.55
10/28/2017-10:00	5.63	5.61	5.6	7.92	7.95	8.56	5.52
10/28/2017-11:00	5.61	5.59	5.57	7.89	7.9	8.52	5.49
10/28/2017-12:00	5.58	5.56	5.53	7.86	7.84	8.48	5.46
10/28/2017-13:00	5.55	5.52	5.5	7.83	7.78	8.43	5.42
10/28/2017-14:00	5.52	5.49	5.46	7.79	7.72	8.39	5.38
10/28/2017-15:00	5.49	5.46	5.43	7.75	7.67	8.36	5.35
10/28/2017-16:00	5.47	5.44	5.41	7.72	7.63	8.34	5.33
10/28/2017-17:00	5.46	5.42	5.39	7.69	7.61	8.33	5.31
10/28/2017-18:00	5.45	5.42	5.39	7.67	7.61	8.33	5.31
10/28/2017-19:00	5.45	5.42	5.4	7.66	7.62	8.34	5.32
10/28/2017-20:00	5.46	5.43	5.41	7.66	7.65	8.36	5.33
10/28/2017-21:00	5.47	5.45	5.43	7.67	7.68	8.39	5.36
10/28/2017-22:00	5.49	5.47	5.45	7.69	7.73	8.42	5.38
10/28/2017-23:00	5.51	5.49	5.48	7.72	7.77	8.45	5.41
10/29/2017-0:00	5.53	5.51	5.5	7.74	7.81	8.48	5.43
10/29/2017-1:00	5.54	5.53	5.52	7.76	7.84	8.49	5.44
10/29/2017-2:00	5.55	5.54	5.53	7.78	7.86	8.5	5.45
10/29/2017-3:00	5.56	5.54	5.53	7.8	7.87	8.5	5.46
10/29/2017-4:00	5.56	5.54	5.53	7.8	7.87	8.49	5.45
10/29/2017-5:00	5.55	5.53	5.52	7.8	7.85	8.48	5.44
10/29/2017-6:00	5.54	5.52	5.5	7.79	7.82	8.45	5.42
10/29/2017-7:00	5.51	5.49	5.47	7.78	7.78	8.41	5.39
10/29/2017-8:00	5.49	5.46	5.44	7.75	7.72	8.37	5.36
10/29/2017-9:00	5.45	5.42	5.4	7.71	7.65	8.31	5.31
10/29/2017-10:00	5.41	5.38	5.35	7.66	7.58	8.25	5.26
10/29/2017-11:00	5.37	5.33	5.29	7.61	7.49	8.19	5.21
10/29/2017-12:00	5.32	5.28	5.24	7.55	7.4	8.12	5.15
10/29/2017-13:00	5.27	5.22	5.18	7.48	7.31	8.05	5.09
10/29/2017-14:00	5.22	5.17	5.12	7.41	7.22	7.99	5.03
10/29/2017-15:00	5.17	5.12	5.07	7.35	7.14	7.94	4.98
10/29/2017-16:00	5.13	5.08	5.03	7.29	7.08	7.89	4.94
10/29/2017-17:00	5.1	5.05	5	7.23	7.04	7.87	4.91
10/29/2017-18:00	5.08	5.03	4.98	7.19	7.02	7.86	4.89
10/29/2017-19:00	5.07	5.02	4.98	7.17	7.02	7.87	4.89
10/29/2017-20:00	5.07	5.02	4.99	7.16	7.05	7.88	4.9
10/29/2017-21:00	5.08	5.03	5	7.16	7.08	7.91	4.92
10/29/2017-22:00	5.09	5.05	5.02	7.17	7.13	7.94	4.94
10/29/2017-23:00	5.1	5.07	5.05	7.19	7.18	7.98	4.97
10/30/2017-0:00	5.12	5.09	5.07	7.21	7.23	8.01	4.99
10/30/2017-1:00	5.14	5.11	5.09	7.24	7.28	8.03	5.02
10/30/2017-2:00	5.15	5.12	5.1	7.26	7.31	8.05	5.03
10/30/2017-3:00	5.16	5.13	5.11	7.28	7.34	8.06	5.04
10/30/2017-4:00	5.16	5.14	5.12	7.3	7.35	8.06	5.04
10/30/2017-5:00	5.15	5.13	5.11	7.31	7.35	8.06	5.04
10/30/2017-6:00	5.14	5.12	5.1	7.31	7.33	8.04	5.02
10/30/2017-7:00	5.13	5.1	5.08	7.3	7.3	8.01	5
10/30/2017-8:00	5.1	5.07	5.05	7.28	7.26	7.97	4.97
10/30/2017-9:00	5.07	5.04	5.01	7.25	7.2	7.93	4.93

10/30/2017-10:00	5.04	5	4.97	7.21	7.14	7.87	4.89
10/30/2017-11:00	5	4.96	4.92	7.17	7.06	7.82	4.84
10/30/2017-12:00	4.95	4.91	4.87	7.11	6.98	7.75	4.78
10/30/2017-13:00	4.9	4.86	4.81	7.06	6.9	7.69	4.73
10/30/2017-14:00	4.85	4.8	4.76	6.99	6.81	7.63	4.67
10/30/2017-15:00	4.81	4.76	4.71	6.93	6.74	7.57	4.62
10/30/2017-16:00	4.77	4.71	4.67	6.87	6.67	7.53	4.58
10/30/2017-17:00	4.73	4.68	4.63	6.82	6.63	7.5	4.54
10/30/2017-18:00	4.71	4.65	4.61	6.78	6.6	7.48	4.52
10/30/2017-19:00	4.69	4.64	4.6	6.75	6.59	7.48	4.51
10/30/2017-20:00	4.68	4.63	4.59	6.73	6.59	7.48	4.51
10/30/2017-21:00	4.68	4.63	4.59	6.72	6.61	7.49	4.51
10/30/2017-22:00	4.68	4.63	4.6	6.72	6.63	7.51	4.52
10/30/2017-23:00	4.68	4.64	4.61	6.72	6.66	7.52	4.53
10/31/2017-0:00	4.68	4.64	4.61	6.73	6.68	7.53	4.53
10/31/2017-1:00	4.68	4.64	4.61	6.73	6.7	7.54	4.54
10/31/2017-2:00	4.68	4.64	4.61	6.73	6.7	7.53	4.53
10/31/2017-3:00	4.67	4.63	4.6	6.73	6.7	7.52	4.52
10/31/2017-4:00	4.65	4.62	4.59	6.72	6.68	7.5	4.51
10/31/2017-5:00	4.63	4.59	4.56	6.71	6.66	7.48	4.48
10/31/2017-6:00	4.61	4.57	4.53	6.69	6.61	7.44	4.45
10/31/2017-7:00	4.57	4.53	4.49	6.66	6.56	7.39	4.41
10/31/2017-8:00	4.54	4.49	4.45	6.62	6.5	7.34	4.37
10/31/2017-9:00	4.49	4.44	4.4	6.57	6.42	7.28	4.31
10/31/2017-10:00	4.44	4.39	4.34	6.51	6.34	7.21	4.25
10/31/2017-11:00	4.39	4.33	4.28	6.45	6.24	7.14	4.19
10/31/2017-12:00	4.33	4.27	4.21	6.38	6.14	7.06	4.12
10/31/2017-13:00	4.27	4.2	4.14	6.3	6.04	6.99	4.05
10/31/2017-14:00	4.21	4.14	4.08	6.22	5.95	6.91	3.99
10/31/2017-15:00	4.15	4.08	4.01	6.14	5.85	6.85	3.92
10/31/2017-16:00	4.09	4.02	3.96	6.07	5.77	6.79	3.87
10/31/2017-17:00	4.04	3.97	3.91	6	5.71	6.74	3.82
10/31/2017-18:00	4	3.93	3.87	5.94	5.66	6.7	3.78
10/31/2017-19:00	3.97	3.9	3.84	5.89	5.62	6.68	3.75
10/31/2017-20:00	3.94	3.87	3.81	5.85	5.6	6.66	3.73
10/31/2017-21:00	3.92	3.85	3.8	5.81	5.59	6.65	3.71
10/31/2017-22:00	3.9	3.83	3.78	5.78	5.58	6.64	3.7
10/31/2017-23:00	3.88	3.81	3.76	5.76	5.58	6.63	3.68
11/1/2017-0:00	3.86	3.8	3.75	5.74	5.57	6.61	3.67
11/1/2017-1:00	3.84	3.77	3.73	5.72	5.55	6.59	3.65
11/1/2017-2:00	3.81	3.75	3.7	5.69	5.53	6.57	3.62
11/1/2017-3:00	3.78	3.72	3.67	5.66	5.49	6.53	3.59
11/1/2017-4:00	3.75	3.68	3.63	5.63	5.45	6.49	3.55
11/1/2017-5:00	3.7	3.64	3.59	5.59	5.39	6.44	3.5
11/1/2017-6:00	3.66	3.59	3.53	5.54	5.32	6.38	3.45
11/1/2017-7:00	3.6	3.53	3.47	5.48	5.24	6.31	3.39
11/1/2017-8:00	3.54	3.47	3.41	5.41	5.15	6.23	3.32
11/1/2017-9:00	3.48	3.4	3.33	5.34	5.05	6.15	3.25
11/1/2017-10:00	3.41	3.32	3.26	5.25	4.93	6.06	3.17
11/1/2017-11:00	3.33	3.24	3.17	5.16	4.81	5.96	3.08
11/1/2017-12:00	3.25	3.16	3.08	5.06	4.68	5.86	2.99
11/1/2017-13:00	3.17	3.07	2.99	4.96	4.55	5.76	2.9
11/1/2017-14:00	3.08	2.98	2.9	4.85	4.42	5.66	2.81

11/1/2017-15:00	3	2.9	2.81	4.75	4.3	5.57	2.72
11/1/2017-16:00	2.92	2.82	2.73	4.65	4.19	5.49	2.64
11/1/2017-17:00	2.86	2.75	2.66	4.55	4.1	5.42	2.57
11/1/2017-18:00	2.79	2.69	2.6	4.46	4.03	5.36	2.51
11/1/2017-19:00	2.74	2.64	2.55	4.39	3.97	5.32	2.47
11/1/2017-20:00	2.7	2.59	2.51	4.33	3.93	5.29	2.43
11/1/2017-21:00	2.66	2.56	2.48	4.27	3.91	5.26	2.4
11/1/2017-22:00	2.62	2.52	2.45	4.22	3.88	5.24	2.37
11/1/2017-23:00	2.59	2.49	2.42	4.18	3.86	5.21	2.34
11/2/2017-0:00	2.55	2.46	2.39	4.14	3.84	5.18	2.31
11/2/2017-1:00	2.51	2.42	2.35	4.11	3.81	5.15	2.28
11/2/2017-2:00	2.47	2.38	2.31	4.06	3.77	5.11	2.24
11/2/2017-3:00	2.43	2.33	2.26	4.02	3.72	5.06	2.19
11/2/2017-4:00	2.37	2.28	2.21	3.96	3.65	4.99	2.13
11/2/2017-5:00	2.32	2.22	2.14	3.9	3.58	4.92	2.07
11/2/2017-6:00	2.25	2.15	2.07	3.83	3.48	4.84	2
11/2/2017-7:00	2.18	2.07	1.99	3.75	3.38	4.75	1.92
11/2/2017-8:00	2.1	1.99	1.91	3.66	3.26	4.65	1.83
11/2/2017-9:00	2.01	1.9	1.81	3.56	3.13	4.54	1.73
11/2/2017-10:00	1.92	1.8	1.71	3.46	2.98	4.43	1.63
11/2/2017-11:00	1.82	1.7	1.6	3.34	2.83	4.31	1.52
11/2/2017-12:00	1.71	1.59	1.49	3.21	2.67	4.18	1.4
11/2/2017-13:00	1.61	1.48	1.37	3.08	2.51	4.06	1.29
11/2/2017-14:00	1.5	1.37	1.26	2.95	2.36	3.93	1.17
11/2/2017-15:00	1.4	1.26	1.15	2.82	2.21	3.82	1.07
11/2/2017-16:00	1.31	1.17	1.06	2.69	2.09	3.73	0.97
11/2/2017-17:00	1.22	1.08	0.97	2.58	1.98	3.64	0.89
11/2/2017-18:00	1.15	1.01	0.9	2.48	1.9	3.58	0.82
11/2/2017-19:00	1.09	0.95	0.85	2.39	1.84	3.53	0.77
11/2/2017-20:00	1.03	0.9	0.8	2.31	1.8	3.5	0.72
11/2/2017-21:00	0.99	0.86	0.76	2.25	1.78	3.47	0.69
11/2/2017-22:00	0.95	0.82	0.73	2.2	1.76	3.45	0.66
11/2/2017-23:00	0.91	0.79	0.7	2.16	1.74	3.42	0.63
11/3/2017-0:00	0.87	0.75	0.66	2.12	1.73	3.39	0.6
11/3/2017-1:00	0.83	0.71	0.62	2.08	1.7	3.35	0.56
11/3/2017-2:00	0.78	0.66	0.58	2.03	1.66	3.31	0.51
11/3/2017-3:00	0.72	0.61	0.52	1.98	1.6	3.25	0.46
11/3/2017-4:00	0.66	0.55	0.46	1.92	1.53	3.17	0.4
11/3/2017-5:00	0.59	0.47	0.38	1.85	1.44	3.09	0.32
11/3/2017-6:00	0.52	0.39	0.3	1.77	1.33	3	0.24
11/3/2017-7:00	0.43	0.31	0.21	1.68	1.21	2.89	0.14
11/3/2017-8:00	0.34	0.21	0.11	1.58	1.08	2.78	0.04
11/3/2017-9:00	0.24	0.1	0	1.47	0.93	2.66	-0.07
11/3/2017-10:00	0.13	-0.01	-0.12	1.35	0.78	2.53	-0.18
11/3/2017-11:00	0.02	-0.12	-0.24	1.22	0.61	2.39	-0.31
11/3/2017-12:00	-0.09	-0.24	-0.36	1.08	0.44	2.25	-0.43
11/3/2017-13:00	-0.21	-0.37	-0.49	0.94	0.26	2.11	-0.56
11/3/2017-14:00	-0.33	-0.49	-0.62	0.79	0.09	1.98	-0.69
11/3/2017-15:00	-0.45	-0.61	-0.74	0.64	-0.07	1.85	-0.81
11/3/2017-16:00	-0.56	-0.73	-0.86	0.5	-0.23	1.72	-0.93
11/3/2017-17:00	-0.67	-0.84	-0.97	0.36	-0.38	1.61	-1.04
11/3/2017-18:00	-0.78	-0.95	-1.08	0.22	-0.51	1.5	-1.15
11/3/2017-19:00	-0.88	-1.05	-1.18	0.1	-0.63	1.4	-1.25

11/3/2017-20:00	-0.97	-1.14	-1.27	-0.02	-0.74	1.31	-1.34
11/3/2017-21:00	-1.06	-1.23	-1.36	-0.14	-0.83	1.23	-1.42
11/3/2017-22:00	-1.15	-1.31	-1.44	-0.24	-0.92	1.15	-1.5
11/3/2017-23:00	-1.23	-1.4	-1.52	-0.34	-1.01	1.07	-1.58
11/4/2017-0:00	-1.31	-1.48	-1.6	-0.44	-1.09	0.99	-1.66
11/4/2017-1:00	-1.39	-1.55	-1.68	-0.53	-1.17	0.92	-1.73
11/4/2017-2:00	-1.47	-1.63	-1.76	-0.62	-1.25	0.84	-1.81
11/4/2017-3:00	-1.55	-1.71	-1.84	-0.71	-1.33	0.76	-1.89
11/4/2017-4:00	-1.63	-1.79	-1.92	-0.8	-1.42	0.68	-1.97
11/4/2017-5:00	-1.71	-1.87	-2	-0.89	-1.5	0.6	-2.05
11/4/2017-6:00	-1.79	-1.96	-2.08	-0.98	-1.59	0.52	-2.13
11/4/2017-7:00	-1.88	-2.04	-2.16	-1.07	-1.68	0.43	-2.21
11/4/2017-8:00	-1.96	-2.12	-2.25	-1.16	-1.78	0.35	-2.29
11/4/2017-9:00	-2.04	-2.21	-2.33	-1.26	-1.87	0.26	-2.38
11/4/2017-10:00	-2.13	-2.29	-2.42	-1.35	-1.97	0.17	-2.46
11/4/2017-11:00	-2.21	-2.38	-2.5	-1.44	-2.07	0.08	-2.55
11/4/2017-12:00	-2.3	-2.46	-2.59	-1.54	-2.16	0	-2.63
11/4/2017-13:00	-2.38	-2.55	-2.67	-1.63	-2.25	-0.09	-2.71
11/4/2017-14:00	-2.46	-2.62	-2.75	-1.72	-2.34	-0.16	-2.79
11/4/2017-15:00	-2.53	-2.69	-2.82	-1.8	-2.41	-0.22	-2.86
11/4/2017-16:00	-2.59	-2.75	-2.87	-1.87	-2.46	-0.27	-2.91
11/4/2017-17:00	-2.64	-2.8	-2.92	-1.93	-2.49	-0.3	-2.95
11/4/2017-18:00	-2.68	-2.83	-2.95	-1.98	-2.49	-0.32	-2.98
11/4/2017-19:00	-2.71	-2.85	-2.96	-2.01	-2.48	-0.32	-2.99
11/4/2017-20:00	-2.72	-2.86	-2.96	-2.02	-2.44	-0.3	-2.99
11/4/2017-21:00	-2.73	-2.86	-2.96	-2.02	-2.39	-0.28	-2.98
11/4/2017-22:00	-2.73	-2.85	-2.94	-2	-2.33	-0.25	-2.96
11/4/2017-23:00	-2.72	-2.84	-2.93	-1.98	-2.26	-0.21	-2.94
11/5/2017-0:00	-2.71	-2.83	-2.91	-1.95	-2.19	-0.18	-2.92
11/5/2017-1:00	-2.7	-2.81	-2.89	-1.91	-2.12	-0.15	-2.9
11/5/2017-2:00	-2.7	-2.8	-2.87	-1.88	-2.06	-0.12	-2.88
11/5/2017-3:00	-2.69	-2.79	-2.86	-1.84	-2.01	-0.1	-2.86
11/5/2017-4:00	-2.69	-2.78	-2.85	-1.81	-1.96	-0.09	-2.85
11/5/2017-5:00	-2.69	-2.78	-2.85	-1.78	-1.93	-0.09	-2.85
11/5/2017-6:00	-2.69	-2.78	-2.85	-1.76	-1.91	-0.09	-2.86
11/5/2017-7:00	-2.7	-2.79	-2.86	-1.75	-1.9	-0.1	-2.87
11/5/2017-8:00	-2.72	-2.81	-2.88	-1.74	-1.91	-0.12	-2.88
11/5/2017-9:00	-2.74	-2.83	-2.9	-1.74	-1.92	-0.15	-2.91
11/5/2017-10:00	-2.76	-2.86	-2.93	-1.75	-1.95	-0.18	-2.94
11/5/2017-11:00	-2.79	-2.89	-2.96	-1.76	-1.99	-0.22	-2.97
11/5/2017-12:00	-2.83	-2.93	-3	-1.79	-2.03	-0.27	-3.01
11/5/2017-13:00	-2.87	-2.97	-3.04	-1.82	-2.08	-0.31	-3.06
11/5/2017-14:00	-2.9	-3	-3.08	-1.85	-2.12	-0.36	-3.1
11/5/2017-15:00	-2.94	-3.04	-3.12	-1.88	-2.16	-0.39	-3.13
11/5/2017-16:00	-2.97	-3.07	-3.15	-1.91	-2.19	-0.42	-3.17
11/5/2017-17:00	-2.99	-3.09	-3.17	-1.93	-2.21	-0.44	-3.19
11/5/2017-18:00	-3.01	-3.11	-3.18	-1.95	-2.21	-0.45	-3.2
11/5/2017-19:00	-3.02	-3.11	-3.18	-1.95	-2.19	-0.44	-3.2
11/5/2017-20:00	-3.02	-3.11	-3.18	-1.95	-2.16	-0.42	-3.19
11/5/2017-21:00	-3.01	-3.1	-3.16	-1.93	-2.12	-0.4	-3.18
11/5/2017-22:00	-3.01	-3.09	-3.15	-1.91	-2.07	-0.38	-3.16
11/5/2017-23:00	-3	-3.08	-3.14	-1.89	-2.03	-0.36	-3.15
11/6/2017-0:00	-2.99	-3.07	-3.13	-1.87	-1.99	-0.34	-3.14

11/6/2017-1:00	-2.99	-3.07	-3.12	-1.84	-1.96	-0.34	-3.13
11/6/2017-2:00	-2.99	-3.07	-3.13	-1.83	-1.94	-0.34	-3.14
11/6/2017-3:00	-3.01	-3.08	-3.14	-1.82	-1.94	-0.36	-3.15
11/6/2017-4:00	-3.02	-3.1	-3.16	-1.82	-1.96	-0.39	-3.17
11/6/2017-5:00	-3.05	-3.13	-3.19	-1.83	-1.99	-0.42	-3.21
11/6/2017-6:00	-3.08	-3.17	-3.23	-1.85	-2.04	-0.47	-3.25
11/6/2017-7:00	-3.13	-3.21	-3.28	-1.88	-2.1	-0.53	-3.3
11/6/2017-8:00	-3.17	-3.27	-3.33	-1.93	-2.18	-0.6	-3.36
11/6/2017-9:00	-3.23	-3.33	-3.4	-1.98	-2.26	-0.68	-3.42
11/6/2017-10:00	-3.29	-3.39	-3.47	-2.04	-2.36	-0.76	-3.5
11/6/2017-11:00	-3.36	-3.46	-3.54	-2.11	-2.46	-0.84	-3.57
11/6/2017-12:00	-3.42	-3.53	-3.62	-2.19	-2.57	-0.93	-3.65
11/6/2017-13:00	-3.49	-3.61	-3.69	-2.27	-2.67	-1.01	-3.73
11/6/2017-14:00	-3.56	-3.68	-3.77	-2.35	-2.77	-1.09	-3.81
11/6/2017-15:00	-3.63	-3.75	-3.84	-2.43	-2.86	-1.16	-3.88
11/6/2017-16:00	-3.69	-3.81	-3.9	-2.51	-2.94	-1.23	-3.94
11/6/2017-17:00	-3.74	-3.86	-3.95	-2.58	-3	-1.28	-3.99
11/6/2017-18:00	-3.79	-3.91	-3.99	-2.64	-3.04	-1.31	-4.03
11/6/2017-19:00	-3.82	-3.94	-4.03	-2.68	-3.07	-1.34	-4.06
11/6/2017-20:00	-3.85	-3.96	-4.05	-2.72	-3.08	-1.35	-4.08
11/6/2017-21:00	-3.87	-3.98	-4.07	-2.75	-3.07	-1.35	-4.1
11/6/2017-22:00	-3.89	-4	-4.08	-2.76	-3.06	-1.36	-4.11
11/6/2017-23:00	-3.91	-4.01	-4.09	-2.78	-3.05	-1.36	-4.11
11/7/2017-0:00	-3.92	-4.02	-4.09	-2.78	-3.03	-1.36	-4.12
11/7/2017-1:00	-3.94	-4.03	-4.1	-2.79	-3.02	-1.37	-4.13
11/7/2017-2:00	-3.95	-4.05	-4.12	-2.79	-3.02	-1.38	-4.14
11/7/2017-3:00	-3.97	-4.07	-4.14	-2.8	-3.02	-1.4	-4.16
11/7/2017-4:00	-4	-4.09	-4.16	-2.81	-3.03	-1.42	-4.19
11/7/2017-5:00	-4.03	-4.12	-4.19	-2.83	-3.06	-1.46	-4.22
11/7/2017-6:00	-4.06	-4.16	-4.23	-2.86	-3.09	-1.5	-4.26
11/7/2017-7:00	-4.1	-4.2	-4.27	-2.89	-3.14	-1.55	-4.3
11/7/2017-8:00	-4.14	-4.25	-4.32	-2.93	-3.2	-1.6	-4.35
11/7/2017-9:00	-4.2	-4.3	-4.38	-2.98	-3.27	-1.67	-4.41
11/7/2017-10:00	-4.25	-4.36	-4.44	-3.03	-3.35	-1.74	-4.47
11/7/2017-11:00	-4.31	-4.42	-4.51	-3.1	-3.44	-1.82	-4.54
11/7/2017-12:00	-4.38	-4.49	-4.58	-3.17	-3.53	-1.89	-4.61
11/7/2017-13:00	-4.44	-4.56	-4.65	-3.24	-3.62	-1.97	-4.69
11/7/2017-14:00	-4.51	-4.63	-4.72	-3.31	-3.71	-2.05	-4.76
11/7/2017-15:00	-4.57	-4.69	-4.78	-3.39	-3.79	-2.11	-4.82
11/7/2017-16:00	-4.63	-4.74	-4.84	-3.45	-3.86	-2.16	-4.88
11/7/2017-17:00	-4.67	-4.79	-4.88	-3.51	-3.9	-2.2	-4.92
11/7/2017-18:00	-4.71	-4.82	-4.91	-3.56	-3.93	-2.22	-4.95
11/7/2017-19:00	-4.73	-4.84	-4.93	-3.59	-3.93	-2.23	-4.96
11/7/2017-20:00	-4.75	-4.86	-4.94	-3.61	-3.92	-2.23	-4.97
11/7/2017-21:00	-4.76	-4.86	-4.94	-3.62	-3.89	-2.22	-4.97
11/7/2017-22:00	-4.76	-4.86	-4.94	-3.62	-3.86	-2.2	-4.96
11/7/2017-23:00	-4.77	-4.86	-4.93	-3.61	-3.82	-2.19	-4.96
11/8/2017-0:00	-4.77	-4.86	-4.93	-3.6	-3.79	-2.18	-4.95
11/8/2017-1:00	-4.77	-4.86	-4.93	-3.59	-3.76	-2.17	-4.95
11/8/2017-2:00	-4.78	-4.87	-4.94	-3.59	-3.75	-2.18	-4.96
11/8/2017-3:00	-4.8	-4.89	-4.95	-3.59	-3.74	-2.2	-4.97
11/8/2017-4:00	-4.82	-4.91	-4.97	-3.59	-3.76	-2.22	-5
11/8/2017-5:00	-4.85	-4.94	-5.01	-3.61	-3.79	-2.26	-5.03

11/8/2017-6:00	-4.89	-4.98	-5.05	-3.63	-3.83	-2.31	-5.07
11/8/2017-7:00	-4.93	-5.02	-5.09	-3.66	-3.89	-2.36	-5.12
11/8/2017-8:00	-4.98	-5.08	-5.15	-3.71	-3.96	-2.43	-5.18
11/8/2017-9:00	-5.04	-5.14	-5.21	-3.76	-4.05	-2.5	-5.25
11/8/2017-10:00	-5.1	-5.21	-5.29	-3.83	-4.15	-2.59	-5.32
11/8/2017-11:00	-5.17	-5.28	-5.36	-3.9	-4.25	-2.68	-5.4
11/8/2017-12:00	-5.25	-5.36	-5.45	-3.98	-4.37	-2.77	-5.49
11/8/2017-13:00	-5.32	-5.44	-5.53	-4.07	-4.49	-2.87	-5.57
11/8/2017-14:00	-5.4	-5.52	-5.62	-4.17	-4.6	-2.96	-5.66
11/8/2017-15:00	-5.48	-5.6	-5.7	-4.26	-4.71	-3.05	-5.74
11/8/2017-16:00	-5.55	-5.68	-5.77	-4.35	-4.81	-3.12	-5.82
11/8/2017-17:00	-5.61	-5.74	-5.84	-4.43	-4.89	-3.18	-5.88
11/8/2017-18:00	-5.67	-5.79	-5.89	-4.5	-4.94	-3.23	-5.93
11/8/2017-19:00	-5.71	-5.84	-5.93	-4.56	-4.98	-3.26	-5.97
11/8/2017-20:00	-5.75	-5.87	-5.96	-4.61	-5.01	-3.29	-6
11/8/2017-21:00	-5.78	-5.9	-5.99	-4.65	-5.02	-3.3	-6.02
11/8/2017-22:00	-5.81	-5.93	-6.01	-4.68	-5.02	-3.32	-6.04
11/8/2017-23:00	-5.84	-5.95	-6.03	-4.71	-5.02	-3.33	-6.06
11/9/2017-0:00	-5.86	-5.97	-6.05	-4.73	-5.02	-3.34	-6.08
11/9/2017-1:00	-5.89	-5.99	-6.07	-4.75	-5.03	-3.36	-6.1
11/9/2017-2:00	-5.92	-6.02	-6.1	-4.77	-5.04	-3.39	-6.13
11/9/2017-3:00	-5.95	-6.06	-6.13	-4.79	-5.06	-3.42	-6.16
11/9/2017-4:00	-5.99	-6.09	-6.17	-4.82	-5.1	-3.46	-6.2
11/9/2017-5:00	-6.03	-6.14	-6.22	-4.86	-5.14	-3.51	-6.25
11/9/2017-6:00	-6.08	-6.19	-6.27	-4.9	-5.2	-3.57	-6.3
11/9/2017-7:00	-6.13	-6.24	-6.33	-4.95	-5.27	-3.63	-6.36
11/9/2017-8:00	-6.19	-6.3	-6.39	-5.01	-5.34	-3.7	-6.42
11/9/2017-9:00	-6.25	-6.37	-6.45	-5.07	-5.43	-3.77	-6.49
11/9/2017-10:00	-6.32	-6.43	-6.52	-5.14	-5.51	-3.85	-6.56
11/9/2017-11:00	-6.38	-6.5	-6.6	-5.21	-5.61	-3.93	-6.63
11/9/2017-12:00	-6.45	-6.58	-6.67	-5.29	-5.7	-4.01	-6.71
11/9/2017-13:00	-6.52	-6.65	-6.74	-5.37	-5.8	-4.09	-6.78
11/9/2017-14:00	-6.59	-6.72	-6.81	-5.45	-5.88	-4.16	-6.85
11/9/2017-15:00	-6.65	-6.78	-6.88	-5.52	-5.96	-4.22	-6.91
11/9/2017-16:00	-6.71	-6.83	-6.93	-5.59	-6.02	-4.27	-6.97
11/9/2017-17:00	-6.75	-6.88	-6.97	-5.65	-6.05	-4.3	-7
11/9/2017-18:00	-6.79	-6.91	-7	-5.69	-6.07	-4.32	-7.03
11/9/2017-19:00	-6.81	-6.93	-7.01	-5.72	-6.06	-4.32	-7.04
11/9/2017-20:00	-6.82	-6.93	-7.02	-5.73	-6.04	-4.31	-7.04
11/9/2017-21:00	-6.83	-6.94	-7.01	-5.74	-6	-4.29	-7.04
11/9/2017-22:00	-6.83	-6.93	-7	-5.73	-5.96	-4.27	-7.03
11/9/2017-23:00	-6.83	-6.93	-7	-5.72	-5.91	-4.25	-7.01
11/10/2017-0:00	-6.83	-6.92	-6.99	-5.7	-5.87	-4.23	-7.01
11/10/2017-1:00	-6.83	-6.92	-6.98	-5.68	-5.83	-4.22	-7
11/10/2017-2:00	-6.83	-6.92	-6.98	-5.67	-5.81	-4.22	-7
11/10/2017-3:00	-6.84	-6.93	-6.99	-5.66	-5.79	-4.23	-7.01
11/10/2017-4:00	-6.86	-6.94	-7	-5.65	-5.79	-4.24	-7.02
11/10/2017-5:00	-6.88	-6.96	-7.03	-5.66	-5.81	-4.27	-7.04
11/10/2017-6:00	-6.9	-6.99	-7.05	-5.67	-5.83	-4.3	-7.07
11/10/2017-7:00	-6.93	-7.02	-7.09	-5.69	-5.87	-4.35	-7.11
11/10/2017-8:00	-6.97	-7.07	-7.13	-5.72	-5.93	-4.4	-7.16
11/10/2017-9:00	-7.02	-7.11	-7.18	-5.75	-5.99	-4.45	-7.21
11/10/2017-10:00	-7.07	-7.17	-7.24	-5.8	-6.06	-4.52	-7.27

11/10/2017-11:00	-7.12	-7.22	-7.3	-5.85	-6.14	-4.59	-7.33
11/10/2017-12:00	-7.18	-7.28	-7.36	-5.91	-6.22	-4.66	-7.39
11/10/2017-13:00	-7.24	-7.35	-7.43	-5.98	-6.31	-4.73	-7.46
11/10/2017-14:00	-7.3	-7.41	-7.49	-6.04	-6.39	-4.8	-7.52
11/10/2017-15:00	-7.35	-7.46	-7.54	-6.11	-6.46	-4.85	-7.58
11/10/2017-16:00	-7.4	-7.51	-7.59	-6.17	-6.52	-4.9	-7.63
11/10/2017-17:00	-7.44	-7.55	-7.63	-6.22	-6.56	-4.93	-7.66
11/10/2017-18:00	-7.46	-7.57	-7.65	-6.25	-6.57	-4.94	-7.68
11/10/2017-19:00	-7.48	-7.59	-7.66	-6.28	-6.57	-4.95	-7.69
11/10/2017-20:00	-7.49	-7.59	-7.67	-6.29	-6.55	-4.94	-7.69
11/10/2017-21:00	-7.5	-7.59	-7.66	-6.29	-6.51	-4.92	-7.69
11/10/2017-22:00	-7.5	-7.59	-7.65	-6.28	-6.47	-4.9	-7.68
11/10/2017-23:00	-7.49	-7.58	-7.64	-6.27	-6.42	-4.87	-7.66
11/11/2017-0:00	-7.49	-7.57	-7.63	-6.25	-6.38	-4.85	-7.65
11/11/2017-1:00	-7.48	-7.56	-7.62	-6.23	-6.34	-4.84	-7.64
11/11/2017-2:00	-7.48	-7.56	-7.61	-6.21	-6.3	-4.83	-7.63
11/11/2017-3:00	-7.48	-7.56	-7.61	-6.19	-6.28	-4.82	-7.63
11/11/2017-4:00	-7.49	-7.56	-7.61	-6.17	-6.26	-4.82	-7.63
11/11/2017-5:00	-7.49	-7.57	-7.62	-6.17	-6.26	-4.83	-7.64
11/11/2017-6:00	-7.51	-7.58	-7.64	-6.16	-6.27	-4.85	-7.66
11/11/2017-7:00	-7.53	-7.6	-7.66	-6.17	-6.28	-4.88	-7.68
11/11/2017-8:00	-7.55	-7.63	-7.69	-6.18	-6.31	-4.91	-7.71
11/11/2017-9:00	-7.58	-7.66	-7.72	-6.2	-6.35	-4.95	-7.74
11/11/2017-10:00	-7.61	-7.7	-7.76	-6.23	-6.4	-4.99	-7.78
11/11/2017-11:00	-7.65	-7.74	-7.8	-6.26	-6.45	-5.04	-7.82
11/11/2017-12:00	-7.69	-7.78	-7.84	-6.3	-6.51	-5.09	-7.87
11/11/2017-13:00	-7.73	-7.82	-7.89	-6.34	-6.57	-5.14	-7.92
11/11/2017-14:00	-7.77	-7.86	-7.93	-6.38	-6.62	-5.18	-7.96
11/11/2017-15:00	-7.81	-7.9	-7.97	-6.42	-6.67	-5.22	-8
11/11/2017-16:00	-7.84	-7.93	-8	-6.46	-6.7	-5.25	-8.03
11/11/2017-17:00	-7.86	-7.95	-8.02	-6.49	-6.72	-5.26	-8.05
11/11/2017-18:00	-7.88	-7.97	-8.03	-6.5	-6.71	-5.26	-8.06
11/11/2017-19:00	-7.88	-7.97	-8.03	-6.51	-6.69	-5.25	-8.06
11/11/2017-20:00	-7.88	-7.96	-8.02	-6.51	-6.66	-5.23	-8.05
11/11/2017-21:00	-7.87	-7.95	-8	-6.49	-6.61	-5.2	-8.03
11/11/2017-22:00	-7.86	-7.93	-7.98	-6.47	-6.56	-5.17	-8
11/11/2017-23:00	-7.84	-7.91	-7.96	-6.44	-6.5	-5.14	-7.98
11/12/2017-0:00	-7.83	-7.89	-7.94	-6.41	-6.45	-5.11	-7.96
11/12/2017-1:00	-7.81	-7.88	-7.92	-6.37	-6.4	-5.08	-7.94
11/12/2017-2:00	-7.8	-7.86	-7.9	-6.34	-6.36	-5.06	-7.92
11/12/2017-3:00	-7.8	-7.85	-7.89	-6.32	-6.33	-5.05	-7.91
11/12/2017-4:00	-7.79	-7.85	-7.89	-6.29	-6.31	-5.05	-7.91
11/12/2017-5:00	-7.8	-7.86	-7.9	-6.28	-6.3	-5.06	-7.92
11/12/2017-6:00	-7.81	-7.87	-7.91	-6.27	-6.31	-5.08	-7.93
11/12/2017-7:00	-7.82	-7.88	-7.93	-6.27	-6.33	-5.1	-7.95
11/12/2017-8:00	-7.84	-7.91	-7.95	-6.28	-6.36	-5.13	-7.98
11/12/2017-9:00	-7.87	-7.94	-7.98	-6.3	-6.4	-5.17	-8.01
11/12/2017-10:00	-7.9	-7.97	-8.02	-6.33	-6.45	-5.22	-8.05
11/12/2017-11:00	-7.94	-8.01	-8.06	-6.36	-6.51	-5.27	-8.1
11/12/2017-12:00	-7.98	-8.05	-8.11	-6.4	-6.58	-5.32	-8.15
11/12/2017-13:00	-8.02	-8.1	-8.16	-6.45	-6.64	-5.37	-8.19
11/12/2017-14:00	-8.06	-8.14	-8.2	-6.49	-6.7	-5.42	-8.24
11/12/2017-15:00	-8.1	-8.18	-8.24	-6.54	-6.76	-5.47	-8.28

11/12/2017-16:00	-8.14	-8.22	-8.28	-6.58	-6.8	-5.5	-8.32
11/12/2017-17:00	-8.16	-8.25	-8.31	-6.62	-6.84	-5.53	-8.35
11/12/2017-18:00	-8.19	-8.27	-8.33	-6.65	-6.85	-5.54	-8.37
11/12/2017-19:00	-8.2	-8.28	-8.34	-6.67	-6.85	-5.54	-8.38
11/12/2017-20:00	-8.21	-8.29	-8.34	-6.68	-6.84	-5.54	-8.38
11/12/2017-21:00	-8.22	-8.29	-8.34	-6.68	-6.83	-5.53	-8.38
11/12/2017-22:00	-8.22	-8.29	-8.34	-6.68	-6.8	-5.52	-8.38
11/12/2017-23:00	-8.22	-8.28	-8.33	-6.67	-6.77	-5.51	-8.37
11/13/2017-0:00	-8.22	-8.28	-8.33	-6.66	-6.75	-5.5	-8.36
11/13/2017-1:00	-8.22	-8.28	-8.33	-6.65	-6.73	-5.49	-8.36
11/13/2017-2:00	-8.22	-8.28	-8.33	-6.64	-6.71	-5.49	-8.36
11/13/2017-3:00	-8.22	-8.29	-8.33	-6.63	-6.7	-5.49	-8.36
11/13/2017-4:00	-8.23	-8.29	-8.34	-6.63	-6.69	-5.5	-8.37
11/13/2017-5:00	-8.24	-8.31	-8.35	-6.63	-6.7	-5.51	-8.39
11/13/2017-6:00	-8.26	-8.32	-8.37	-6.64	-6.71	-5.53	-8.4
11/13/2017-7:00	-8.28	-8.34	-8.39	-6.65	-6.74	-5.55	-8.43
11/13/2017-8:00	-8.3	-8.37	-8.42	-6.66	-6.77	-5.59	-8.46
11/13/2017-9:00	-8.33	-8.4	-8.45	-6.69	-6.81	-5.62	-8.49
11/13/2017-10:00	-8.36	-8.43	-8.49	-6.72	-6.86	-5.67	-8.53
11/13/2017-11:00	-8.4	-8.47	-8.53	-6.75	-6.91	-5.71	-8.57
11/13/2017-12:00	-8.44	-8.52	-8.57	-6.79	-6.97	-5.76	-8.62
11/13/2017-13:00	-8.48	-8.56	-8.62	-6.84	-7.03	-5.82	-8.66
11/13/2017-14:00	-8.52	-8.6	-8.66	-6.88	-7.09	-5.86	-8.71
11/13/2017-15:00	-8.56	-8.64	-8.71	-6.93	-7.15	-5.91	-8.75
11/13/2017-16:00	-8.6	-8.68	-8.74	-6.97	-7.19	-5.94	-8.79
11/13/2017-17:00	-8.62	-8.7	-8.76	-7.01	-7.22	-5.96	-8.81
11/13/2017-18:00	-8.64	-8.72	-8.78	-7.03	-7.22	-5.97	-8.82
11/13/2017-19:00	-8.65	-8.73	-8.79	-7.05	-7.22	-5.96	-8.83
11/13/2017-20:00	-8.66	-8.73	-8.78	-7.05	-7.2	-5.95	-8.82
11/13/2017-21:00	-8.66	-8.72	-8.77	-7.05	-7.17	-5.93	-8.81
11/13/2017-22:00	-8.65	-8.72	-8.76	-7.04	-7.13	-5.91	-8.8
11/13/2017-23:00	-8.64	-8.71	-8.75	-7.02	-7.09	-5.89	-8.79
11/14/2017-0:00	-8.64	-8.7	-8.74	-7	-7.05	-5.87	-8.77
11/14/2017-1:00	-8.63	-8.69	-8.73	-6.99	-7.03	-5.86	-8.77
11/14/2017-2:00	-8.63	-8.69	-8.73	-6.97	-7.01	-5.86	-8.76
11/14/2017-3:00	-8.64	-8.69	-8.73	-6.96	-7	-5.86	-8.77
11/14/2017-4:00	-8.65	-8.7	-8.74	-6.96	-7	-5.88	-8.78
11/14/2017-5:00	-8.66	-8.72	-8.76	-6.96	-7.02	-5.9	-8.8
11/14/2017-6:00	-8.68	-8.74	-8.79	-6.97	-7.05	-5.93	-8.82
11/14/2017-7:00	-8.71	-8.77	-8.82	-6.99	-7.09	-5.97	-8.86
11/14/2017-8:00	-8.75	-8.81	-8.86	-7.02	-7.14	-6.02	-8.9
11/14/2017-9:00	-8.79	-8.85	-8.91	-7.06	-7.21	-6.08	-8.95
11/14/2017-10:00	-8.83	-8.9	-8.96	-7.11	-7.29	-6.14	-9.01
11/14/2017-11:00	-8.89	-8.96	-9.02	-7.16	-7.37	-6.21	-9.07
11/14/2017-12:00	-8.94	-9.02	-9.08	-7.23	-7.46	-6.28	-9.13
11/14/2017-13:00	-9	-9.08	-9.15	-7.29	-7.55	-6.35	-9.2
11/14/2017-14:00	-9.06	-9.14	-9.21	-7.37	-7.65	-6.42	-9.26
11/14/2017-15:00	-9.11	-9.2	-9.27	-7.43	-7.73	-6.48	-9.32
11/14/2017-16:00	-9.16	-9.25	-9.32	-7.5	-7.8	-6.54	-9.37
11/14/2017-17:00	-9.2	-9.29	-9.36	-7.56	-7.85	-6.57	-9.41
11/14/2017-18:00	-9.24	-9.32	-9.39	-7.61	-7.88	-6.6	-9.44
11/14/2017-19:00	-9.26	-9.35	-9.41	-7.64	-7.89	-6.61	-9.46
11/14/2017-20:00	-9.28	-9.36	-9.42	-7.67	-7.89	-6.61	-9.47



11/14/2017-21:00	-9.29	-9.37	-9.43	-7.68	-7.88	-6.6	-9.47
11/14/2017-22:00	-9.29	-9.37	-9.42	-7.69	-7.85	-6.59	-9.47
11/14/2017-23:00	-9.3	-9.37	-9.42	-7.69	-7.83	-6.58	-9.46
11/15/2017-0:00	-9.3	-9.37	-9.42	-7.69	-7.8	-6.57	-9.46
11/15/2017-1:00	-9.31	-9.37	-9.42	-7.68	-7.78	-6.57	-9.46
11/15/2017-2:00	-9.31	-9.38	-9.42	-7.68	-7.77	-6.57	-9.46
11/15/2017-3:00	-9.32	-9.39	-9.43	-7.68	-7.77	-6.58	-9.47
11/15/2017-4:00	-9.34	-9.4	-9.45	-7.68	-7.77	-6.59	-9.49
11/15/2017-5:00	-9.36	-9.42	-9.47	-7.69	-7.79	-6.62	-9.51
11/15/2017-6:00	-9.38	-9.44	-9.49	-7.7	-7.82	-6.65	-9.53
11/15/2017-7:00	-9.41	-9.48	-9.53	-7.73	-7.85	-6.68	-9.57
11/15/2017-8:00	-9.44	-9.51	-9.56	-7.76	-7.9	-6.73	-9.6
11/15/2017-9:00	-9.48	-9.55	-9.61	-7.79	-7.96	-6.78	-9.65
11/15/2017-10:00	-9.52	-9.6	-9.65	-7.83	-8.02	-6.83	-9.7
11/15/2017-11:00	-9.57	-9.65	-9.71	-7.88	-8.09	-6.89	-9.75
11/15/2017-12:00	-9.62	-9.7	-9.76	-7.94	-8.17	-6.96	-9.81
11/15/2017-13:00	-9.67	-9.75	-9.82	-8	-8.25	-7.02	-9.87
11/15/2017-14:00	-9.72	-9.81	-9.87	-8.06	-8.32	-7.08	-9.92
11/15/2017-15:00	-9.77	-9.86	-9.93	-8.12	-8.39	-7.13	-9.98
11/15/2017-16:00	-9.82	-9.9	-9.97	-8.18	-8.45	-7.18	-10.02
11/15/2017-17:00	-9.86	-9.94	-10.01	-8.23	-8.5	-7.21	-10.06
11/15/2017-18:00	-9.89	-9.97	-10.04	-8.27	-8.53	-7.24	-10.09
11/15/2017-19:00	-9.91	-10	-10.06	-8.3	-8.54	-7.25	-10.11
11/15/2017-20:00	-9.93	-10.01	-10.07	-8.33	-8.55	-7.26	-10.12
11/15/2017-21:00	-9.94	-10.02	-10.08	-8.35	-8.54	-7.26	-10.13
11/15/2017-22:00	-9.96	-10.03	-10.09	-8.36	-8.53	-7.26	-10.13
11/15/2017-23:00	-9.96	-10.04	-10.09	-8.36	-8.51	-7.25	-10.13
11/16/2017-0:00	-9.97	-10.04	-10.1	-8.36	-8.5	-7.25	-10.14
11/16/2017-1:00	-9.98	-10.05	-10.1	-8.37	-8.49	-7.25	-10.14
11/16/2017-2:00	-9.99	-10.06	-10.11	-8.37	-8.48	-7.26	-10.15
11/16/2017-3:00	-10	-10.07	-10.12	-8.37	-8.49	-7.27	-10.16
11/16/2017-4:00	-10.02	-10.09	-10.14	-8.38	-8.49	-7.29	-10.18
11/16/2017-5:00	-10.04	-10.11	-10.16	-8.39	-8.51	-7.31	-10.2
11/16/2017-6:00	-10.06	-10.13	-10.18	-8.41	-8.53	-7.34	-10.22
11/16/2017-7:00	-10.09	-10.16	-10.21	-8.43	-8.56	-7.37	-10.25
11/16/2017-8:00	-10.12	-10.19	-10.24	-8.45	-8.6	-7.4	-10.29
11/16/2017-9:00	-10.15	-10.23	-10.28	-8.48	-8.65	-7.45	-10.32
11/16/2017-10:00	-10.19	-10.27	-10.32	-8.52	-8.7	-7.49	-10.37
11/16/2017-11:00	-10.23	-10.31	-10.37	-8.56	-8.76	-7.54	-10.41
11/16/2017-12:00	-10.28	-10.35	-10.41	-8.61	-8.83	-7.6	-10.46
11/16/2017-13:00	-10.32	-10.4	-10.46	-8.66	-8.89	-7.65	-10.51
11/16/2017-14:00	-10.37	-10.45	-10.51	-8.71	-8.96	-7.71	-10.56
11/16/2017-15:00	-10.41	-10.5	-10.56	-8.77	-9.02	-7.76	-10.61
11/16/2017-16:00	-10.46	-10.54	-10.61	-8.82	-9.08	-7.8	-10.66
11/16/2017-17:00	-10.5	-10.58	-10.65	-8.87	-9.12	-7.84	-10.7
11/16/2017-18:00	-10.53	-10.61	-10.68	-8.91	-9.16	-7.87	-10.73
11/16/2017-19:00	-10.56	-10.64	-10.71	-8.95	-9.19	-7.89	-10.76
11/16/2017-20:00	-10.59	-10.67	-10.73	-8.98	-9.21	-7.91	-10.78
11/16/2017-21:00	-10.61	-10.69	-10.75	-9.01	-9.22	-7.93	-10.8
11/16/2017-22:00	-10.63	-10.71	-10.77	-9.03	-9.24	-7.95	-10.82
11/16/2017-23:00	-10.66	-10.74	-10.8	-9.05	-9.25	-7.97	-10.84
11/17/2017-0:00	-10.68	-10.76	-10.82	-9.08	-9.27	-7.99	-10.87
11/17/2017-1:00	-10.71	-10.79	-10.85	-9.1	-9.29	-8.02	-10.89

11/17/2017-2:00	-10.74	-10.82	-10.88	-9.13	-9.32	-8.05	-10.92
11/17/2017-3:00	-10.77	-10.85	-10.91	-9.16	-9.36	-8.09	-10.96
11/17/2017-4:00	-10.81	-10.89	-10.95	-9.2	-9.41	-8.13	-11
11/17/2017-5:00	-10.85	-10.93	-10.99	-9.24	-9.46	-8.18	-11.04
11/17/2017-6:00	-10.89	-10.98	-11.04	-9.28	-9.52	-8.23	-11.09
11/17/2017-7:00	-10.94	-11.03	-11.09	-9.33	-9.59	-8.29	-11.14
11/17/2017-8:00	-10.99	-11.08	-11.15	-9.39	-9.66	-8.35	-11.2
11/17/2017-9:00	-11.05	-11.14	-11.21	-9.45	-9.74	-8.42	-11.26
11/17/2017-10:00	-11.1	-11.2	-11.27	-9.52	-9.82	-8.49	-11.33
11/17/2017-11:00	-11.17	-11.26	-11.34	-9.59	-9.91	-8.56	-11.39
11/17/2017-12:00	-11.23	-11.33	-11.41	-9.66	-10	-8.63	-11.46
11/17/2017-13:00	-11.29	-11.39	-11.47	-9.74	-10.09	-8.71	-11.53
11/17/2017-14:00	-11.35	-11.46	-11.54	-9.81	-10.17	-8.77	-11.59
11/17/2017-15:00	-11.41	-11.51	-11.6	-9.88	-10.25	-8.83	-11.65
11/17/2017-16:00	-11.46	-11.57	-11.65	-9.95	-10.31	-8.88	-11.7
11/17/2017-17:00	-11.5	-11.61	-11.69	-10.01	-10.35	-8.92	-11.74
11/17/2017-18:00	-11.54	-11.64	-11.72	-10.05	-10.38	-8.94	-11.77
11/17/2017-19:00	-11.56	-11.66	-11.74	-10.09	-10.38	-8.95	-11.79
11/17/2017-20:00	-11.58	-11.68	-11.75	-10.11	-10.38	-8.95	-11.79
11/17/2017-21:00	-11.59	-11.68	-11.75	-10.13	-10.36	-8.94	-11.8
11/17/2017-22:00	-11.6	-11.69	-11.75	-10.13	-10.34	-8.93	-11.8
11/17/2017-23:00	-11.61	-11.69	-11.75	-10.13	-10.31	-8.92	-11.79
11/18/2017-0:00	-11.61	-11.69	-11.75	-10.13	-10.28	-8.92	-11.79
11/18/2017-1:00	-11.62	-11.7	-11.75	-10.12	-10.26	-8.91	-11.79
11/18/2017-2:00	-11.63	-11.7	-11.76	-10.12	-10.25	-8.92	-11.8
11/18/2017-3:00	-11.64	-11.72	-11.77	-10.12	-10.25	-8.93	-11.81
11/18/2017-4:00	-11.66	-11.73	-11.78	-10.12	-10.25	-8.94	-11.82
11/18/2017-5:00	-11.68	-11.75	-11.81	-10.13	-10.27	-8.97	-11.84
11/18/2017-6:00	-11.7	-11.78	-11.83	-10.15	-10.3	-9	-11.87
11/18/2017-7:00	-11.73	-11.81	-11.87	-10.17	-10.33	-9.04	-11.91
11/18/2017-8:00	-11.77	-11.85	-11.91	-10.2	-10.38	-9.08	-11.95
11/18/2017-9:00	-11.81	-11.89	-11.95	-10.24	-10.44	-9.14	-11.99
11/18/2017-10:00	-11.86	-11.94	-12	-10.29	-10.51	-9.2	-12.05
11/18/2017-11:00	-11.91	-12	-12.06	-10.34	-10.59	-9.27	-12.11
11/18/2017-12:00	-11.97	-12.06	-12.12	-10.4	-10.68	-9.34	-12.17
11/18/2017-13:00	-12.02	-12.12	-12.19	-10.47	-10.77	-9.41	-12.24
11/18/2017-14:00	-12.09	-12.18	-12.25	-10.54	-10.86	-9.48	-12.31
11/18/2017-15:00	-12.14	-12.24	-12.32	-10.61	-10.94	-9.55	-12.37
11/18/2017-16:00	-12.2	-12.3	-12.38	-10.68	-11.02	-9.61	-12.43
11/18/2017-17:00	-12.25	-12.35	-12.42	-10.74	-11.08	-9.66	-12.48
11/18/2017-18:00	-12.29	-12.39	-12.47	-10.8	-11.12	-9.69	-12.51
11/18/2017-19:00	-12.33	-12.42	-12.5	-10.84	-11.15	-9.72	-12.54
11/18/2017-20:00	-12.35	-12.45	-12.52	-10.88	-11.17	-9.74	-12.57
11/18/2017-21:00	-12.38	-12.47	-12.54	-10.91	-11.18	-9.75	-12.58
11/18/2017-22:00	-12.4	-12.49	-12.55	-10.93	-11.18	-9.75	-12.6
11/18/2017-23:00	-12.42	-12.5	-12.57	-10.95	-11.18	-9.76	-12.61
11/19/2017-0:00	-12.43	-12.52	-12.58	-10.96	-11.17	-9.77	-12.62
11/19/2017-1:00	-12.45	-12.54	-12.6	-10.98	-11.18	-9.79	-12.64
11/19/2017-2:00	-12.48	-12.56	-12.62	-10.99	-11.19	-9.81	-12.66
11/19/2017-3:00	-12.5	-12.59	-12.65	-11.01	-11.21	-9.83	-12.69
11/19/2017-4:00	-12.53	-12.62	-12.68	-11.04	-11.24	-9.87	-12.72
11/19/2017-5:00	-12.57	-12.65	-12.72	-11.07	-11.28	-9.91	-12.76
11/19/2017-6:00	-12.61	-12.7	-12.76	-11.1	-11.33	-9.96	-12.8

11/19/2017-7:00	-12.66	-12.75	-12.81	-11.15	-11.4	-10.02	-12.85
11/19/2017-8:00	-12.71	-12.8	-12.87	-11.2	-11.47	-10.09	-12.91
11/19/2017-9:00	-12.77	-12.86	-12.94	-11.26	-11.56	-10.16	-12.98
11/19/2017-10:00	-12.83	-12.93	-13.01	-11.33	-11.65	-10.24	-13.05
11/19/2017-11:00	-12.9	-13.01	-13.08	-11.41	-11.76	-10.33	-13.13
11/19/2017-12:00	-12.98	-13.08	-13.17	-11.49	-11.87	-10.42	-13.22
11/19/2017-13:00	-13.05	-13.16	-13.25	-11.58	-11.99	-10.51	-13.3
11/19/2017-14:00	-13.13	-13.25	-13.33	-11.68	-12.1	-10.61	-13.39
11/19/2017-15:00	-13.21	-13.32	-13.41	-11.77	-12.21	-10.69	-13.47
11/19/2017-16:00	-13.28	-13.4	-13.49	-11.86	-12.31	-10.77	-13.54
11/19/2017-17:00	-13.35	-13.46	-13.56	-11.95	-12.39	-10.83	-13.61
11/19/2017-18:00	-13.41	-13.52	-13.61	-12.03	-12.46	-10.89	-13.66
11/19/2017-19:00	-13.46	-13.57	-13.66	-12.09	-12.51	-10.93	-13.71
11/19/2017-20:00	-13.5	-13.61	-13.7	-12.15	-12.55	-10.96	-13.75
11/19/2017-21:00	-13.54	-13.65	-13.73	-12.2	-12.57	-10.99	-13.78
11/19/2017-22:00	-13.57	-13.68	-13.76	-12.24	-12.59	-11.01	-13.8
11/19/2017-23:00	-13.6	-13.71	-13.79	-12.28	-12.6	-11.03	-13.83
11/20/2017-0:00	-13.63	-13.74	-13.82	-12.31	-12.62	-11.05	-13.86
11/20/2017-1:00	-13.67	-13.77	-13.84	-12.34	-12.63	-11.08	-13.88
11/20/2017-2:00	-13.7	-13.8	-13.87	-12.37	-12.66	-11.11	-13.91
11/20/2017-3:00	-13.73	-13.83	-13.91	-12.4	-12.68	-11.14	-13.95
11/20/2017-4:00	-13.77	-13.87	-13.95	-12.43	-12.72	-11.18	-13.98
11/20/2017-5:00	-13.81	-13.92	-13.99	-12.47	-12.76	-11.23	-14.03
11/20/2017-6:00	-13.86	-13.96	-14.04	-12.52	-12.82	-11.28	-14.08
11/20/2017-7:00	-13.91	-14.01	-14.09	-12.56	-12.88	-11.34	-14.13
11/20/2017-8:00	-13.97	-14.07	-14.15	-12.62	-12.95	-11.4	-14.19
11/20/2017-9:00	-14.03	-14.13	-14.21	-12.68	-13.03	-11.47	-14.25
11/20/2017-10:00	-14.09	-14.2	-14.28	-12.75	-13.11	-11.55	-14.32
11/20/2017-11:00	-14.16	-14.27	-14.35	-12.82	-13.2	-11.63	-14.4
11/20/2017-12:00	-14.23	-14.34	-14.43	-12.9	-13.3	-11.71	-14.47
11/20/2017-13:00	-14.3	-14.41	-14.5	-12.98	-13.4	-11.79	-14.55
11/20/2017-14:00	-14.37	-14.49	-14.58	-13.06	-13.5	-11.87	-14.62
11/20/2017-15:00	-14.44	-14.56	-14.65	-13.15	-13.59	-11.94	-14.69
11/20/2017-16:00	-14.5	-14.62	-14.71	-13.22	-13.66	-12	-14.76
11/20/2017-17:00	-14.55	-14.67	-14.76	-13.29	-13.72	-12.05	-14.81
11/20/2017-18:00	-14.6	-14.72	-14.81	-13.35	-13.76	-12.09	-14.85
11/20/2017-19:00	-14.64	-14.76	-14.84	-13.4	-13.79	-12.12	-14.88
11/20/2017-20:00	-14.67	-14.78	-14.87	-13.44	-13.8	-12.13	-14.91
11/20/2017-21:00	-14.7	-14.81	-14.89	-13.47	-13.81	-12.14	-14.92
11/20/2017-22:00	-14.72	-14.83	-14.9	-13.49	-13.8	-12.15	-14.94
11/20/2017-23:00	-14.74	-14.84	-14.92	-13.51	-13.79	-12.16	-14.95
11/21/2017-0:00	-14.76	-14.86	-14.93	-13.52	-13.79	-12.17	-14.96
11/21/2017-1:00	-14.78	-14.88	-14.95	-13.54	-13.79	-12.18	-14.98
11/21/2017-2:00	-14.8	-14.9	-14.97	-13.55	-13.79	-12.2	-15
11/21/2017-3:00	-14.83	-14.92	-14.99	-13.56	-13.8	-12.22	-15.02
11/21/2017-4:00	-14.86	-14.95	-15.02	-13.58	-13.82	-12.25	-15.05
11/21/2017-5:00	-14.89	-14.98	-15.05	-13.61	-13.85	-12.28	-15.08
11/21/2017-6:00	-14.92	-15.02	-15.09	-13.64	-13.89	-12.32	-15.12
11/21/2017-7:00	-14.97	-15.06	-15.13	-13.67	-13.93	-12.37	-15.16
11/21/2017-8:00	-15.01	-15.11	-15.18	-13.71	-13.99	-12.43	-15.21
11/21/2017-9:00	-15.06	-15.16	-15.24	-13.76	-14.05	-12.49	-15.27
11/21/2017-10:00	-15.11	-15.22	-15.3	-13.81	-14.13	-12.55	-15.33
11/21/2017-11:00	-15.17	-15.28	-15.36	-13.87	-14.21	-12.62	-15.39

11/21/2017-12:00	-15.23	-15.34	-15.42	-13.94	-14.29	-12.69	-15.46
11/21/2017-13:00	-15.3	-15.41	-15.49	-14.01	-14.38	-12.76	-15.53
11/21/2017-14:00	-15.36	-15.47	-15.56	-14.08	-14.46	-12.83	-15.59
11/21/2017-15:00	-15.42	-15.53	-15.62	-14.15	-14.54	-12.9	-15.66
11/21/2017-16:00	-15.47	-15.59	-15.67	-14.21	-14.6	-12.95	-15.71
11/21/2017-17:00	-15.52	-15.63	-15.72	-14.27	-14.65	-12.99	-15.75
11/21/2017-18:00	-15.56	-15.67	-15.75	-14.32	-14.68	-13.02	-15.79
11/21/2017-19:00	-15.59	-15.7	-15.78	-14.35	-14.7	-13.03	-15.81
11/21/2017-20:00	-15.61	-15.71	-15.79	-14.38	-14.69	-13.04	-15.82
11/21/2017-21:00	-15.62	-15.72	-15.8	-14.4	-14.68	-13.03	-15.83
11/21/2017-22:00	-15.63	-15.73	-15.8	-14.4	-14.65	-13.03	-15.83
11/21/2017-23:00	-15.64	-15.73	-15.8	-14.4	-14.63	-13.02	-15.83
11/22/2017-0:00	-15.65	-15.74	-15.8	-14.4	-14.6	-13.01	-15.83
11/22/2017-1:00	-15.66	-15.75	-15.81	-14.4	-14.58	-13.01	-15.83
11/22/2017-2:00	-15.67	-15.76	-15.82	-14.39	-14.57	-13.02	-15.84
11/22/2017-3:00	-15.68	-15.77	-15.83	-14.4	-14.57	-13.03	-15.85
11/22/2017-4:00	-15.7	-15.79	-15.85	-14.4	-14.58	-13.06	-15.88
11/22/2017-5:00	-15.73	-15.82	-15.88	-14.42	-14.61	-13.09	-15.91
11/22/2017-6:00	-15.76	-15.85	-15.92	-14.44	-14.64	-13.13	-15.94
11/22/2017-7:00	-15.8	-15.89	-15.96	-14.47	-14.69	-13.18	-15.99
11/22/2017-8:00	-15.85	-15.94	-16.01	-14.51	-14.76	-13.24	-16.04
11/22/2017-9:00	-15.9	-16	-16.07	-14.56	-14.84	-13.31	-16.1
11/22/2017-10:00	-15.96	-16.06	-16.14	-14.62	-14.93	-13.39	-16.17
11/22/2017-11:00	-16.03	-16.13	-16.21	-14.69	-15.03	-13.47	-16.25
11/22/2017-12:00	-16.1	-16.21	-16.29	-14.77	-15.14	-13.57	-16.33
11/22/2017-13:00	-16.18	-16.29	-16.38	-14.85	-15.25	-13.66	-16.42
11/22/2017-14:00	-16.26	-16.37	-16.46	-14.94	-15.37	-13.76	-16.5
11/22/2017-15:00	-16.33	-16.45	-16.54	-15.04	-15.48	-13.84	-16.59
11/22/2017-16:00	-16.41	-16.53	-16.62	-15.13	-15.58	-13.92	-16.66
11/22/2017-17:00	-16.47	-16.6	-16.69	-15.21	-15.67	-13.99	-16.73
11/22/2017-18:00	-16.53	-16.65	-16.75	-15.29	-15.74	-14.05	-16.79
11/22/2017-19:00	-16.58	-16.7	-16.79	-15.35	-15.78	-14.09	-16.83
11/22/2017-20:00	-16.62	-16.74	-16.83	-15.41	-15.82	-14.11	-16.86
11/22/2017-21:00	-16.66	-16.77	-16.86	-15.45	-15.83	-14.14	-16.89
11/22/2017-22:00	-16.69	-16.8	-16.88	-15.49	-15.84	-14.15	-16.91
11/22/2017-23:00	-16.71	-16.82	-16.9	-15.52	-15.84	-14.16	-16.93
11/23/2017-0:00	-16.74	-16.85	-16.92	-15.54	-15.85	-14.18	-16.95
11/23/2017-1:00	-16.76	-16.87	-16.94	-15.56	-15.85	-14.2	-16.97
11/23/2017-2:00	-16.79	-16.89	-16.97	-15.58	-15.86	-14.22	-16.99
11/23/2017-3:00	-16.82	-16.92	-16.99	-15.6	-15.87	-14.24	-17.02
11/23/2017-4:00	-16.85	-16.95	-17.02	-15.62	-15.89	-14.27	-17.04
11/23/2017-5:00	-16.88	-16.98	-17.05	-15.65	-15.91	-14.3	-17.07
11/23/2017-6:00	-16.91	-17.01	-17.08	-15.67	-15.94	-14.33	-17.11
11/23/2017-7:00	-16.95	-17.05	-17.12	-15.7	-15.97	-14.37	-17.14
11/23/2017-8:00	-16.99	-17.09	-17.16	-15.74	-16.01	-14.41	-17.18
11/23/2017-9:00	-17.02	-17.12	-17.2	-15.77	-16.05	-14.45	-17.22
11/23/2017-10:00	-17.06	-17.17	-17.24	-15.81	-16.09	-14.5	-17.26
11/23/2017-11:00	-17.11	-17.21	-17.28	-15.85	-16.14	-14.54	-17.31
11/23/2017-12:00	-17.15	-17.25	-17.32	-15.89	-16.18	-14.58	-17.35
11/23/2017-13:00	-17.19	-17.29	-17.36	-15.93	-16.23	-14.62	-17.39
11/23/2017-14:00	-17.23	-17.33	-17.4	-15.97	-16.27	-14.66	-17.43
11/23/2017-15:00	-17.26	-17.36	-17.44	-16.01	-16.3	-14.7	-17.46
11/23/2017-16:00	-17.3	-17.4	-17.47	-16.04	-16.33	-14.72	-17.49

11/23/2017-17:00	-17.32	-17.42	-17.49	-16.07	-16.35	-14.74	-17.52
11/23/2017-18:00	-17.35	-17.44	-17.51	-16.09	-16.36	-14.76	-17.54
11/23/2017-19:00	-17.36	-17.46	-17.53	-16.11	-16.35	-14.76	-17.55
11/23/2017-20:00	-17.38	-17.47	-17.54	-16.12	-16.34	-14.76	-17.56
11/23/2017-21:00	-17.39	-17.48	-17.54	-16.12	-16.33	-14.76	-17.56
11/23/2017-22:00	-17.4	-17.48	-17.55	-16.13	-16.31	-14.76	-17.56
11/23/2017-23:00	-17.41	-17.49	-17.55	-16.12	-16.3	-14.76	-17.57
11/24/2017-0:00	-17.41	-17.5	-17.55	-16.12	-16.28	-14.76	-17.57
11/24/2017-1:00	-17.42	-17.5	-17.56	-16.12	-16.27	-14.77	-17.58
11/24/2017-2:00	-17.44	-17.52	-17.57	-16.12	-16.27	-14.77	-17.59
11/24/2017-3:00	-17.45	-17.53	-17.59	-16.12	-16.27	-14.79	-17.6
11/24/2017-4:00	-17.47	-17.55	-17.61	-16.13	-16.28	-14.81	-17.62
11/24/2017-5:00	-17.49	-17.57	-17.63	-16.14	-16.3	-14.83	-17.65
11/24/2017-6:00	-17.52	-17.6	-17.66	-16.15	-16.32	-14.86	-17.67
11/24/2017-7:00	-17.55	-17.63	-17.69	-16.17	-16.36	-14.9	-17.71
11/24/2017-8:00	-17.58	-17.66	-17.72	-16.2	-16.4	-14.94	-17.74
11/24/2017-9:00	-17.61	-17.7	-17.76	-16.23	-16.44	-14.98	-17.78
11/24/2017-10:00	-17.65	-17.74	-17.8	-16.27	-16.5	-15.03	-17.83
11/24/2017-11:00	-17.7	-17.78	-17.85	-16.31	-16.55	-15.08	-17.88
11/24/2017-12:00	-17.74	-17.83	-17.9	-16.35	-16.62	-15.14	-17.93
11/24/2017-13:00	-17.79	-17.88	-17.95	-16.4	-16.68	-15.19	-17.98
11/24/2017-14:00	-17.84	-17.93	-18	-16.46	-16.75	-15.25	-18.03
11/24/2017-15:00	-17.88	-17.98	-18.05	-16.51	-16.81	-15.3	-18.08
11/24/2017-16:00	-17.93	-18.02	-18.1	-16.56	-16.86	-15.34	-18.13
11/24/2017-17:00	-17.96	-18.06	-18.13	-16.6	-16.9	-15.37	-18.16
11/24/2017-18:00	-17.99	-18.09	-18.16	-16.64	-16.92	-15.39	-18.19
11/24/2017-19:00	-18.01	-18.11	-18.17	-16.66	-16.93	-15.4	-18.2
11/24/2017-20:00	-18.03	-18.12	-18.18	-16.68	-16.92	-15.4	-18.21
11/24/2017-21:00	-18.04	-18.12	-18.19	-16.69	-16.9	-15.4	-18.21
11/24/2017-22:00	-18.04	-18.13	-18.19	-16.69	-16.88	-15.39	-18.21
11/24/2017-23:00	-18.05	-18.13	-18.19	-16.69	-16.85	-15.38	-18.21
11/25/2017-0:00	-18.05	-18.13	-18.18	-16.68	-16.83	-15.37	-18.2
11/25/2017-1:00	-18.05	-18.13	-18.18	-16.67	-16.8	-15.36	-18.2
11/25/2017-2:00	-18.06	-18.13	-18.19	-16.66	-16.79	-15.36	-18.21
11/25/2017-3:00	-18.07	-18.14	-18.19	-16.66	-16.77	-15.37	-18.21
11/25/2017-4:00	-18.08	-18.15	-18.2	-16.65	-16.77	-15.38	-18.22
11/25/2017-5:00	-18.09	-18.16	-18.21	-16.65	-16.77	-15.39	-18.23
11/25/2017-6:00	-18.11	-18.18	-18.23	-16.66	-16.78	-15.41	-18.25
11/25/2017-7:00	-18.12	-18.2	-18.25	-16.67	-16.8	-15.43	-18.27
11/25/2017-8:00	-18.15	-18.22	-18.27	-16.68	-16.82	-15.46	-18.3
11/25/2017-9:00	-18.17	-18.25	-18.3	-16.7	-16.85	-15.49	-18.33
11/25/2017-10:00	-18.2	-18.28	-18.33	-16.72	-16.89	-15.52	-18.36
11/25/2017-11:00	-18.23	-18.31	-18.37	-16.75	-16.93	-15.56	-18.39
11/25/2017-12:00	-18.26	-18.34	-18.4	-16.78	-16.97	-15.6	-18.43
11/25/2017-13:00	-18.3	-18.38	-18.44	-16.81	-17.02	-15.64	-18.47
11/25/2017-14:00	-18.33	-18.41	-18.48	-16.85	-17.06	-15.68	-18.51
11/25/2017-15:00	-18.36	-18.45	-18.51	-16.88	-17.1	-15.71	-18.54
11/25/2017-16:00	-18.39	-18.47	-18.53	-16.91	-17.12	-15.73	-18.57
11/25/2017-17:00	-18.41	-18.49	-18.55	-16.93	-17.14	-15.74	-18.58
11/25/2017-18:00	-18.42	-18.5	-18.56	-16.95	-17.13	-15.74	-18.59
11/25/2017-19:00	-18.43	-18.5	-18.56	-16.95	-17.11	-15.73	-18.59
11/25/2017-20:00	-18.42	-18.5	-18.55	-16.95	-17.08	-15.71	-18.58
11/25/2017-21:00	-18.42	-18.48	-18.53	-16.93	-17.03	-15.68	-18.56

11/25/2017-22:00	-18.4	-18.47	-18.51	-16.91	-16.98	-15.65	-18.54
11/25/2017-23:00	-18.39	-18.45	-18.49	-16.88	-16.93	-15.63	-18.52
11/26/2017-0:00	-18.38	-18.44	-18.48	-16.85	-16.89	-15.6	-18.5
11/26/2017-1:00	-18.37	-18.42	-18.46	-16.82	-16.85	-15.58	-18.48
11/26/2017-2:00	-18.36	-18.41	-18.45	-16.8	-16.81	-15.57	-18.47
11/26/2017-3:00	-18.35	-18.41	-18.45	-16.78	-16.79	-15.57	-18.47
11/26/2017-4:00	-18.36	-18.41	-18.45	-16.76	-16.78	-15.57	-18.47
11/26/2017-5:00	-18.36	-18.42	-18.46	-16.75	-16.79	-15.58	-18.48
11/26/2017-6:00	-18.38	-18.43	-18.47	-16.75	-16.8	-15.61	-18.5
11/26/2017-7:00	-18.4	-18.45	-18.5	-16.76	-16.83	-15.64	-18.53
11/26/2017-8:00	-18.42	-18.48	-18.53	-16.78	-16.87	-15.67	-18.56
11/26/2017-9:00	-18.45	-18.52	-18.56	-16.8	-16.92	-15.72	-18.6
11/26/2017-10:00	-18.49	-18.56	-18.61	-16.84	-16.98	-15.77	-18.64
11/26/2017-11:00	-18.53	-18.6	-18.65	-16.88	-17.05	-15.82	-18.69
11/26/2017-12:00	-18.57	-18.65	-18.7	-16.92	-17.12	-15.88	-18.74
11/26/2017-13:00	-18.62	-18.7	-18.76	-16.98	-17.2	-15.95	-18.8
11/26/2017-14:00	-18.67	-18.75	-18.81	-17.03	-17.27	-16.01	-18.85
11/26/2017-15:00	-18.72	-18.8	-18.86	-17.09	-17.34	-16.06	-18.91
11/26/2017-16:00	-18.76	-18.84	-18.91	-17.14	-17.4	-16.11	-18.95
11/26/2017-17:00	-18.8	-18.88	-18.94	-17.19	-17.44	-16.14	-18.99
11/26/2017-18:00	-18.82	-18.91	-18.97	-17.23	-17.47	-16.16	-19.01
11/26/2017-19:00	-18.84	-18.92	-18.98	-17.26	-17.48	-16.17	-19.03
11/26/2017-20:00	-18.86	-18.93	-18.99	-17.28	-17.48	-16.17	-19.03
11/26/2017-21:00	-18.86	-18.94	-18.99	-17.29	-17.46	-16.16	-19.03
11/26/2017-22:00	-18.87	-18.94	-18.99	-17.29	-17.44	-16.15	-19.03
11/26/2017-23:00	-18.87	-18.94	-18.99	-17.29	-17.41	-16.14	-19.02
11/27/2017-0:00	-18.87	-18.93	-18.98	-17.28	-17.38	-16.12	-19.02
11/27/2017-1:00	-18.87	-18.93	-18.98	-17.27	-17.35	-16.11	-19.01
11/27/2017-2:00	-18.87	-18.93	-18.97	-17.26	-17.33	-16.11	-19.01
11/27/2017-3:00	-18.87	-18.93	-18.97	-17.25	-17.31	-16.11	-19.01
11/27/2017-4:00	-18.87	-18.93	-18.98	-17.24	-17.3	-16.11	-19.01
11/27/2017-5:00	-18.88	-18.94	-18.98	-17.24	-17.3	-16.11	-19.02
11/27/2017-6:00	-18.89	-18.95	-18.99	-17.24	-17.3	-16.13	-19.03
11/27/2017-7:00	-18.9	-18.96	-19.01	-17.24	-17.32	-16.14	-19.04
11/27/2017-8:00	-18.92	-18.98	-19.03	-17.25	-17.33	-16.17	-19.06
11/27/2017-9:00	-18.94	-19	-19.05	-17.26	-17.36	-16.19	-19.09
11/27/2017-10:00	-18.96	-19.03	-19.08	-17.28	-17.39	-16.22	-19.11
11/27/2017-11:00	-18.99	-19.06	-19.11	-17.3	-17.43	-16.26	-19.15
11/27/2017-12:00	-19.02	-19.09	-19.14	-17.33	-17.47	-16.3	-19.18
11/27/2017-13:00	-19.05	-19.12	-19.18	-17.36	-17.52	-16.34	-19.22
11/27/2017-14:00	-19.09	-19.16	-19.21	-17.4	-17.57	-16.38	-19.26
11/27/2017-15:00	-19.12	-19.19	-19.25	-17.43	-17.61	-16.41	-19.29
11/27/2017-16:00	-19.15	-19.22	-19.28	-17.47	-17.65	-16.44	-19.32
11/27/2017-17:00	-19.17	-19.25	-19.3	-17.5	-17.67	-16.46	-19.35
11/27/2017-18:00	-19.19	-19.27	-19.32	-17.52	-17.69	-16.48	-19.37
11/27/2017-19:00	-19.21	-19.28	-19.34	-17.54	-17.7	-16.49	-19.38
11/27/2017-20:00	-19.22	-19.29	-19.35	-17.56	-17.7	-16.49	-19.39
11/27/2017-21:00	-19.23	-19.3	-19.35	-17.57	-17.7	-16.5	-19.4
11/27/2017-22:00	-19.24	-19.31	-19.36	-17.57	-17.69	-16.5	-19.4
11/27/2017-23:00	-19.25	-19.32	-19.36	-17.58	-17.69	-16.5	-19.41
11/28/2017-0:00	-19.26	-19.32	-19.37	-17.58	-17.68	-16.5	-19.42
11/28/2017-1:00	-19.27	-19.33	-19.38	-17.58	-17.68	-16.51	-19.43
11/28/2017-2:00	-19.28	-19.35	-19.4	-17.59	-17.69	-16.53	-19.44

11/28/2017-3:00	-19.3	-19.37	-19.42	-17.6	-17.71	-16.55	-19.46
11/28/2017-4:00	-19.32	-19.39	-19.44	-17.62	-17.73	-16.58	-19.48
11/28/2017-5:00	-19.35	-19.42	-19.47	-17.64	-17.77	-16.61	-19.51
11/28/2017-6:00	-19.38	-19.45	-19.5	-17.67	-17.81	-16.65	-19.55
11/28/2017-7:00	-19.41	-19.48	-19.54	-17.7	-17.86	-16.69	-19.59
11/28/2017-8:00	-19.45	-19.52	-19.58	-17.74	-17.91	-16.74	-19.63
11/28/2017-9:00	-19.49	-19.57	-19.63	-17.78	-17.97	-16.79	-19.68
11/28/2017-10:00	-19.54	-19.62	-19.68	-17.83	-18.04	-16.85	-19.73
11/28/2017-11:00	-19.59	-19.67	-19.73	-17.88	-18.11	-16.91	-19.78
11/28/2017-12:00	-19.64	-19.72	-19.78	-17.94	-18.19	-16.97	-19.84
11/28/2017-13:00	-19.69	-19.77	-19.84	-18	-18.26	-17.03	-19.89
11/28/2017-14:00	-19.74	-19.82	-19.89	-18.06	-18.33	-17.08	-19.95
11/28/2017-15:00	-19.78	-19.87	-19.94	-18.12	-18.39	-17.13	-20
11/28/2017-16:00	-19.82	-19.91	-19.98	-18.17	-18.44	-17.17	-20.04
11/28/2017-17:00	-19.85	-19.94	-20.01	-18.22	-18.47	-17.2	-20.07
11/28/2017-18:00	-19.88	-19.96	-20.03	-18.25	-18.49	-17.21	-20.08
11/28/2017-19:00	-19.89	-19.98	-20.04	-18.27	-18.48	-17.21	-20.09
11/28/2017-20:00	-19.9	-19.98	-20.04	-18.28	-18.46	-17.19	-20.09
11/28/2017-21:00	-19.9	-19.98	-20.03	-18.28	-18.43	-17.17	-20.08
11/28/2017-22:00	-19.9	-19.97	-20.02	-18.27	-18.39	-17.15	-20.06
11/28/2017-23:00	-19.89	-19.95	-20	-18.26	-18.35	-17.12	-20.05
11/29/2017-0:00	-19.88	-19.94	-19.99	-18.24	-18.3	-17.1	-20.03
11/29/2017-1:00	-19.87	-19.93	-19.97	-18.21	-18.25	-17.07	-20.01
11/29/2017-2:00	-19.86	-19.91	-19.95	-18.19	-18.21	-17.05	-19.99
11/29/2017-3:00	-19.85	-19.9	-19.94	-18.16	-18.18	-17.04	-19.98
11/29/2017-4:00	-19.84	-19.9	-19.94	-18.14	-18.15	-17.03	-19.97
11/29/2017-5:00	-19.84	-19.89	-19.93	-18.12	-18.13	-17.02	-19.97
11/29/2017-6:00	-19.84	-19.9	-19.93	-18.11	-18.12	-17.02	-19.97
11/29/2017-7:00	-19.85	-19.9	-19.94	-18.1	-18.12	-17.03	-19.98
11/29/2017-8:00	-19.86	-19.92	-19.95	-18.1	-18.13	-17.05	-20
11/29/2017-9:00	-19.88	-19.93	-19.97	-18.11	-18.15	-17.08	-20.02
11/29/2017-10:00	-19.9	-19.96	-20	-18.12	-18.19	-17.11	-20.04
11/29/2017-11:00	-19.93	-19.99	-20.03	-18.14	-18.23	-17.14	-20.07
11/29/2017-12:00	-19.96	-20.02	-20.06	-18.17	-18.27	-17.18	-20.11
11/29/2017-13:00	-19.99	-20.05	-20.1	-18.2	-18.33	-17.23	-20.15
11/29/2017-14:00	-20.02	-20.09	-20.14	-18.23	-18.38	-17.27	-20.19
11/29/2017-15:00	-20.06	-20.12	-20.17	-18.27	-18.43	-17.31	-20.22
11/29/2017-16:00	-20.08	-20.15	-20.2	-18.3	-18.46	-17.33	-20.25
11/29/2017-17:00	-20.11	-20.17	-20.22	-18.33	-18.49	-17.35	-20.27
11/29/2017-18:00	-20.12	-20.18	-20.23	-18.35	-18.49	-17.35	-20.28
11/29/2017-19:00	-20.12	-20.19	-20.23	-18.36	-18.48	-17.35	-20.28
11/29/2017-20:00	-20.12	-20.18	-20.22	-18.36	-18.45	-17.33	-20.27
11/29/2017-21:00	-20.11	-20.17	-20.21	-18.35	-18.41	-17.3	-20.25
11/29/2017-22:00	-20.1	-20.15	-20.18	-18.33	-18.36	-17.26	-20.23
11/29/2017-23:00	-20.07	-20.12	-20.16	-18.3	-18.3	-17.22	-20.2
11/30/2017-0:00	-20.05	-20.09	-20.12	-18.26	-18.24	-17.18	-20.16
11/30/2017-1:00	-20.02	-20.06	-20.09	-18.22	-18.17	-17.14	-20.12
11/30/2017-2:00	-19.99	-20.03	-20.05	-18.17	-18.09	-17.09	-20.09
11/30/2017-3:00	-19.96	-19.99	-20.01	-18.12	-18.02	-17.04	-20.05
11/30/2017-4:00	-19.92	-19.95	-19.97	-18.07	-17.95	-16.99	-20
11/30/2017-5:00	-19.89	-19.91	-19.93	-18.01	-17.88	-16.95	-19.96
11/30/2017-6:00	-19.85	-19.87	-19.89	-17.95	-17.8	-16.9	-19.92
11/30/2017-7:00	-19.82	-19.84	-19.85	-17.9	-17.73	-16.85	-19.88

11/30/2017-8:00	-19.78	-19.79	-19.8	-17.84	-17.66	-16.81	-19.84
11/30/2017-9:00	-19.74	-19.75	-19.76	-17.78	-17.59	-16.76	-19.79
11/30/2017-10:00	-19.7	-19.71	-19.72	-17.72	-17.52	-16.71	-19.75
11/30/2017-11:00	-19.66	-19.67	-19.68	-17.66	-17.46	-16.67	-19.71
11/30/2017-12:00	-19.63	-19.63	-19.63	-17.6	-17.39	-16.62	-19.67
11/30/2017-13:00	-19.58	-19.59	-19.59	-17.54	-17.32	-16.57	-19.62
11/30/2017-14:00	-19.54	-19.54	-19.54	-17.48	-17.25	-16.52	-19.58
11/30/2017-15:00	-19.49	-19.49	-19.49	-17.41	-17.17	-16.46	-19.52
11/30/2017-16:00	-19.44	-19.43	-19.43	-17.34	-17.08	-16.39	-19.46
11/30/2017-17:00	-19.38	-19.37	-19.36	-17.26	-16.97	-16.31	-19.39
11/30/2017-18:00	-19.31	-19.29	-19.28	-17.17	-16.85	-16.22	-19.31
11/30/2017-19:00	-19.23	-19.21	-19.19	-17.07	-16.72	-16.12	-19.22
11/30/2017-20:00	-19.15	-19.12	-19.1	-16.96	-16.57	-16.01	-19.13
11/30/2017-21:00	-19.06	-19.03	-19	-16.84	-16.42	-15.9	-19.03
11/30/2017-22:00	-18.97	-18.93	-18.9	-16.71	-16.26	-15.78	-18.92
11/30/2017-23:00	-18.87	-18.83	-18.79	-16.59	-16.11	-15.67	-18.82
12/1/2017-0:00	-18.78	-18.73	-18.69	-16.45	-15.95	-15.56	-18.72
12/1/2017-1:00	-18.68	-18.63	-18.59	-16.32	-15.8	-15.45	-18.62
12/1/2017-2:00	-18.59	-18.54	-18.49	-16.19	-15.66	-15.35	-18.52
12/1/2017-3:00	-18.51	-18.45	-18.4	-16.07	-15.53	-15.25	-18.43
12/1/2017-4:00	-18.42	-18.36	-18.31	-15.95	-15.4	-15.16	-18.34
12/1/2017-5:00	-18.34	-18.28	-18.23	-15.83	-15.29	-15.08	-18.26
12/1/2017-6:00	-18.26	-18.2	-18.15	-15.72	-15.19	-15	-18.19
12/1/2017-7:00	-18.19	-18.13	-18.08	-15.62	-15.09	-14.93	-18.12
12/1/2017-8:00	-18.12	-18.06	-18.02	-15.52	-15.01	-14.87	-18.05
12/1/2017-9:00	-18.06	-18	-17.96	-15.43	-14.93	-14.81	-18
12/1/2017-10:00	-18	-17.94	-17.9	-15.35	-14.87	-14.76	-17.94
12/1/2017-11:00	-17.95	-17.89	-17.85	-15.27	-14.81	-14.71	-17.9
12/1/2017-12:00	-17.9	-17.85	-17.81	-15.2	-14.76	-14.67	-17.85
12/1/2017-13:00	-17.86	-17.8	-17.76	-15.14	-14.72	-14.63	-17.82
12/1/2017-14:00	-17.82	-17.76	-17.72	-15.08	-14.68	-14.6	-17.78
12/1/2017-15:00	-17.77	-17.72	-17.69	-15.03	-14.64	-14.56	-17.74
12/1/2017-16:00	-17.73	-17.68	-17.64	-14.98	-14.6	-14.52	-17.7
12/1/2017-17:00	-17.68	-17.63	-17.6	-14.92	-14.55	-14.47	-17.66
12/1/2017-18:00	-17.63	-17.58	-17.55	-14.86	-14.49	-14.42	-17.61
12/1/2017-19:00	-17.58	-17.53	-17.49	-14.8	-14.42	-14.36	-17.55
12/1/2017-20:00	-17.53	-17.47	-17.43	-14.74	-14.34	-14.3	-17.5
12/1/2017-21:00	-17.47	-17.41	-17.37	-14.67	-14.27	-14.23	-17.44
12/1/2017-22:00	-17.41	-17.36	-17.32	-14.6	-14.19	-14.17	-17.38
12/1/2017-23:00	-17.36	-17.3	-17.26	-14.53	-14.12	-14.11	-17.32
12/2/2017-0:00	-17.3	-17.25	-17.21	-14.46	-14.05	-14.06	-17.27
12/2/2017-1:00	-17.26	-17.2	-17.16	-14.4	-13.99	-14.01	-17.22
12/2/2017-2:00	-17.21	-17.16	-17.12	-14.34	-13.94	-13.98	-17.19
12/2/2017-3:00	-17.18	-17.12	-17.08	-14.29	-13.91	-13.95	-17.15
12/2/2017-4:00	-17.14	-17.09	-17.06	-14.25	-13.88	-13.93	-17.13
12/2/2017-5:00	-17.12	-17.07	-17.04	-14.21	-13.87	-13.92	-17.11
12/2/2017-6:00	-17.1	-17.06	-17.03	-14.19	-13.87	-13.91	-17.11
12/2/2017-7:00	-17.09	-17.05	-17.03	-14.17	-13.89	-13.92	-17.11
12/2/2017-8:00	-17.09	-17.05	-17.03	-14.17	-13.92	-13.94	-17.12
12/2/2017-9:00	-17.09	-17.06	-17.04	-14.17	-13.95	-13.96	-17.13
12/2/2017-10:00	-17.11	-17.08	-17.06	-14.19	-14	-13.99	-17.15
12/2/2017-11:00	-17.12	-17.1	-17.09	-14.21	-14.06	-14.03	-17.18
12/2/2017-12:00	-17.14	-17.13	-17.12	-14.24	-14.13	-14.07	-17.22



12/2/2017-13:00	-17.17	-17.16	-17.15	-14.28	-14.2	-14.12	-17.25
12/2/2017-14:00	-17.2	-17.19	-17.19	-14.33	-14.27	-14.16	-17.29
12/2/2017-15:00	-17.23	-17.22	-17.23	-14.37	-14.34	-14.21	-17.33
12/2/2017-16:00	-17.25	-17.25	-17.26	-14.42	-14.4	-14.25	-17.36
12/2/2017-17:00	-17.28	-17.28	-17.29	-14.46	-14.46	-14.28	-17.39
12/2/2017-18:00	-17.3	-17.3	-17.31	-14.5	-14.5	-14.3	-17.41
12/2/2017-19:00	-17.31	-17.31	-17.32	-14.53	-14.52	-14.31	-17.43
12/2/2017-20:00	-17.32	-17.32	-17.33	-14.56	-14.54	-14.31	-17.43
12/2/2017-21:00	-17.32	-17.33	-17.34	-14.58	-14.55	-14.31	-17.44
12/2/2017-22:00	-17.33	-17.33	-17.34	-14.6	-14.55	-14.31	-17.44
12/2/2017-23:00	-17.33	-17.33	-17.34	-14.61	-14.55	-14.31	-17.44
12/3/2017-0:00	-17.33	-17.33	-17.34	-14.61	-14.55	-14.3	-17.44
12/3/2017-1:00	-17.33	-17.33	-17.34	-14.62	-14.55	-14.3	-17.44
12/3/2017-2:00	-17.33	-17.34	-17.34	-14.63	-14.55	-14.31	-17.44
12/3/2017-3:00	-17.34	-17.34	-17.35	-14.63	-14.56	-14.31	-17.45
12/3/2017-4:00	-17.35	-17.35	-17.36	-14.65	-14.57	-14.32	-17.45
12/3/2017-5:00	-17.36	-17.36	-17.37	-14.66	-14.59	-14.34	-17.47
12/3/2017-6:00	-17.37	-17.38	-17.39	-14.68	-14.62	-14.36	-17.49
12/3/2017-7:00	-17.39	-17.4	-17.41	-14.7	-14.66	-14.38	-17.51
12/3/2017-8:00	-17.41	-17.42	-17.43	-14.73	-14.7	-14.42	-17.53
12/3/2017-9:00	-17.44	-17.45	-17.46	-14.76	-14.75	-14.45	-17.57
12/3/2017-10:00	-17.47	-17.48	-17.5	-14.8	-14.8	-14.49	-17.6
12/3/2017-11:00	-17.5	-17.52	-17.54	-14.84	-14.87	-14.54	-17.64
12/3/2017-12:00	-17.54	-17.56	-17.58	-14.89	-14.94	-14.59	-17.69
12/3/2017-13:00	-17.58	-17.61	-17.63	-14.94	-15.01	-14.64	-17.74
12/3/2017-14:00	-17.63	-17.65	-17.68	-15	-15.09	-14.7	-17.79
12/3/2017-15:00	-17.67	-17.7	-17.73	-15.06	-15.16	-14.75	-17.83
12/3/2017-16:00	-17.71	-17.74	-17.77	-15.12	-15.23	-14.79	-17.88
12/3/2017-17:00	-17.74	-17.78	-17.8	-15.17	-15.28	-14.83	-17.91
12/3/2017-18:00	-17.77	-17.81	-17.83	-15.22	-15.33	-14.86	-17.94
12/3/2017-19:00	-17.8	-17.83	-17.86	-15.26	-15.36	-14.88	-17.96
12/3/2017-20:00	-17.82	-17.85	-17.88	-15.3	-15.38	-14.89	-17.98
12/3/2017-21:00	-17.84	-17.87	-17.89	-15.33	-15.4	-14.9	-17.99
12/3/2017-22:00	-17.85	-17.88	-17.91	-15.35	-15.42	-14.91	-18.01
12/3/2017-23:00	-17.87	-17.9	-17.92	-15.38	-15.43	-14.93	-18.02
12/4/2017-0:00	-17.89	-17.91	-17.94	-15.4	-15.45	-14.94	-18.03
12/4/2017-1:00	-17.91	-17.93	-17.96	-15.42	-15.47	-14.96	-18.05
12/4/2017-2:00	-17.93	-17.96	-17.98	-15.45	-15.51	-14.99	-18.08
12/4/2017-3:00	-17.96	-17.99	-18.01	-15.49	-15.55	-15.03	-18.11
12/4/2017-4:00	-17.99	-18.02	-18.05	-15.52	-15.6	-15.07	-18.15
12/4/2017-5:00	-18.03	-18.06	-18.09	-15.57	-15.66	-15.12	-18.19
12/4/2017-6:00	-18.07	-18.11	-18.14	-15.62	-15.73	-15.17	-18.24
12/4/2017-7:00	-18.12	-18.16	-18.19	-15.68	-15.81	-15.23	-18.29
12/4/2017-8:00	-18.17	-18.21	-18.25	-15.74	-15.9	-15.3	-18.35
12/4/2017-9:00	-18.23	-18.27	-18.31	-15.81	-16	-15.38	-18.42
12/4/2017-10:00	-18.29	-18.34	-18.38	-15.89	-16.1	-15.45	-18.49
12/4/2017-11:00	-18.35	-18.41	-18.45	-15.98	-16.21	-15.54	-18.56
12/4/2017-12:00	-18.42	-18.48	-18.53	-16.06	-16.32	-15.62	-18.64
12/4/2017-13:00	-18.49	-18.55	-18.61	-16.16	-16.44	-15.71	-18.71
12/4/2017-14:00	-18.56	-18.62	-18.68	-16.25	-16.55	-15.79	-18.79
12/4/2017-15:00	-18.63	-18.69	-18.75	-16.34	-16.65	-15.86	-18.86
12/4/2017-16:00	-18.69	-18.76	-18.81	-16.43	-16.74	-15.92	-18.92
12/4/2017-17:00	-18.74	-18.81	-18.87	-16.51	-16.81	-15.98	-18.97

12/4/2017-18:00	-18.79	-18.85	-18.91	-16.58	-16.87	-16.01	-19.01
12/4/2017-19:00	-18.82	-18.89	-18.94	-16.64	-16.9	-16.04	-19.04
12/4/2017-20:00	-18.85	-18.91	-18.96	-16.68	-16.92	-16.05	-19.06
12/4/2017-21:00	-18.87	-18.93	-18.97	-16.72	-16.92	-16.05	-19.07
12/4/2017-22:00	-18.88	-18.93	-18.98	-16.74	-16.91	-16.04	-19.07
12/4/2017-23:00	-18.88	-18.93	-18.97	-16.75	-16.89	-16.03	-19.06
12/5/2017-0:00	-18.88	-18.93	-18.97	-16.75	-16.86	-16.01	-19.05
12/5/2017-1:00	-18.88	-18.92	-18.95	-16.75	-16.82	-15.99	-19.04
12/5/2017-2:00	-18.87	-18.91	-18.94	-16.74	-16.78	-15.96	-19.02
12/5/2017-3:00	-18.86	-18.89	-18.92	-16.72	-16.73	-15.94	-19
12/5/2017-4:00	-18.84	-18.87	-18.9	-16.7	-16.69	-15.91	-18.97
12/5/2017-5:00	-18.83	-18.86	-18.88	-16.67	-16.64	-15.88	-18.95
12/5/2017-6:00	-18.81	-18.84	-18.85	-16.64	-16.59	-15.85	-18.93
12/5/2017-7:00	-18.79	-18.81	-18.83	-16.61	-16.55	-15.82	-18.9
12/5/2017-8:00	-18.78	-18.79	-18.81	-16.58	-16.5	-15.79	-18.88
12/5/2017-9:00	-18.76	-18.77	-18.78	-16.55	-16.46	-15.76	-18.85
12/5/2017-10:00	-18.73	-18.75	-18.75	-16.51	-16.41	-15.73	-18.82
12/5/2017-11:00	-18.71	-18.72	-18.73	-16.48	-16.36	-15.7	-18.8
12/5/2017-12:00	-18.69	-18.69	-18.7	-16.44	-16.32	-15.67	-18.77
12/5/2017-13:00	-18.66	-18.66	-18.67	-16.4	-16.26	-15.63	-18.73
12/5/2017-14:00	-18.63	-18.63	-18.63	-16.36	-16.21	-15.59	-18.7
12/5/2017-15:00	-18.59	-18.59	-18.59	-16.31	-16.14	-15.54	-18.65
12/5/2017-16:00	-18.55	-18.54	-18.54	-16.25	-16.06	-15.48	-18.6
12/5/2017-17:00	-18.5	-18.49	-18.48	-16.19	-15.97	-15.41	-18.54
12/5/2017-18:00	-18.44	-18.43	-18.41	-16.11	-15.87	-15.33	-18.47
12/5/2017-19:00	-18.38	-18.35	-18.34	-16.03	-15.75	-15.24	-18.39
12/5/2017-20:00	-18.3	-18.28	-18.25	-15.94	-15.62	-15.14	-18.31
12/5/2017-21:00	-18.23	-18.19	-18.16	-15.83	-15.48	-15.04	-18.22
12/5/2017-22:00	-18.14	-18.1	-18.07	-15.73	-15.34	-14.94	-18.12
12/5/2017-23:00	-18.06	-18.02	-17.98	-15.61	-15.2	-14.83	-18.03
12/6/2017-0:00	-17.98	-17.93	-17.89	-15.5	-15.06	-14.73	-17.94
12/6/2017-1:00	-17.9	-17.84	-17.8	-15.38	-14.93	-14.64	-17.85
12/6/2017-2:00	-17.82	-17.76	-17.72	-15.27	-14.8	-14.55	-17.77
12/6/2017-3:00	-17.74	-17.68	-17.63	-15.16	-14.69	-14.46	-17.69
12/6/2017-4:00	-17.67	-17.61	-17.56	-15.05	-14.58	-14.39	-17.61
12/6/2017-5:00	-17.6	-17.53	-17.49	-14.95	-14.48	-14.31	-17.54
12/6/2017-6:00	-17.53	-17.47	-17.42	-14.86	-14.39	-14.25	-17.47
12/6/2017-7:00	-17.47	-17.4	-17.36	-14.77	-14.31	-14.19	-17.41
12/6/2017-8:00	-17.41	-17.35	-17.3	-14.68	-14.24	-14.13	-17.35
12/6/2017-9:00	-17.35	-17.29	-17.24	-14.6	-14.17	-14.07	-17.3
12/6/2017-10:00	-17.3	-17.23	-17.19	-14.53	-14.1	-14.02	-17.25
12/6/2017-11:00	-17.25	-17.18	-17.14	-14.46	-14.05	-13.97	-17.2
12/6/2017-12:00	-17.19	-17.13	-17.09	-14.39	-13.99	-13.93	-17.15
12/6/2017-13:00	-17.14	-17.08	-17.04	-14.33	-13.93	-13.88	-17.1
12/6/2017-14:00	-17.09	-17.03	-16.98	-14.26	-13.87	-13.82	-17.05
12/6/2017-15:00	-17.04	-16.97	-16.93	-14.19	-13.8	-13.76	-16.99
12/6/2017-16:00	-16.97	-16.91	-16.86	-14.12	-13.72	-13.7	-16.93
12/6/2017-17:00	-16.91	-16.84	-16.79	-14.05	-13.63	-13.62	-16.86
12/6/2017-18:00	-16.83	-16.76	-16.71	-13.96	-13.52	-13.53	-16.78
12/6/2017-19:00	-16.75	-16.68	-16.63	-13.87	-13.41	-13.44	-16.69
12/6/2017-20:00	-16.67	-16.59	-16.53	-13.77	-13.28	-13.33	-16.6
12/6/2017-21:00	-16.58	-16.5	-16.43	-13.66	-13.15	-13.23	-16.5
12/6/2017-22:00	-16.49	-16.4	-16.33	-13.54	-13.01	-13.12	-16.4

12/6/2017-23:00	-16.39	-16.3	-16.23	-13.43	-12.87	-13.01	-16.3
12/7/2017-0:00	-16.3	-16.2	-16.13	-13.3	-12.73	-12.9	-16.2
12/7/2017-1:00	-16.2	-16.1	-16.03	-13.18	-12.59	-12.8	-16.1
12/7/2017-2:00	-16.11	-16.01	-15.93	-13.06	-12.46	-12.7	-16
12/7/2017-3:00	-16.02	-15.92	-15.84	-12.95	-12.34	-12.6	-15.91
12/7/2017-4:00	-15.93	-15.83	-15.75	-12.83	-12.22	-12.51	-15.82
12/7/2017-5:00	-15.84	-15.74	-15.66	-12.72	-12.11	-12.42	-15.73
12/7/2017-6:00	-15.76	-15.65	-15.58	-12.61	-12	-12.34	-15.65
12/7/2017-7:00	-15.68	-15.57	-15.5	-12.51	-11.91	-12.26	-15.57
12/7/2017-8:00	-15.6	-15.5	-15.42	-12.41	-11.81	-12.18	-15.5
12/7/2017-9:00	-15.52	-15.42	-15.34	-12.31	-11.73	-12.11	-15.42
12/7/2017-10:00	-15.45	-15.35	-15.27	-12.22	-11.64	-12.04	-15.35
12/7/2017-11:00	-15.38	-15.28	-15.2	-12.13	-11.56	-11.97	-15.28
12/7/2017-12:00	-15.31	-15.2	-15.13	-12.05	-11.48	-11.9	-15.22
12/7/2017-13:00	-15.24	-15.13	-15.06	-11.96	-11.4	-11.83	-15.15
12/7/2017-14:00	-15.16	-15.06	-14.99	-11.88	-11.32	-11.76	-15.07
12/7/2017-15:00	-15.09	-14.98	-14.91	-11.79	-11.23	-11.68	-15
12/7/2017-16:00	-15.01	-14.9	-14.82	-11.7	-11.13	-11.59	-14.91
12/7/2017-17:00	-14.92	-14.81	-14.73	-11.6	-11.01	-11.49	-14.82
12/7/2017-18:00	-14.82	-14.71	-14.63	-11.49	-10.89	-11.38	-14.72
12/7/2017-19:00	-14.72	-14.61	-14.52	-11.38	-10.75	-11.26	-14.61
12/7/2017-20:00	-14.62	-14.5	-14.41	-11.26	-10.6	-11.14	-14.5
12/7/2017-21:00	-14.51	-14.38	-14.29	-11.13	-10.44	-11.01	-14.38
12/7/2017-22:00	-14.39	-14.27	-14.17	-10.99	-10.28	-10.89	-14.26
12/7/2017-23:00	-14.28	-14.15	-14.05	-10.85	-10.12	-10.76	-14.14
12/8/2017-0:00	-14.17	-14.03	-13.94	-10.72	-9.97	-10.64	-14.02
12/8/2017-1:00	-14.06	-13.92	-13.82	-10.58	-9.82	-10.52	-13.91
12/8/2017-2:00	-13.95	-13.81	-13.71	-10.44	-9.68	-10.41	-13.8
12/8/2017-3:00	-13.85	-13.71	-13.61	-10.31	-9.55	-10.3	-13.7
12/8/2017-4:00	-13.75	-13.61	-13.51	-10.19	-9.43	-10.2	-13.6
12/8/2017-5:00	-13.66	-13.52	-13.42	-10.07	-9.32	-10.12	-13.51
12/8/2017-6:00	-13.57	-13.43	-13.33	-9.96	-9.23	-10.03	-13.43
12/8/2017-7:00	-13.49	-13.35	-13.25	-9.86	-9.14	-9.96	-13.36
12/8/2017-8:00	-13.41	-13.28	-13.18	-9.76	-9.07	-9.9	-13.29
12/8/2017-9:00	-13.35	-13.21	-13.12	-9.68	-9.01	-9.84	-13.23
12/8/2017-10:00	-13.28	-13.15	-13.06	-9.6	-8.96	-9.79	-13.17
12/8/2017-11:00	-13.23	-13.1	-13.01	-9.54	-8.92	-9.75	-13.13
12/8/2017-12:00	-13.17	-13.05	-12.97	-9.48	-8.89	-9.71	-13.08
12/8/2017-13:00	-13.13	-13.01	-12.93	-9.42	-8.86	-9.68	-13.05
12/8/2017-14:00	-13.08	-12.97	-12.89	-9.38	-8.84	-9.65	-13.01
12/8/2017-15:00	-13.04	-12.93	-12.85	-9.33	-8.81	-9.61	-12.97
12/8/2017-16:00	-12.99	-12.88	-12.81	-9.29	-8.78	-9.57	-12.93
12/8/2017-17:00	-12.94	-12.83	-12.76	-9.25	-8.75	-9.53	-12.89
12/8/2017-18:00	-12.89	-12.78	-12.7	-9.2	-8.69	-9.47	-12.83
12/8/2017-19:00	-12.83	-12.72	-12.64	-9.14	-8.63	-9.41	-12.77
12/8/2017-20:00	-12.77	-12.66	-12.58	-9.08	-8.56	-9.34	-12.71
12/8/2017-21:00	-12.7	-12.59	-12.51	-9.01	-8.48	-9.26	-12.64
12/8/2017-22:00	-12.63	-12.52	-12.44	-8.94	-8.4	-9.18	-12.57
12/8/2017-23:00	-12.56	-12.44	-12.36	-8.87	-8.31	-9.11	-12.49
12/9/2017-0:00	-12.49	-12.37	-12.29	-8.79	-8.23	-9.03	-12.42
12/9/2017-1:00	-12.42	-12.31	-12.22	-8.72	-8.15	-8.96	-12.35
12/9/2017-2:00	-12.36	-12.24	-12.16	-8.64	-8.07	-8.9	-12.29
12/9/2017-3:00	-12.29	-12.17	-12.09	-8.57	-8	-8.83	-12.22

12/9/2017-4:00	-12.23	-12.11	-12.03	-8.5	-7.93	-8.77	-12.16
12/9/2017-5:00	-12.17	-12.05	-11.97	-8.43	-7.87	-8.72	-12.11
12/9/2017-6:00	-12.11	-12	-11.92	-8.37	-7.82	-8.66	-12.05
12/9/2017-7:00	-12.06	-11.94	-11.86	-8.31	-7.77	-8.62	-12
12/9/2017-8:00	-12.01	-11.89	-11.81	-8.26	-7.72	-8.57	-11.95
12/9/2017-9:00	-11.96	-11.84	-11.77	-8.21	-7.68	-8.52	-11.9
12/9/2017-10:00	-11.91	-11.8	-11.72	-8.16	-7.64	-8.48	-11.86
12/9/2017-11:00	-11.86	-11.75	-11.67	-8.11	-7.6	-8.44	-11.82
12/9/2017-12:00	-11.81	-11.71	-11.63	-8.06	-7.57	-8.4	-11.77
12/9/2017-13:00	-11.77	-11.66	-11.59	-8.02	-7.54	-8.36	-11.73
12/9/2017-14:00	-11.72	-11.62	-11.54	-7.98	-7.5	-8.32	-11.69
12/9/2017-15:00	-11.68	-11.57	-11.5	-7.94	-7.46	-8.27	-11.64
12/9/2017-16:00	-11.63	-11.52	-11.45	-7.89	-7.41	-8.22	-11.59
12/9/2017-17:00	-11.57	-11.46	-11.39	-7.84	-7.35	-8.16	-11.53
12/9/2017-18:00	-11.51	-11.4	-11.33	-7.78	-7.28	-8.09	-11.47
12/9/2017-19:00	-11.45	-11.33	-11.26	-7.72	-7.2	-8.02	-11.4
12/9/2017-20:00	-11.38	-11.26	-11.18	-7.65	-7.11	-7.94	-11.32
12/9/2017-21:00	-11.3	-11.19	-11.11	-7.57	-7.02	-7.85	-11.25
12/9/2017-22:00	-11.23	-11.11	-11.03	-7.49	-6.92	-7.77	-11.17
12/9/2017-23:00	-11.15	-11.03	-10.95	-7.4	-6.82	-7.68	-11.09
12/10/2017-0:00	-11.08	-10.96	-10.87	-7.32	-6.73	-7.6	-11.01
12/10/2017-1:00	-11	-10.88	-10.79	-7.24	-6.63	-7.52	-10.93
12/10/2017-2:00	-10.93	-10.81	-10.72	-7.15	-6.55	-7.45	-10.86
12/10/2017-3:00	-10.87	-10.74	-10.65	-7.07	-6.47	-7.38	-10.79
12/10/2017-4:00	-10.8	-10.68	-10.59	-7	-6.4	-7.32	-10.73
12/10/2017-5:00	-10.74	-10.62	-10.53	-6.93	-6.34	-7.26	-10.67
12/10/2017-6:00	-10.69	-10.56	-10.48	-6.86	-6.29	-7.21	-10.62
12/10/2017-7:00	-10.64	-10.51	-10.43	-6.81	-6.25	-7.17	-10.57
12/10/2017-8:00	-10.59	-10.47	-10.39	-6.75	-6.21	-7.13	-10.53
12/10/2017-9:00	-10.55	-10.43	-10.35	-6.71	-6.19	-7.1	-10.5
12/10/2017-10:00	-10.51	-10.4	-10.32	-6.67	-6.17	-7.08	-10.47
12/10/2017-11:00	-10.48	-10.37	-10.29	-6.64	-6.16	-7.06	-10.44
12/10/2017-12:00	-10.45	-10.34	-10.27	-6.61	-6.16	-7.04	-10.42
12/10/2017-13:00	-10.43	-10.32	-10.25	-6.59	-6.16	-7.03	-10.41
12/10/2017-14:00	-10.41	-10.31	-10.24	-6.58	-6.17	-7.03	-10.4
12/10/2017-15:00	-10.39	-10.29	-10.23	-6.57	-6.18	-7.02	-10.38
12/10/2017-16:00	-10.37	-10.28	-10.21	-6.56	-6.19	-7.01	-10.37
12/10/2017-17:00	-10.35	-10.26	-10.2	-6.56	-6.2	-7	-10.36
12/10/2017-18:00	-10.33	-10.24	-10.18	-6.55	-6.2	-6.98	-10.34
12/10/2017-19:00	-10.31	-10.22	-10.16	-6.54	-6.2	-6.97	-10.32
12/10/2017-20:00	-10.29	-10.2	-10.14	-6.53	-6.19	-6.95	-10.31
12/10/2017-21:00	-10.27	-10.18	-10.13	-6.52	-6.18	-6.93	-10.29
12/10/2017-22:00	-10.25	-10.16	-10.11	-6.51	-6.18	-6.92	-10.27
12/10/2017-23:00	-10.23	-10.15	-10.09	-6.5	-6.18	-6.9	-10.25
12/11/2017-0:00	-10.22	-10.13	-10.08	-6.5	-6.18	-6.89	-10.24
12/11/2017-1:00	-10.21	-10.12	-10.07	-6.49	-6.19	-6.89	-10.23
12/11/2017-2:00	-10.2	-10.12	-10.07	-6.49	-6.2	-6.89	-10.23
12/11/2017-3:00	-10.19	-10.11	-10.07	-6.5	-6.22	-6.89	-10.23
12/11/2017-4:00	-10.19	-10.12	-10.07	-6.51	-6.24	-6.9	-10.23
12/11/2017-5:00	-10.19	-10.12	-10.08	-6.52	-6.28	-6.92	-10.24
12/11/2017-6:00	-10.2	-10.13	-10.09	-6.54	-6.31	-6.93	-10.25
12/11/2017-7:00	-10.21	-10.14	-10.1	-6.56	-6.35	-6.95	-10.27
12/11/2017-8:00	-10.22	-10.15	-10.12	-6.59	-6.4	-6.98	-10.29

12/11/2017-9:00	-10.23	-10.17	-10.14	-6.62	-6.45	-7	-10.31
12/11/2017-10:00	-10.25	-10.19	-10.16	-6.65	-6.5	-7.03	-10.33
12/11/2017-11:00	-10.27	-10.21	-10.18	-6.69	-6.56	-7.06	-10.35
12/11/2017-12:00	-10.29	-10.24	-10.21	-6.73	-6.61	-7.09	-10.38
12/11/2017-13:00	-10.31	-10.26	-10.23	-6.77	-6.67	-7.12	-10.4
12/11/2017-14:00	-10.33	-10.28	-10.26	-6.81	-6.72	-7.15	-10.43
12/11/2017-15:00	-10.34	-10.3	-10.28	-6.85	-6.76	-7.17	-10.45
12/11/2017-16:00	-10.35	-10.31	-10.29	-6.89	-6.8	-7.18	-10.46
12/11/2017-17:00	-10.36	-10.32	-10.29	-6.92	-6.82	-7.19	-10.46
12/11/2017-18:00	-10.36	-10.32	-10.29	-6.94	-6.82	-7.18	-10.46
12/11/2017-19:00	-10.35	-10.31	-10.28	-6.95	-6.81	-7.16	-10.44
12/11/2017-20:00	-10.34	-10.29	-10.26	-6.95	-6.79	-7.13	-10.42
12/11/2017-21:00	-10.31	-10.26	-10.23	-6.94	-6.76	-7.1	-10.39
12/11/2017-22:00	-10.29	-10.23	-10.2	-6.92	-6.71	-7.06	-10.35
12/11/2017-23:00	-10.26	-10.2	-10.16	-6.9	-6.66	-7.01	-10.32
12/12/2017-0:00	-10.22	-10.16	-10.12	-6.87	-6.61	-6.97	-10.28
12/12/2017-1:00	-10.19	-10.13	-10.08	-6.83	-6.56	-6.92	-10.23
12/12/2017-2:00	-10.15	-10.09	-10.04	-6.79	-6.5	-6.87	-10.19
12/12/2017-3:00	-10.11	-10.05	-10	-6.75	-6.45	-6.83	-10.15
12/12/2017-4:00	-10.08	-10.01	-9.96	-6.71	-6.4	-6.79	-10.1
12/12/2017-5:00	-10.04	-9.97	-9.92	-6.67	-6.35	-6.74	-10.06
12/12/2017-6:00	-10	-9.93	-9.88	-6.63	-6.3	-6.7	-10.02
12/12/2017-7:00	-9.96	-9.89	-9.84	-6.59	-6.26	-6.67	-9.98
12/12/2017-8:00	-9.93	-9.86	-9.81	-6.55	-6.22	-6.63	-9.95
12/12/2017-9:00	-9.9	-9.82	-9.77	-6.52	-6.19	-6.6	-9.91
12/12/2017-10:00	-9.86	-9.79	-9.74	-6.49	-6.16	-6.57	-9.88
12/12/2017-11:00	-9.83	-9.76	-9.71	-6.45	-6.13	-6.54	-9.85
12/12/2017-12:00	-9.81	-9.73	-9.68	-6.42	-6.11	-6.52	-9.82
12/12/2017-13:00	-9.78	-9.7	-9.66	-6.4	-6.09	-6.49	-9.8
12/12/2017-14:00	-9.75	-9.68	-9.63	-6.37	-6.07	-6.47	-9.77
12/12/2017-15:00	-9.72	-9.65	-9.6	-6.35	-6.04	-6.44	-9.74
12/12/2017-16:00	-9.69	-9.62	-9.57	-6.32	-6.02	-6.41	-9.71
12/12/2017-17:00	-9.66	-9.58	-9.54	-6.29	-5.98	-6.38	-9.68
12/12/2017-18:00	-9.62	-9.55	-9.5	-6.26	-5.94	-6.33	-9.64
12/12/2017-19:00	-9.58	-9.5	-9.45	-6.22	-5.89	-6.28	-9.59
12/12/2017-20:00	-9.54	-9.46	-9.4	-6.17	-5.84	-6.23	-9.54
12/12/2017-21:00	-9.49	-9.41	-9.36	-6.13	-5.78	-6.18	-9.49
12/12/2017-22:00	-9.44	-9.36	-9.31	-6.08	-5.72	-6.13	-9.44
12/12/2017-23:00	-9.4	-9.32	-9.26	-6.03	-5.66	-6.08	-9.4
12/13/2017-0:00	-9.35	-9.27	-9.21	-5.98	-5.61	-6.03	-9.35
12/13/2017-1:00	-9.31	-9.23	-9.17	-5.93	-5.56	-5.99	-9.31
12/13/2017-2:00	-9.27	-9.19	-9.13	-5.89	-5.52	-5.96	-9.27
12/13/2017-3:00	-9.24	-9.15	-9.1	-5.85	-5.49	-5.92	-9.24
12/13/2017-4:00	-9.21	-9.12	-9.07	-5.81	-5.46	-5.9	-9.21
12/13/2017-5:00	-9.18	-9.1	-9.04	-5.78	-5.44	-5.88	-9.18
12/13/2017-6:00	-9.15	-9.07	-9.02	-5.76	-5.43	-5.86	-9.16
12/13/2017-7:00	-9.13	-9.05	-9	-5.73	-5.42	-5.84	-9.14
12/13/2017-8:00	-9.11	-9.03	-8.98	-5.72	-5.42	-5.83	-9.12
12/13/2017-9:00	-9.09	-9.02	-8.97	-5.7	-5.42	-5.83	-9.11
12/13/2017-10:00	-9.08	-9.01	-8.96	-5.7	-5.43	-5.82	-9.1
12/13/2017-11:00	-9.07	-9	-8.95	-5.69	-5.44	-5.82	-9.1
12/13/2017-12:00	-9.06	-8.99	-8.95	-5.69	-5.45	-5.82	-9.09
12/13/2017-13:00	-9.05	-8.99	-8.94	-5.69	-5.47	-5.82	-9.09

12/13/2017-14:00	-9.04	-8.98	-8.94	-5.69	-5.48	-5.83	-9.09
12/13/2017-15:00	-9.04	-8.97	-8.94	-5.7	-5.5	-5.82	-9.08
12/13/2017-16:00	-9.03	-8.97	-8.93	-5.7	-5.5	-5.82	-9.08
12/13/2017-17:00	-9.01	-8.95	-8.92	-5.7	-5.5	-5.81	-9.06
12/13/2017-18:00	-9	-8.94	-8.9	-5.69	-5.49	-5.79	-9.04
12/13/2017-19:00	-8.98	-8.92	-8.88	-5.68	-5.47	-5.76	-9.02
12/13/2017-20:00	-8.95	-8.89	-8.85	-5.67	-5.45	-5.73	-9
12/13/2017-21:00	-8.93	-8.87	-8.83	-5.65	-5.42	-5.71	-8.97
12/13/2017-22:00	-8.9	-8.84	-8.8	-5.63	-5.39	-5.68	-8.94
12/13/2017-23:00	-8.88	-8.82	-8.77	-5.61	-5.37	-5.65	-8.92
12/14/2017-0:00	-8.86	-8.79	-8.75	-5.59	-5.35	-5.63	-8.89
12/14/2017-1:00	-8.84	-8.77	-8.73	-5.57	-5.33	-5.61	-8.87
12/14/2017-2:00	-8.82	-8.76	-8.72	-5.56	-5.33	-5.61	-8.86
12/14/2017-3:00	-8.81	-8.75	-8.71	-5.55	-5.33	-5.61	-8.86
12/14/2017-4:00	-8.81	-8.75	-8.71	-5.55	-5.35	-5.61	-8.86
12/14/2017-5:00	-8.81	-8.75	-8.72	-5.55	-5.37	-5.62	-8.86
12/14/2017-6:00	-8.82	-8.76	-8.73	-5.57	-5.4	-5.64	-8.88
12/14/2017-7:00	-8.83	-8.78	-8.75	-5.59	-5.45	-5.67	-8.89
12/14/2017-8:00	-8.84	-8.79	-8.77	-5.61	-5.5	-5.7	-8.92
12/14/2017-9:00	-8.86	-8.82	-8.79	-5.64	-5.55	-5.73	-8.94
12/14/2017-10:00	-8.88	-8.84	-8.82	-5.68	-5.61	-5.77	-8.97
12/14/2017-11:00	-8.91	-8.87	-8.85	-5.72	-5.67	-5.81	-9
12/14/2017-12:00	-8.93	-8.9	-8.88	-5.77	-5.74	-5.85	-9.04
12/14/2017-13:00	-8.96	-8.93	-8.92	-5.81	-5.8	-5.89	-9.07
12/14/2017-14:00	-8.99	-8.96	-8.95	-5.86	-5.86	-5.93	-9.1
12/14/2017-15:00	-9.01	-8.99	-8.98	-5.91	-5.92	-5.96	-9.13
12/14/2017-16:00	-9.03	-9.01	-9	-5.95	-5.96	-5.98	-9.15
12/14/2017-17:00	-9.05	-9.03	-9.02	-5.99	-6	-6	-9.17
12/14/2017-18:00	-9.06	-9.03	-9.03	-6.02	-6.02	-6	-9.17
12/14/2017-19:00	-9.06	-9.04	-9.03	-6.04	-6.02	-6	-9.17
12/14/2017-20:00	-9.06	-9.03	-9.02	-6.05	-6.02	-5.99	-9.17
12/14/2017-21:00	-9.05	-9.02	-9.01	-6.06	-6	-5.97	-9.15
12/14/2017-22:00	-9.04	-9.01	-8.99	-6.06	-5.98	-5.94	-9.13
12/14/2017-23:00	-9.02	-8.99	-8.97	-6.05	-5.94	-5.92	-9.11
12/15/2017-0:00	-9	-8.97	-8.95	-6.03	-5.91	-5.89	-9.08
12/15/2017-1:00	-8.98	-8.94	-8.92	-6.01	-5.87	-5.85	-9.05
12/15/2017-2:00	-8.96	-8.92	-8.89	-5.99	-5.83	-5.82	-9.03
12/15/2017-3:00	-8.94	-8.89	-8.87	-5.96	-5.79	-5.79	-9
12/15/2017-4:00	-8.91	-8.87	-8.84	-5.94	-5.76	-5.76	-8.97
12/15/2017-5:00	-8.89	-8.85	-8.82	-5.91	-5.72	-5.74	-8.94
12/15/2017-6:00	-8.87	-8.82	-8.79	-5.89	-5.69	-5.71	-8.92
12/15/2017-7:00	-8.85	-8.8	-8.77	-5.86	-5.66	-5.69	-8.9
12/15/2017-8:00	-8.83	-8.78	-8.75	-5.84	-5.64	-5.66	-8.87
12/15/2017-9:00	-8.81	-8.76	-8.73	-5.82	-5.62	-5.65	-8.85
12/15/2017-10:00	-8.79	-8.74	-8.71	-5.79	-5.6	-5.63	-8.84
12/15/2017-11:00	-8.77	-8.73	-8.69	-5.78	-5.58	-5.62	-8.82
12/15/2017-12:00	-8.76	-8.71	-8.68	-5.76	-5.57	-5.6	-8.81
12/15/2017-13:00	-8.75	-8.7	-8.67	-5.75	-5.57	-5.59	-8.8
12/15/2017-14:00	-8.73	-8.69	-8.66	-5.74	-5.56	-5.58	-8.78
12/15/2017-15:00	-8.72	-8.67	-8.64	-5.72	-5.55	-5.57	-8.77
12/15/2017-16:00	-8.71	-8.66	-8.63	-5.71	-5.54	-5.56	-8.76
12/15/2017-17:00	-8.69	-8.64	-8.61	-5.7	-5.52	-5.54	-8.74
12/15/2017-18:00	-8.67	-8.62	-8.59	-5.68	-5.5	-5.51	-8.71

12/15/2017-19:00	-8.64	-8.59	-8.56	-5.66	-5.47	-5.48	-8.68
12/15/2017-20:00	-8.61	-8.56	-8.53	-5.63	-5.43	-5.44	-8.65
12/15/2017-21:00	-8.58	-8.53	-8.49	-5.6	-5.39	-5.41	-8.61
12/15/2017-22:00	-8.55	-8.5	-8.46	-5.57	-5.34	-5.37	-8.58
12/15/2017-23:00	-8.52	-8.46	-8.43	-5.53	-5.3	-5.34	-8.55
12/16/2017-0:00	-8.49	-8.44	-8.4	-5.5	-5.27	-5.31	-8.52
12/16/2017-1:00	-8.47	-8.41	-8.37	-5.47	-5.24	-5.29	-8.49
12/16/2017-2:00	-8.45	-8.39	-8.35	-5.45	-5.22	-5.27	-8.47
12/16/2017-3:00	-8.43	-8.38	-8.34	-5.43	-5.21	-5.26	-8.46
12/16/2017-4:00	-8.42	-8.37	-8.33	-5.41	-5.22	-5.26	-8.46
12/16/2017-5:00	-8.42	-8.37	-8.34	-5.41	-5.24	-5.27	-8.46
12/16/2017-6:00	-8.42	-8.37	-8.35	-5.42	-5.27	-5.29	-8.47
12/16/2017-7:00	-8.43	-8.39	-8.36	-5.43	-5.31	-5.32	-8.49
12/16/2017-8:00	-8.45	-8.41	-8.39	-5.46	-5.37	-5.36	-8.52
12/16/2017-9:00	-8.47	-8.44	-8.42	-5.49	-5.43	-5.41	-8.55
12/16/2017-10:00	-8.5	-8.48	-8.46	-5.53	-5.51	-5.46	-8.6
12/16/2017-11:00	-8.54	-8.52	-8.51	-5.59	-5.6	-5.52	-8.64
12/16/2017-12:00	-8.58	-8.57	-8.56	-5.65	-5.7	-5.59	-8.7
12/16/2017-13:00	-8.63	-8.62	-8.62	-5.72	-5.8	-5.66	-8.76
12/16/2017-14:00	-8.68	-8.68	-8.68	-5.79	-5.9	-5.73	-8.82
12/16/2017-15:00	-8.74	-8.73	-8.74	-5.87	-6.01	-5.8	-8.88
12/16/2017-16:00	-8.79	-8.79	-8.8	-5.95	-6.11	-5.87	-8.94
12/16/2017-17:00	-8.84	-8.84	-8.85	-6.03	-6.2	-5.93	-9
12/16/2017-18:00	-8.88	-8.89	-8.9	-6.1	-6.28	-5.98	-9.05
12/16/2017-19:00	-8.93	-8.93	-8.95	-6.17	-6.36	-6.03	-9.09
12/16/2017-20:00	-8.96	-8.97	-8.99	-6.24	-6.42	-6.07	-9.13
12/16/2017-21:00	-9	-9.01	-9.02	-6.3	-6.47	-6.1	-9.16
12/16/2017-22:00	-9.03	-9.04	-9.05	-6.35	-6.51	-6.13	-9.19
12/16/2017-23:00	-9.05	-9.06	-9.08	-6.4	-6.55	-6.15	-9.21
12/17/2017-0:00	-9.08	-9.09	-9.1	-6.44	-6.58	-6.18	-9.24
12/17/2017-1:00	-9.1	-9.11	-9.13	-6.48	-6.62	-6.2	-9.26
12/17/2017-2:00	-9.13	-9.14	-9.15	-6.52	-6.65	-6.22	-9.28
12/17/2017-3:00	-9.15	-9.16	-9.17	-6.56	-6.68	-6.25	-9.3
12/17/2017-4:00	-9.18	-9.18	-9.2	-6.6	-6.71	-6.27	-9.33
12/17/2017-5:00	-9.2	-9.21	-9.22	-6.63	-6.74	-6.3	-9.35
12/17/2017-6:00	-9.23	-9.24	-9.25	-6.67	-6.78	-6.33	-9.37
12/17/2017-7:00	-9.25	-9.26	-9.28	-6.71	-6.82	-6.36	-9.4
12/17/2017-8:00	-9.28	-9.29	-9.3	-6.74	-6.86	-6.39	-9.43
12/17/2017-9:00	-9.31	-9.32	-9.33	-6.78	-6.9	-6.42	-9.46
12/17/2017-10:00	-9.34	-9.35	-9.37	-6.83	-6.95	-6.46	-9.49
12/17/2017-11:00	-9.37	-9.38	-9.4	-6.87	-7	-6.49	-9.52
12/17/2017-12:00	-9.4	-9.42	-9.43	-6.91	-7.05	-6.53	-9.56
12/17/2017-13:00	-9.44	-9.45	-9.47	-6.96	-7.1	-6.57	-9.59
12/17/2017-14:00	-9.47	-9.48	-9.5	-7	-7.15	-6.6	-9.62
12/17/2017-15:00	-9.5	-9.52	-9.53	-7.05	-7.19	-6.64	-9.65
12/17/2017-16:00	-9.53	-9.54	-9.56	-7.09	-7.23	-6.67	-9.68
12/17/2017-17:00	-9.55	-9.57	-9.59	-7.13	-7.27	-6.69	-9.7
12/17/2017-18:00	-9.57	-9.59	-9.6	-7.16	-7.29	-6.71	-9.72
12/17/2017-19:00	-9.59	-9.6	-9.62	-7.19	-7.31	-6.72	-9.73
12/17/2017-20:00	-9.6	-9.62	-9.63	-7.21	-7.32	-6.72	-9.74
12/17/2017-21:00	-9.61	-9.63	-9.64	-7.23	-7.32	-6.73	-9.75
12/17/2017-22:00	-9.62	-9.63	-9.65	-7.25	-7.33	-6.74	-9.76
12/17/2017-23:00	-9.64	-9.64	-9.66	-7.26	-7.34	-6.75	-9.77

12/18/2017-0:00	-9.65	-9.66	-9.67	-7.28	-7.35	-6.76	-9.78
12/18/2017-1:00	-9.66	-9.67	-9.68	-7.3	-7.37	-6.78	-9.79
12/18/2017-2:00	-9.68	-9.69	-9.7	-7.32	-7.4	-6.8	-9.81
12/18/2017-3:00	-9.71	-9.72	-9.73	-7.34	-7.43	-6.83	-9.84
12/18/2017-4:00	-9.73	-9.75	-9.76	-7.38	-7.48	-6.87	-9.87
12/18/2017-5:00	-9.77	-9.78	-9.8	-7.41	-7.53	-6.91	-9.91
12/18/2017-6:00	-9.81	-9.82	-9.84	-7.46	-7.6	-6.97	-9.95
12/18/2017-7:00	-9.85	-9.87	-9.89	-7.51	-7.67	-7.03	-10
12/18/2017-8:00	-9.9	-9.92	-9.95	-7.57	-7.76	-7.09	-10.06
12/18/2017-9:00	-9.95	-9.98	-10.01	-7.64	-7.85	-7.16	-10.12
12/18/2017-10:00	-10.01	-10.04	-10.07	-7.71	-7.95	-7.24	-10.19
12/18/2017-11:00	-10.07	-10.11	-10.14	-7.79	-8.06	-7.32	-10.26
12/18/2017-12:00	-10.14	-10.18	-10.22	-7.88	-8.17	-7.41	-10.33
12/18/2017-13:00	-10.21	-10.26	-10.3	-7.97	-8.29	-7.49	-10.41
12/18/2017-14:00	-10.28	-10.33	-10.38	-8.07	-8.41	-7.58	-10.49
12/18/2017-15:00	-10.36	-10.41	-10.46	-8.17	-8.53	-7.67	-10.57
12/18/2017-16:00	-10.43	-10.48	-10.53	-8.27	-8.64	-7.76	-10.65
12/18/2017-17:00	-10.5	-10.56	-10.61	-8.36	-8.75	-7.83	-10.72
12/18/2017-18:00	-10.57	-10.63	-10.68	-8.46	-8.85	-7.91	-10.79
12/18/2017-19:00	-10.63	-10.69	-10.74	-8.55	-8.94	-7.97	-10.85
12/18/2017-20:00	-10.69	-10.75	-10.8	-8.63	-9.02	-8.04	-10.91
12/18/2017-21:00	-10.75	-10.81	-10.86	-8.72	-9.1	-8.1	-10.97
12/18/2017-22:00	-10.81	-10.87	-10.92	-8.8	-9.17	-8.16	-11.03
12/18/2017-23:00	-10.87	-10.93	-10.98	-8.87	-9.25	-8.22	-11.09
12/19/2017-0:00	-10.93	-10.99	-11.04	-8.95	-9.33	-8.29	-11.15
12/19/2017-1:00	-10.99	-11.06	-11.11	-9.03	-9.41	-8.36	-11.21
12/19/2017-2:00	-11.06	-11.12	-11.18	-9.12	-9.5	-8.43	-11.28
12/19/2017-3:00	-11.13	-11.2	-11.25	-9.2	-9.6	-8.51	-11.35
12/19/2017-4:00	-11.2	-11.27	-11.33	-9.3	-9.71	-8.6	-11.43
12/19/2017-5:00	-11.28	-11.36	-11.42	-9.39	-9.83	-8.7	-11.52
12/19/2017-6:00	-11.37	-11.44	-11.51	-9.5	-9.95	-8.8	-11.61
12/19/2017-7:00	-11.46	-11.54	-11.6	-9.61	-10.08	-8.9	-11.7
12/19/2017-8:00	-11.55	-11.64	-11.7	-9.72	-10.22	-9.01	-11.81
12/19/2017-9:00	-11.65	-11.74	-11.81	-9.85	-10.37	-9.13	-11.91
12/19/2017-10:00	-11.75	-11.85	-11.92	-9.98	-10.53	-9.26	-12.03
12/19/2017-11:00	-11.86	-11.96	-12.04	-10.11	-10.69	-9.38	-12.14
12/19/2017-12:00	-11.97	-12.08	-12.16	-10.25	-10.86	-9.52	-12.26
12/19/2017-13:00	-12.09	-12.2	-12.28	-10.4	-11.03	-9.65	-12.39
12/19/2017-14:00	-12.21	-12.32	-12.41	-10.55	-11.21	-9.79	-12.51
12/19/2017-15:00	-12.32	-12.44	-12.53	-10.7	-11.38	-9.92	-12.64
12/19/2017-16:00	-12.44	-12.56	-12.66	-10.85	-11.54	-10.05	-12.76
12/19/2017-17:00	-12.55	-12.67	-12.77	-11	-11.69	-10.17	-12.87
12/19/2017-18:00	-12.66	-12.78	-12.88	-11.14	-11.84	-10.28	-12.98
12/19/2017-19:00	-12.76	-12.88	-12.98	-11.28	-11.97	-10.38	-13.08
12/19/2017-20:00	-12.86	-12.98	-13.08	-11.41	-12.08	-10.47	-13.17
12/19/2017-21:00	-12.95	-13.07	-13.17	-11.53	-12.2	-10.57	-13.26
12/19/2017-22:00	-13.04	-13.16	-13.26	-11.65	-12.3	-10.66	-13.35
12/19/2017-23:00	-13.13	-13.25	-13.35	-11.76	-12.41	-10.74	-13.44
12/20/2017-0:00	-13.22	-13.34	-13.44	-11.87	-12.51	-10.83	-13.52
12/20/2017-1:00	-13.31	-13.43	-13.53	-11.98	-12.62	-10.93	-13.61
12/20/2017-2:00	-13.4	-13.53	-13.62	-12.09	-12.72	-11.02	-13.7
12/20/2017-3:00	-13.49	-13.62	-13.72	-12.2	-12.84	-11.12	-13.8
12/20/2017-4:00	-13.59	-13.72	-13.81	-12.32	-12.96	-11.22	-13.89



12/20/2017-5:00	-13.69	-13.81	-13.91	-12.43	-13.08	-11.33	-13.99
12/20/2017-6:00	-13.79	-13.92	-14.02	-12.55	-13.2	-11.43	-14.09
12/20/2017-7:00	-13.89	-14.02	-14.12	-12.67	-13.33	-11.54	-14.2
12/20/2017-8:00	-13.99	-14.12	-14.23	-12.79	-13.46	-11.65	-14.3
12/20/2017-9:00	-14.09	-14.23	-14.33	-12.92	-13.6	-11.77	-14.41
12/20/2017-10:00	-14.2	-14.34	-14.44	-13.04	-13.74	-11.88	-14.52
12/20/2017-11:00	-14.31	-14.45	-14.55	-13.17	-13.87	-12	-14.63
12/20/2017-12:00	-14.41	-14.56	-14.67	-13.3	-14.01	-12.11	-14.74
12/20/2017-13:00	-14.52	-14.66	-14.78	-13.43	-14.15	-12.23	-14.85
12/20/2017-14:00	-14.63	-14.77	-14.88	-13.56	-14.28	-12.34	-14.95
12/20/2017-15:00	-14.73	-14.88	-14.99	-13.69	-14.41	-12.45	-15.06
12/20/2017-16:00	-14.83	-14.97	-15.09	-13.81	-14.52	-12.54	-15.15
12/20/2017-17:00	-14.92	-15.06	-15.17	-13.92	-14.63	-12.63	-15.24
12/20/2017-18:00	-15	-15.14	-15.25	-14.03	-14.71	-12.7	-15.31
12/20/2017-19:00	-15.08	-15.22	-15.32	-14.12	-14.78	-12.76	-15.38
12/20/2017-20:00	-15.14	-15.28	-15.38	-14.2	-14.83	-12.82	-15.44
12/20/2017-21:00	-15.2	-15.34	-15.44	-14.28	-14.88	-12.86	-15.49
12/20/2017-22:00	-15.26	-15.39	-15.49	-14.34	-14.91	-12.9	-15.53
12/20/2017-23:00	-15.31	-15.44	-15.53	-14.39	-14.94	-12.93	-15.57
12/21/2017-0:00	-15.36	-15.48	-15.57	-14.44	-14.96	-12.97	-15.61
12/21/2017-1:00	-15.4	-15.52	-15.61	-14.49	-14.98	-13	-15.65
12/21/2017-2:00	-15.45	-15.56	-15.65	-14.53	-15	-13.03	-15.68
12/21/2017-3:00	-15.49	-15.6	-15.69	-14.57	-15.02	-13.07	-15.72
12/21/2017-4:00	-15.53	-15.64	-15.73	-14.6	-15.04	-13.1	-15.76
12/21/2017-5:00	-15.57	-15.69	-15.77	-14.64	-15.07	-13.14	-15.8
12/21/2017-6:00	-15.62	-15.73	-15.81	-14.68	-15.1	-13.17	-15.84
12/21/2017-7:00	-15.66	-15.77	-15.85	-14.71	-15.13	-13.21	-15.87
12/21/2017-8:00	-15.7	-15.81	-15.89	-14.75	-15.16	-13.25	-15.91
12/21/2017-9:00	-15.74	-15.85	-15.93	-14.79	-15.19	-13.29	-15.95
12/21/2017-10:00	-15.78	-15.89	-15.96	-14.82	-15.22	-13.32	-15.99
12/21/2017-11:00	-15.82	-15.93	-16	-14.86	-15.25	-13.36	-16.03
12/21/2017-12:00	-15.86	-15.96	-16.04	-14.89	-15.27	-13.39	-16.06
12/21/2017-13:00	-15.9	-16	-16.07	-14.92	-15.3	-13.42	-16.09
12/21/2017-14:00	-15.93	-16.03	-16.1	-14.95	-15.32	-13.45	-16.12
12/21/2017-15:00	-15.96	-16.06	-16.13	-14.97	-15.33	-13.47	-16.15
12/21/2017-16:00	-15.99	-16.08	-16.15	-14.99	-15.33	-13.48	-16.17
12/21/2017-17:00	-16	-16.09	-16.16	-15	-15.32	-13.48	-16.17
12/21/2017-18:00	-16.01	-16.1	-16.16	-15.01	-15.3	-13.48	-16.18
12/21/2017-19:00	-16.02	-16.1	-16.16	-15	-15.26	-13.46	-16.17
12/21/2017-20:00	-16.01	-16.09	-16.15	-14.99	-15.22	-13.44	-16.16
12/21/2017-21:00	-16.01	-16.08	-16.13	-14.96	-15.16	-13.41	-16.14
12/21/2017-22:00	-15.99	-16.06	-16.11	-14.93	-15.1	-13.38	-16.12
12/21/2017-23:00	-15.98	-16.04	-16.08	-14.9	-15.04	-13.35	-16.09
12/22/2017-0:00	-15.96	-16.02	-16.06	-14.86	-14.97	-13.31	-16.06
12/22/2017-1:00	-15.94	-15.99	-16.03	-14.82	-14.91	-13.27	-16.03
12/22/2017-2:00	-15.92	-15.97	-16	-14.77	-14.84	-13.24	-16.01
12/22/2017-3:00	-15.9	-15.94	-15.97	-14.72	-14.77	-13.2	-15.98
12/22/2017-4:00	-15.87	-15.92	-15.95	-14.67	-14.71	-13.17	-15.95
12/22/2017-5:00	-15.85	-15.89	-15.92	-14.63	-14.65	-13.14	-15.92
12/22/2017-6:00	-15.83	-15.87	-15.89	-14.58	-14.59	-13.11	-15.9
12/22/2017-7:00	-15.81	-15.84	-15.87	-14.53	-14.54	-13.08	-15.87
12/22/2017-8:00	-15.79	-15.82	-15.84	-14.49	-14.49	-13.05	-15.85
12/22/2017-9:00	-15.77	-15.8	-15.82	-14.44	-14.44	-13.03	-15.82

12/22/2017-10:00	-15.75	-15.78	-15.8	-14.4	-14.39	-13	-15.8
12/22/2017-11:00	-15.73	-15.76	-15.78	-14.36	-14.35	-12.98	-15.78
12/22/2017-12:00	-15.71	-15.74	-15.76	-14.32	-14.31	-12.96	-15.76
12/22/2017-13:00	-15.69	-15.72	-15.74	-14.28	-14.27	-12.94	-15.75
12/22/2017-14:00	-15.67	-15.7	-15.72	-14.24	-14.23	-12.92	-15.73
12/22/2017-15:00	-15.65	-15.68	-15.7	-14.2	-14.19	-12.89	-15.71
12/22/2017-16:00	-15.63	-15.66	-15.67	-14.17	-14.14	-12.87	-15.68
12/22/2017-17:00	-15.61	-15.63	-15.64	-14.12	-14.09	-12.83	-15.65
12/22/2017-18:00	-15.58	-15.6	-15.61	-14.08	-14.03	-12.79	-15.62
12/22/2017-19:00	-15.54	-15.56	-15.57	-14.03	-13.96	-12.75	-15.58
12/22/2017-20:00	-15.51	-15.52	-15.53	-13.97	-13.89	-12.7	-15.54
12/22/2017-21:00	-15.47	-15.48	-15.49	-13.91	-13.82	-12.65	-15.5
12/22/2017-22:00	-15.43	-15.44	-15.45	-13.85	-13.74	-12.6	-15.46
12/22/2017-23:00	-15.39	-15.4	-15.41	-13.79	-13.67	-12.56	-15.42
12/23/2017-0:00	-15.36	-15.37	-15.37	-13.73	-13.6	-12.52	-15.38
12/23/2017-1:00	-15.33	-15.33	-15.34	-13.67	-13.55	-12.48	-15.35
12/23/2017-2:00	-15.3	-15.31	-15.31	-13.62	-13.5	-12.46	-15.32
12/23/2017-3:00	-15.28	-15.28	-15.29	-13.58	-13.46	-12.44	-15.3
12/23/2017-4:00	-15.26	-15.27	-15.27	-13.54	-13.44	-12.43	-15.29
12/23/2017-5:00	-15.25	-15.26	-15.27	-13.51	-13.43	-12.43	-15.29
12/23/2017-6:00	-15.25	-15.26	-15.27	-13.49	-13.43	-12.44	-15.29
12/23/2017-7:00	-15.25	-15.27	-15.28	-13.48	-13.45	-12.46	-15.31
12/23/2017-8:00	-15.26	-15.28	-15.3	-13.48	-13.48	-12.48	-15.33
12/23/2017-9:00	-15.28	-15.31	-15.32	-13.49	-13.52	-12.52	-15.36
12/23/2017-10:00	-15.31	-15.33	-15.36	-13.51	-13.57	-12.56	-15.39
12/23/2017-11:00	-15.34	-15.37	-15.4	-13.54	-13.63	-12.61	-15.44
12/23/2017-12:00	-15.38	-15.41	-15.44	-13.58	-13.7	-12.67	-15.49
12/23/2017-13:00	-15.42	-15.46	-15.5	-13.63	-13.78	-12.73	-15.54
12/23/2017-14:00	-15.46	-15.51	-15.55	-13.68	-13.87	-12.8	-15.6
12/23/2017-15:00	-15.51	-15.56	-15.61	-13.74	-13.95	-12.86	-15.66
12/23/2017-16:00	-15.56	-15.62	-15.66	-13.8	-14.03	-12.92	-15.71
12/23/2017-17:00	-15.61	-15.66	-15.71	-13.86	-14.11	-12.98	-15.77
12/23/2017-18:00	-15.65	-15.71	-15.76	-13.92	-14.17	-13.03	-15.82
12/23/2017-19:00	-15.69	-15.75	-15.8	-13.98	-14.23	-13.07	-15.86
12/23/2017-20:00	-15.73	-15.79	-15.84	-14.03	-14.28	-13.11	-15.9
12/23/2017-21:00	-15.76	-15.83	-15.88	-14.07	-14.32	-13.14	-15.93
12/23/2017-22:00	-15.8	-15.86	-15.91	-14.12	-14.36	-13.17	-15.97
12/23/2017-23:00	-15.83	-15.9	-15.95	-14.16	-14.4	-13.21	-16.01
12/24/2017-0:00	-15.87	-15.94	-15.99	-14.2	-14.45	-13.25	-16.05
12/24/2017-1:00	-15.91	-15.98	-16.03	-14.25	-14.5	-13.3	-16.09
12/24/2017-2:00	-15.96	-16.03	-16.08	-14.3	-14.56	-13.35	-16.14
12/24/2017-3:00	-16.01	-16.08	-16.14	-14.36	-14.63	-13.41	-16.2
12/24/2017-4:00	-16.06	-16.14	-16.2	-14.42	-14.71	-13.49	-16.26
12/24/2017-5:00	-16.13	-16.21	-16.27	-14.49	-14.81	-13.57	-16.33
12/24/2017-6:00	-16.2	-16.28	-16.35	-14.58	-14.92	-13.66	-16.42
12/24/2017-7:00	-16.28	-16.37	-16.44	-14.67	-15.04	-13.76	-16.51
12/24/2017-8:00	-16.37	-16.46	-16.54	-14.77	-15.18	-13.87	-16.61
12/24/2017-9:00	-16.46	-16.56	-16.64	-14.88	-15.33	-13.99	-16.72
12/24/2017-10:00	-16.56	-16.67	-16.76	-15.01	-15.49	-14.12	-16.83
12/24/2017-11:00	-16.68	-16.79	-16.88	-15.14	-15.67	-14.26	-16.96
12/24/2017-12:00	-16.79	-16.91	-17.01	-15.28	-15.85	-14.4	-17.09
12/24/2017-13:00	-16.92	-17.04	-17.15	-15.44	-16.05	-14.56	-17.23
12/24/2017-14:00	-17.04	-17.18	-17.29	-15.6	-16.24	-14.71	-17.37

12/24/2017-15:00	-17.17	-17.31	-17.43	-15.76	-16.44	-14.86	-17.51
12/24/2017-16:00	-17.3	-17.44	-17.56	-15.93	-16.63	-15	-17.64
12/24/2017-17:00	-17.42	-17.57	-17.69	-16.09	-16.81	-15.14	-17.78
12/24/2017-18:00	-17.54	-17.7	-17.82	-16.25	-16.98	-15.27	-17.9
12/24/2017-19:00	-17.66	-17.81	-17.93	-16.4	-17.13	-15.39	-18.02
12/24/2017-20:00	-17.77	-17.92	-18.05	-16.55	-17.27	-15.5	-18.13
12/24/2017-21:00	-17.88	-18.03	-18.16	-16.69	-17.41	-15.61	-18.23
12/24/2017-22:00	-17.98	-18.14	-18.26	-16.82	-17.54	-15.72	-18.34
12/24/2017-23:00	-18.09	-18.24	-18.37	-16.96	-17.66	-15.82	-18.44
12/25/2017-0:00	-18.19	-18.35	-18.48	-17.09	-17.79	-15.93	-18.55
12/25/2017-1:00	-18.3	-18.46	-18.58	-17.22	-17.92	-16.05	-18.66
12/25/2017-2:00	-18.41	-18.57	-18.7	-17.35	-18.06	-16.16	-18.77
12/25/2017-3:00	-18.52	-18.69	-18.81	-17.49	-18.2	-16.28	-18.88
12/25/2017-4:00	-18.64	-18.81	-18.94	-17.62	-18.35	-16.41	-19
12/25/2017-5:00	-18.76	-18.93	-19.06	-17.77	-18.51	-16.54	-19.13
12/25/2017-6:00	-18.88	-19.06	-19.19	-17.91	-18.67	-16.68	-19.26
12/25/2017-7:00	-19.01	-19.19	-19.32	-18.07	-18.84	-16.82	-19.39
12/25/2017-8:00	-19.14	-19.32	-19.46	-18.22	-19.02	-16.97	-19.53
12/25/2017-9:00	-19.28	-19.46	-19.6	-18.39	-19.2	-17.12	-19.67
12/25/2017-10:00	-19.41	-19.6	-19.75	-18.55	-19.39	-17.27	-19.82
12/25/2017-11:00	-19.55	-19.75	-19.9	-18.72	-19.58	-17.43	-19.96
12/25/2017-12:00	-19.7	-19.9	-20.05	-18.9	-19.77	-17.59	-20.11
12/25/2017-13:00	-19.84	-20.04	-20.2	-19.07	-19.97	-17.75	-20.27
12/25/2017-14:00	-19.99	-20.19	-20.35	-19.25	-20.16	-17.91	-20.42
12/25/2017-15:00	-20.13	-20.34	-20.5	-19.43	-20.35	-18.06	-20.56
12/25/2017-16:00	-20.27	-20.48	-20.64	-19.6	-20.52	-18.2	-20.7
12/25/2017-17:00	-20.4	-20.61	-20.77	-19.77	-20.69	-18.34	-20.83
12/25/2017-18:00	-20.53	-20.74	-20.89	-19.92	-20.83	-18.46	-20.96
12/25/2017-19:00	-20.64	-20.85	-21.01	-20.07	-20.96	-18.57	-21.07
12/25/2017-20:00	-20.75	-20.96	-21.12	-20.21	-21.08	-18.67	-21.17
12/25/2017-21:00	-20.86	-21.06	-21.22	-20.34	-21.18	-18.76	-21.27
12/25/2017-22:00	-20.96	-21.16	-21.31	-20.45	-21.27	-18.85	-21.36
12/25/2017-23:00	-21.05	-21.25	-21.4	-20.57	-21.36	-18.93	-21.45
12/26/2017-0:00	-21.15	-21.34	-21.49	-20.67	-21.45	-19.02	-21.53
12/26/2017-1:00	-21.24	-21.43	-21.58	-20.78	-21.53	-19.1	-21.62
12/26/2017-2:00	-21.33	-21.52	-21.67	-20.88	-21.62	-19.19	-21.7
12/26/2017-3:00	-21.42	-21.61	-21.76	-20.97	-21.71	-19.27	-21.79
12/26/2017-4:00	-21.51	-21.7	-21.84	-21.07	-21.8	-19.36	-21.88
12/26/2017-5:00	-21.6	-21.79	-21.93	-21.17	-21.89	-19.45	-21.97
12/26/2017-6:00	-21.7	-21.88	-22.02	-21.27	-21.98	-19.54	-22.05
12/26/2017-7:00	-21.79	-21.98	-22.12	-21.36	-22.07	-19.63	-22.14
12/26/2017-8:00	-21.88	-22.07	-22.21	-21.46	-22.17	-19.72	-22.23
12/26/2017-9:00	-21.97	-22.16	-22.3	-21.56	-22.27	-19.81	-22.32
12/26/2017-10:00	-22.06	-22.25	-22.39	-21.66	-22.36	-19.91	-22.41
12/26/2017-11:00	-22.15	-22.34	-22.48	-21.76	-22.46	-20	-22.5
12/26/2017-12:00	-22.24	-22.43	-22.57	-21.85	-22.56	-20.09	-22.59
12/26/2017-13:00	-22.33	-22.52	-22.66	-21.95	-22.65	-20.18	-22.68
12/26/2017-14:00	-22.42	-22.61	-22.75	-22.04	-22.74	-20.26	-22.76
12/26/2017-15:00	-22.51	-22.69	-22.83	-22.13	-22.83	-20.34	-22.85
12/26/2017-16:00	-22.58	-22.77	-22.9	-22.22	-22.9	-20.41	-22.92
12/26/2017-17:00	-22.66	-22.84	-22.97	-22.3	-22.96	-20.48	-22.99
12/26/2017-18:00	-22.72	-22.9	-23.03	-22.37	-23.01	-20.53	-23.04
12/26/2017-19:00	-22.78	-22.95	-23.08	-22.43	-23.04	-20.57	-23.09

12/26/2017-20:00	-22.83	-23	-23.12	-22.48	-23.06	-20.6	-23.13
12/26/2017-21:00	-22.87	-23.04	-23.16	-22.52	-23.07	-20.62	-23.16
12/26/2017-22:00	-22.91	-23.07	-23.19	-22.55	-23.07	-20.64	-23.19
12/26/2017-23:00	-22.95	-23.11	-23.22	-22.58	-23.07	-20.66	-23.22
12/27/2017-0:00	-22.98	-23.13	-23.24	-22.6	-23.07	-20.68	-23.24
12/27/2017-1:00	-23.01	-23.16	-23.27	-22.62	-23.06	-20.7	-23.26
12/27/2017-2:00	-23.04	-23.19	-23.3	-22.64	-23.06	-20.72	-23.29
12/27/2017-3:00	-23.08	-23.22	-23.32	-22.65	-23.07	-20.74	-23.32
12/27/2017-4:00	-23.11	-23.25	-23.35	-22.67	-23.07	-20.77	-23.35
12/27/2017-5:00	-23.15	-23.29	-23.39	-22.69	-23.09	-20.8	-23.38
12/27/2017-6:00	-23.18	-23.32	-23.42	-22.71	-23.1	-20.83	-23.41
12/27/2017-7:00	-23.22	-23.36	-23.46	-22.73	-23.13	-20.86	-23.45
12/27/2017-8:00	-23.26	-23.4	-23.5	-22.76	-23.16	-20.9	-23.49
12/27/2017-9:00	-23.3	-23.44	-23.54	-22.79	-23.19	-20.95	-23.53
12/27/2017-10:00	-23.35	-23.49	-23.59	-22.82	-23.23	-20.99	-23.58
12/27/2017-11:00	-23.4	-23.53	-23.63	-22.86	-23.27	-21.04	-23.62
12/27/2017-12:00	-23.44	-23.58	-23.68	-22.9	-23.31	-21.09	-23.67
12/27/2017-13:00	-23.49	-23.63	-23.73	-22.94	-23.36	-21.14	-23.72
12/27/2017-14:00	-23.54	-23.68	-23.78	-22.98	-23.41	-21.19	-23.77
12/27/2017-15:00	-23.59	-23.73	-23.83	-23.02	-23.45	-21.24	-23.82
12/27/2017-16:00	-23.63	-23.77	-23.87	-23.06	-23.49	-21.28	-23.87
12/27/2017-17:00	-23.67	-23.81	-23.91	-23.1	-23.52	-21.31	-23.9
12/27/2017-18:00	-23.71	-23.84	-23.94	-23.13	-23.53	-21.33	-23.93
12/27/2017-19:00	-23.73	-23.86	-23.96	-23.15	-23.53	-21.35	-23.95
12/27/2017-20:00	-23.75	-23.88	-23.98	-23.16	-23.53	-21.35	-23.97
12/27/2017-21:00	-23.77	-23.9	-23.99	-23.17	-23.51	-21.35	-23.98
12/27/2017-22:00	-23.79	-23.91	-23.99	-23.17	-23.49	-21.35	-23.98
12/27/2017-23:00	-23.8	-23.92	-24	-23.17	-23.47	-21.35	-23.99
12/28/2017-0:00	-23.81	-23.93	-24.01	-23.16	-23.44	-21.35	-23.99
12/28/2017-1:00	-23.82	-23.94	-24.02	-23.16	-23.43	-21.35	-24
12/28/2017-2:00	-23.84	-23.95	-24.03	-23.15	-23.41	-21.36	-24.01
12/28/2017-3:00	-23.85	-23.96	-24.04	-23.15	-23.4	-21.37	-24.03
12/28/2017-4:00	-23.87	-23.98	-24.06	-23.15	-23.41	-21.39	-24.05
12/28/2017-5:00	-23.9	-24.01	-24.08	-23.16	-23.42	-21.42	-24.07
12/28/2017-6:00	-23.92	-24.03	-24.11	-23.17	-23.44	-21.45	-24.1
12/28/2017-7:00	-23.96	-24.07	-24.15	-23.18	-23.47	-21.49	-24.14
12/28/2017-8:00	-24	-24.11	-24.19	-23.21	-23.51	-21.53	-24.18
12/28/2017-9:00	-24.04	-24.15	-24.24	-23.24	-23.56	-21.58	-24.23
12/28/2017-10:00	-24.09	-24.21	-24.29	-23.28	-23.62	-21.64	-24.29
12/28/2017-11:00	-24.14	-24.26	-24.35	-23.33	-23.69	-21.71	-24.35
12/28/2017-12:00	-24.2	-24.33	-24.42	-23.39	-23.77	-21.79	-24.42
12/28/2017-13:00	-24.27	-24.4	-24.49	-23.45	-23.86	-21.87	-24.49
12/28/2017-14:00	-24.34	-24.47	-24.57	-23.52	-23.96	-21.95	-24.57
12/28/2017-15:00	-24.41	-24.55	-24.65	-23.6	-24.06	-22.04	-24.65
12/28/2017-16:00	-24.48	-24.62	-24.73	-23.68	-24.16	-22.13	-24.73
12/28/2017-17:00	-24.56	-24.7	-24.8	-23.76	-24.26	-22.21	-24.81
12/28/2017-18:00	-24.63	-24.77	-24.87	-23.84	-24.34	-22.28	-24.88
12/28/2017-19:00	-24.69	-24.84	-24.94	-23.92	-24.43	-22.35	-24.95
12/28/2017-20:00	-24.76	-24.9	-25.01	-23.99	-24.5	-22.41	-25.02
12/28/2017-21:00	-24.82	-24.97	-25.07	-24.06	-24.57	-22.48	-25.09
12/28/2017-22:00	-24.89	-25.03	-25.14	-24.14	-24.64	-22.54	-25.15
12/28/2017-23:00	-24.95	-25.1	-25.21	-24.21	-24.71	-22.61	-25.22
12/29/2017-0:00	-25.02	-25.17	-25.28	-24.28	-24.79	-22.69	-25.29

12/29/2017-1:00	-25.09	-25.24	-25.35	-24.36	-24.88	-22.77	-25.37
12/29/2017-2:00	-25.17	-25.32	-25.43	-24.44	-24.97	-22.85	-25.45
12/29/2017-3:00	-25.25	-25.4	-25.52	-24.52	-25.07	-22.94	-25.53
12/29/2017-4:00	-25.34	-25.49	-25.61	-24.62	-25.18	-23.04	-25.63
12/29/2017-5:00	-25.43	-25.59	-25.71	-24.72	-25.31	-23.15	-25.73
12/29/2017-6:00	-25.53	-25.69	-25.81	-24.82	-25.43	-23.26	-25.83
12/29/2017-7:00	-25.63	-25.8	-25.92	-24.94	-25.57	-23.38	-25.94
12/29/2017-8:00	-25.73	-25.91	-26.04	-25.06	-25.72	-23.51	-26.06
12/29/2017-9:00	-25.84	-26.02	-26.15	-25.18	-25.87	-23.63	-26.18
12/29/2017-10:00	-25.96	-26.14	-26.27	-25.31	-26.02	-23.76	-26.3
12/29/2017-11:00	-26.07	-26.26	-26.4	-25.45	-26.18	-23.89	-26.42
12/29/2017-12:00	-26.19	-26.38	-26.52	-25.59	-26.34	-24.03	-26.55
12/29/2017-13:00	-26.31	-26.5	-26.65	-25.73	-26.49	-24.16	-26.67
12/29/2017-14:00	-26.42	-26.62	-26.77	-25.87	-26.65	-24.28	-26.79
12/29/2017-15:00	-26.54	-26.74	-26.89	-26.01	-26.79	-24.4	-26.91
12/29/2017-16:00	-26.65	-26.85	-27	-26.14	-26.92	-24.52	-27.02
12/29/2017-17:00	-26.75	-26.95	-27.1	-26.27	-27.04	-24.62	-27.12
12/29/2017-18:00	-26.85	-27.04	-27.19	-26.38	-27.14	-24.7	-27.21
12/29/2017-19:00	-26.93	-27.13	-27.27	-26.49	-27.22	-24.78	-27.29
12/29/2017-20:00	-27.01	-27.2	-27.35	-26.58	-27.29	-24.84	-27.36
12/29/2017-21:00	-27.08	-27.27	-27.41	-26.67	-27.34	-24.9	-27.42
12/29/2017-22:00	-27.15	-27.33	-27.47	-26.74	-27.39	-24.95	-27.48
12/29/2017-23:00	-27.21	-27.39	-27.52	-26.8	-27.42	-24.99	-27.53
12/30/2017-0:00	-27.27	-27.44	-27.57	-26.86	-27.45	-25.04	-27.58
12/30/2017-1:00	-27.32	-27.5	-27.62	-26.92	-27.48	-25.08	-27.63
12/30/2017-2:00	-27.38	-27.55	-27.67	-26.97	-27.52	-25.13	-27.67
12/30/2017-3:00	-27.43	-27.6	-27.72	-27.02	-27.55	-25.17	-27.72
12/30/2017-4:00	-27.48	-27.65	-27.77	-27.06	-27.58	-25.22	-27.77
12/30/2017-5:00	-27.54	-27.71	-27.83	-27.11	-27.62	-25.27	-27.82
12/30/2017-6:00	-27.6	-27.76	-27.88	-27.16	-27.66	-25.32	-27.88
12/30/2017-7:00	-27.65	-27.82	-27.94	-27.21	-27.71	-25.38	-27.93
12/30/2017-8:00	-27.71	-27.87	-27.99	-27.26	-27.76	-25.43	-27.99
12/30/2017-9:00	-27.77	-27.93	-28.05	-27.32	-27.81	-25.49	-28.05
12/30/2017-10:00	-27.83	-27.99	-28.11	-27.37	-27.87	-25.55	-28.11
12/30/2017-11:00	-27.89	-28.05	-28.17	-27.43	-27.93	-25.61	-28.17
12/30/2017-12:00	-27.95	-28.12	-28.23	-27.48	-27.99	-25.68	-28.23
12/30/2017-13:00	-28.02	-28.18	-28.3	-27.54	-28.05	-25.74	-28.29
12/30/2017-14:00	-28.08	-28.24	-28.36	-27.6	-28.1	-25.8	-28.35
12/30/2017-15:00	-28.13	-28.3	-28.41	-27.66	-28.16	-25.85	-28.41
12/30/2017-16:00	-28.19	-28.35	-28.46	-27.71	-28.2	-25.9	-28.46
12/30/2017-17:00	-28.23	-28.39	-28.5	-27.75	-28.23	-25.93	-28.5
12/30/2017-18:00	-28.27	-28.43	-28.54	-27.79	-28.24	-25.96	-28.53
12/30/2017-19:00	-28.3	-28.45	-28.56	-27.82	-28.24	-25.97	-28.55
12/30/2017-20:00	-28.33	-28.47	-28.58	-27.83	-28.23	-25.98	-28.56
12/30/2017-21:00	-28.34	-28.48	-28.58	-27.84	-28.21	-25.97	-28.57
12/30/2017-22:00	-28.35	-28.49	-28.59	-27.84	-28.17	-25.96	-28.57
12/30/2017-23:00	-28.36	-28.5	-28.59	-27.83	-28.14	-25.96	-28.57
12/31/2017-0:00	-28.37	-28.5	-28.59	-27.82	-28.1	-25.95	-28.57
12/31/2017-1:00	-28.38	-28.5	-28.59	-27.81	-28.06	-25.94	-28.57
12/31/2017-2:00	-28.38	-28.5	-28.59	-27.79	-28.03	-25.93	-28.57
12/31/2017-3:00	-28.39	-28.51	-28.59	-27.77	-28	-25.93	-28.57
12/31/2017-4:00	-28.4	-28.51	-28.6	-27.76	-27.98	-25.93	-28.57
12/31/2017-5:00	-28.41	-28.52	-28.6	-27.75	-27.96	-25.94	-28.58

12/31/2017-6:00	-28.42	-28.54	-28.61	-27.74	-27.95	-25.95	-28.59
12/31/2017-7:00	-28.44	-28.55	-28.63	-27.73	-27.94	-25.96	-28.61
12/31/2017-8:00	-28.45	-28.57	-28.64	-27.73	-27.95	-25.98	-28.62
12/31/2017-9:00	-28.47	-28.59	-28.66	-27.73	-27.95	-26	-28.64
12/31/2017-10:00	-28.5	-28.61	-28.69	-27.74	-27.96	-26.02	-28.67
12/31/2017-11:00	-28.52	-28.63	-28.71	-27.75	-27.98	-26.05	-28.69
12/31/2017-12:00	-28.55	-28.66	-28.74	-27.76	-28	-26.08	-28.72
12/31/2017-13:00	-28.57	-28.69	-28.77	-27.77	-28.02	-26.1	-28.75
12/31/2017-14:00	-28.6	-28.71	-28.79	-27.79	-28.04	-26.13	-28.78
12/31/2017-15:00	-28.63	-28.74	-28.82	-27.8	-28.06	-26.15	-28.8
12/31/2017-16:00	-28.65	-28.75	-28.83	-27.82	-28.06	-26.17	-28.82
12/31/2017-17:00	-28.66	-28.77	-28.84	-27.82	-28.06	-26.17	-28.83
12/31/2017-18:00	-28.67	-28.77	-28.85	-27.82	-28.04	-26.17	-28.83
12/31/2017-19:00	-28.67	-28.77	-28.84	-27.81	-28.01	-26.15	-28.83
12/31/2017-20:00	-28.66	-28.76	-28.83	-27.79	-27.96	-26.13	-28.81
12/31/2017-21:00	-28.65	-28.74	-28.81	-27.76	-27.9	-26.09	-28.79
12/31/2017-22:00	-28.63	-28.72	-28.78	-27.73	-27.83	-26.05	-28.76
12/31/2017-23:00	-28.6	-28.69	-28.74	-27.68	-27.75	-26.01	-28.72

## Appendix F Chi-Squared Test of TEMPS Simulation Data

	Potassium	Lithium	Sodium	LWCA	FGA	XPS	Control
-30--20	339	323	329	255	260	220	346
-20--10	1930	1938	1938	1489	1469	1359	1941
-10-0	1140	1153	1147	1574	1581	1744	1131
0-10	682	667	677	645	647	580	676
10-20	865	873	865	791	801	822	865
20-30	1055	1055	1054	1041	1037	1045	1059
30-40	2051	2053	2053	1478	1480	1338	2063
40-50	698	698	697	1487	1485	1652	679

DF = 7

p = 0.05 (95% confidence interval)

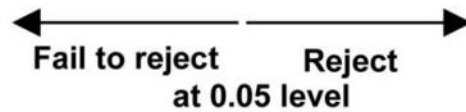
$\chi^2 = 14.07$

	Potassium (chi)	Lithium (chi)	Sodium (chi)	LWCA (chi)	FGA (chi)	XPS (chi)
	0.141618497	1.528901734	0.835260116	23.93352601	21.37572254	45.88439306
	0.062339001	0.004636785	0.004636785	105.257084	114.7779495	174.5100464
	0.071618037	0.427939876	0.226348364	173.5181256	179.0450928	332.244916
	0.053254438	0.119822485	0.00147929	1.421597633	1.24408284	13.63313609
	0	0.073988439	0	6.330635838	4.735260116	2.137572254
	0.015108593	0.015108593	0.023607177	0.305949008	0.457034939	0.185080264
	0.06980126	0.048473097	0.048473097	165.8870577	164.7547261	254.7867184
	0.531664212	0.531664212	0.477172312	961.5081001	956.7540501	1394.298969
$\chi^2$	0.945404038	2.750535223	1.616977141	1438.162076	1443.143919	2217.680831
<b>Difference</b>	Not significant	Not significant	Not significant	Significant	Significant	Significant



Chi-Square Table

Probabilities														
df	.99	.98	.95	.90	.80	.70	.50	.30	.20	.10	.05	.02	.01	.001
1	.00016	.00063	.0039	.016	.064	.15	.46	1.07	1.64	2.71	3.84	5.41	6.64	10.83
2	.02	.04	.10	.21	.45	.71	1.39	2.41	3.22	4.60	5.99	7.82	9.21	13.82
3	.12	.18	.35	.58	1.00	1.42	2.37	3.66	4.64	6.25	7.82	9.84	11.34	16.27
4	.30	.43	.71	1.06	1.65	2.20	3.36	4.88	5.99	7.78	9.49	11.67	13.28	18.46
5	.55	.75	1.14	1.61	2.34	3.00	4.35	6.06	7.29	9.24	11.07	13.39	15.09	20.52
6	.87	1.13	1.64	2.20	3.07	3.83	5.35	7.23	8.56	10.64	12.59	15.03	16.81	22.46
7	1.24	1.56	2.17	2.83	3.82	4.67	6.35	8.38	9.80	12.02	14.07	16.62	18.48	24.32
8	1.65	2.03	2.73	3.49	4.59	5.53	7.34	9.52	11.03	13.36	15.51	18.17	20.09	26.12
9	2.09	2.53	3.32	4.17	5.38	6.39	8.34	10.66	12.24	14.68	16.92	19.68	21.67	27.88
10	2.56	3.06	3.94	4.86	6.18	7.27	9.34	11.78	13.44	15.99	18.31	21.16	23.21	29.59
11	3.05	3.61	4.58	5.58	6.99	8.15	10.34	12.90	14.63	17.28	19.68	22.62	24.72	31.26
12	3.57	4.18	5.23	6.30	7.81	9.03	11.34	14.01	15.81	18.55	21.03	24.05	26.22	32.91
13	4.11	4.76	5.89	7.04	8.63	9.93	12.34	15.12	16.98	19.81	22.36	25.47	27.69	34.53
14	4.66	5.37	6.57	7.79	9.47	10.82	13.34	16.22	18.15	21.06	23.68	26.87	29.14	36.12
15	5.23	5.98	7.26	8.55	10.31	11.72	14.34	17.32	19.31	22.31	25.00	28.26	30.58	37.70
16	5.81	6.61	7.96	9.31	11.15	12.62	15.34	18.42	20.46	23.54	26.30	29.63	32.00	39.29
17	6.41	7.26	8.67	10.08	12.00	13.53	16.34	19.51	21.62	24.77	27.59	31.00	33.41	40.75
18	7.02	7.91	9.39	10.86	12.86	14.44	17.34	20.60	22.76	25.99	28.87	32.35	34.80	42.31
19	7.63	8.57	10.12	11.65	13.72	15.35	18.34	21.69	23.90	27.20	30.14	33.69	36.19	43.82
20	8.26	9.24	10.85	12.44	14.58	16.27	19.34	22.78	25.04	28.41	31.41	35.02	37.57	45.32
21	8.90	9.92	11.59	13.24	15.44	17.18	20.34	23.86	26.17	29.62	32.67	36.34	38.93	46.80
22	9.54	10.60	12.34	14.04	16.31	18.10	21.24	24.94	27.30	30.81	33.92	37.66	40.29	48.27
23	10.20	11.29	13.09	14.85	17.19	19.02	22.34	26.02	28.43	32.01	35.17	38.97	41.64	49.73
24	10.86	11.99	13.85	15.66	18.06	19.94	23.34	27.10	29.55	33.20	36.42	40.27	42.98	51.18
25	11.52	12.70	14.61	16.47	18.94	20.87	24.34	28.17	30.68	34.38	37.65	41.57	44.31	52.62
26	12.20	13.41	15.38	17.29	19.82	21.79	25.34	29.25	31.80	35.56	38.88	42.86	45.64	54.05
27	12.88	14.12	16.15	18.11	20.70	22.72	26.34	30.32	32.91	36.74	40.11	44.14	46.96	55.48
28	13.56	14.85	16.93	18.94	21.59	23.65	27.34	31.39	34.03	37.92	41.34	45.42	48.28	56.89
29	14.26	15.57	17.71	19.77	22.48	24.58	28.34	32.46	35.14	39.09	42.56	46.69	49.59	58.30
30	14.95	16.31	18.49	20.60	23.36	25.51	29.34	33.53	36.25	40.26	43.77	47.96	50.89	59.70



## **Appendix G Ingraham Trail Field Data**

## G.1. Monthly Average

Month	Air	Asphalt	Chipseal	Gravel	Control
Jan*	-27.58181818	-21.72016667	-22.28211616	-20.15739394	-3.616734848
Feb	-26.04642857	-21.96215774	-22.7753502	-20.8963497	-3.65109375
Mar	-9.633333333	-10.07249462	-9.559680108	-9.718908602	-2.493056452
Apr	-4.683333333	-0.787180556	-0.557903704	-1.532009722	-1.055895833
May	3.622580645	7.620995968	8.070658602	5.488174731	0.669428763
Jun	12.40333333	16.59386389	15.81007222	12.76151667	5.993159722
Jul	15.17741935	20.37853226	19.22152419	16.54964247	9.944166667
Aug	12.43064516	17.12699731	16.1842267	14.37485484	9.993795699
Sep	7.651666667	10.915375	10.34910926	9.682448611	7.323594444
Oct*	6.933333333	6.360416667	5.861685185	5.357583333	4.521472222

## G.2. Daily Average

Date	Air	Asphalt	Chipseal	Gravel	Control
2019-01-21	-24.2	-21.1	-21.2	-20.3	-3.6
2019-01-22	-29.4	-20.9	-21.4	-20.1	-3.7
2019-01-23	-33.9	-22.6	-23.8	-21.5	-4.4
2019-01-24	-31.8	-24.4	-26.0	-23.0	-5.1
2019-01-25	-25.6	-24.5	-25.7	-23.2	-5.5
2019-01-26	-21.3	-22.4	-23.1	-21.7	-5.1
2019-01-27	-23.1	-20.8	-21.1	-20.2	-4.7
2019-01-28	-33.8	-21.8	-22.5	-19.9	-4.5
2019-01-29	-29.3	-24.1	-24.7	-20.5	-4.9
2019-01-30	-23.7	-23.5	-23.8	-20.4	-5.1
2019-01-31	-27.3	-21.9	-21.8	-19.6	-4.9
2019-02-01	-34.6	-21.8	-22.4	-19.6	-4.4
2019-02-02	-37.7	-24.3	-25.5	-21.2	-4.3
2019-02-03	-37.9	-26.4	-27.9	-22.8	-4.4
2019-02-04	-34.8	-27.5	-29.1	-24.1	-4.6
2019-02-05	-33.3	-28.0	-29.7	-24.7	-4.7
2019-02-06	-33.1	-28.2	-29.9	-25.2	-4.7
2019-02-07	-31.0	-28.2	-30.0	-25.4	-4.8
2019-02-08	-32.6	-28.0	-29.8	-25.5	-4.8

2019-02-09	-26.1	-27.7	-29.3	-25.6	-4.9
2019-02-10	-15.6	-25.1	-25.7	-24.0	-4.9
2019-02-11	-16.7	-22.6	-22.3	-21.4	-4.6
2019-02-12	-20.5	-20.9	-20.3	-19.4	-4.2
2019-02-13	-22.7	-20.2	-20.4	-19.2	-4.0
2019-02-14	-24.1	-20.7	-21.4	-20.1	-3.9
2019-02-15	-22.7	-20.8	-21.9	-20.4	-3.9
2019-02-16	-25.8	-20.9	-22.2	-20.7	-3.9
2019-02-17	-29.4	-21.4	-23.0	-21.4	-4.0
2019-02-18	-25.0	-22.0	-23.6	-22.3	-4.1
2019-02-19	-24.1	-21.7	-22.8	-22.0	-4.3
2019-02-20	-24.6	-21.3	-22.2	-21.5	-4.3
2019-02-21	-19.4	-20.4	-20.9	-20.5	-4.2
2019-02-22	-21.6	-19.4	-20.0	-19.6	-4.1
2019-02-23	-28.3	-19.8	-20.4	-19.9	-4.1
2019-02-24	-30.2	-21.5	-22.3	-21.4	-4.2
2019-02-25	-23.7	-22.3	-22.8	-22.1	-4.5
2019-02-26	-12.7	-20.8	-20.9	-20.8	-4.6
2019-02-27	-14.9	-17.4	-16.9	-17.8	-4.4
2019-02-28	-26.2	-16.6	-16.5	-17.0	-4.1
2019-03-01	-28.3	-18.9	-19.5	-18.9	-4.2
2019-03-02	-25.4	-20.1	-20.8	-20.0	-4.4
2019-03-03	-19.9	-20.1	-20.4	-19.8	-4.5
2019-03-04	-15.5	-19.1	-18.9	-18.7	-4.5
2019-03-05	-15.5	-17.4	-17.1	-17.3	-4.4
2019-03-06	-15.6	-16.7	-16.4	-16.5	-4.3
2019-03-07	-17.5	-16.3	-16.0	-16.0	-4.2
2019-03-08	-16.4	-16.0	-15.5	-15.5	-4.2
2019-03-09		-14.4	-13.6	-14.0	-4.1
2019-03-10	-13.9	-13.4	-13.0	-13.5	-3.9
2019-03-11	-6.7	-12.7	-12.0	-12.5	-3.8
2019-03-12	-9.4	-10.8	-10.2	-11.2	-3.5
2019-03-13	-15.7	-10.6	-10.0	-10.6	-3.2
2019-03-14	-14.3	-11.6	-11.3	-11.2	-3.1
2019-03-15	-8.3	-11.4	-11.1	-11.3	-3.2
2019-03-16	-10.8	-10.4	-10.1	-10.4	-3.2

2019-03-17	-3.8	-9.8	-9.1	-8.9	-3.1
2019-03-18	-0.8	-8.4	-7.6	-7.7	-2.8
2019-03-19	-0.4	-6.6	-5.9	-6.0	-2.5
2019-03-20	2.4	-4.8	-4.0	-4.3	-2.0
2019-03-21	-1.2	-3.8	-3.0	-3.2	-1.5
2019-03-22	-3.1	-3.4	-2.6	-2.9	-1.2
2019-03-23	-12.3	-3.2	-2.5	-2.8	-1.1
2019-03-24	-8.3	-4.6	-4.3	-4.4	-1.2
2019-03-25	-5.1	-5.0	-4.6	-4.9	-1.4
2019-03-26	-3.6	-4.3	-3.6	-4.0	-1.3
2019-03-27	-4.3	-3.7	-2.8	-3.4	-1.1
2019-03-28	-2.9	-3.3	-2.4	-2.9	-1.0
2019-03-29	-7.4	-3.1	-2.3	-2.9	-0.9
2019-03-30	-2.8	-3.1	-2.2	-2.8	-0.9
2019-03-31	-2.2	-2.7	-1.8	-2.4	-0.8
2019-04-01	-6.9	-2.3	-1.5	-2.2	-0.8
2019-04-02	-14.7	-3.2	-2.6	-2.7	-0.8
2019-04-03	-18.2	-5.3	-4.7	-4.4	-1.5
2019-04-04	-18.1	-7.4	-6.6	-5.9	-2.5
2019-04-05	-13.5	-8.4	-7.4	-6.7	-3.3
2019-04-06	-11.0	-7.7	-6.7	-6.2	-3.6
2019-04-07	-4.0	-6.6	-5.8	-5.6	-3.4
2019-04-08	0.5	-5.1	-4.5	-4.5	-2.8
2019-04-09	1.7	-3.7	-3.2	-3.3	-2.1
2019-04-10	4.1	-2.0	-1.7	-2.4	-1.6
2019-04-11	2.2	0.0	-0.3	-1.6	-1.2
2019-04-12	1.2	0.3	0.5	-0.9	-1.0
2019-04-13	3.7	1.5	1.6	-0.4	-0.9
2019-04-14	0.1	2.7	2.6	0.1	-0.8
2019-04-15	-5.4	1.2	1.3	0.0	-0.7
2019-04-16	-5.4	0.3	0.4	-0.2	-0.6
2019-04-17	0.3	0.2	0.5	-0.3	-0.6
2019-04-18	1.3	2.1	2.5	0.2	-0.6
2019-04-19	-1.6	2.7	2.5	0.5	-0.5
2019-04-20	-4.0	2.1	1.8	0.2	-0.5
2019-04-21	-4.2	1.8	1.8	0.1	-0.5

2019-04-22	5.5	2.3	2.9	0.7	-0.5
2019-04-23	4.5	4.7	5.1	2.1	-0.4
2019-04-24	-2.8	5.0	5.1	2.5	-0.4
2019-04-25	-7.6	2.8	2.2	0.8	-0.4
2019-04-26	-8.7	1.0	0.8	0.2	-0.4
2019-04-27	-7.2	0.6	0.7	0.0	-0.4
2019-04-28	-6.3	1.1	1.4	0.1	-0.3
2019-04-29	-10.7	1.4	1.8	0.3	-0.3
2019-04-30	-15.3	0.0	0.7	-0.1	-0.3
2019-05-01	-10.1	-1.0	-0.2	-0.2	-0.3
2019-05-02	-6.9	-0.6	-0.2	-0.2	-0.3
2019-05-03	-5.2	0.4	0.5	-0.2	-0.3
2019-05-04	-3.9	1.1	1.8	-0.2	-0.3
2019-05-05	-2.7	1.3	2.4	0.1	-0.3
2019-05-06	-0.8	2.0	3.6	1.1	-0.3
2019-05-07	3.1	3.5	5.1	1.9	-0.3
2019-05-08	6.6	5.2	7.0	3.4	-0.3
2019-05-09	5.0	7.4	8.8	5.2	-0.2
2019-05-10	3.3	8.2	8.2	4.7	0.0
2019-05-11	3.1	7.1	7.4	4.0	0.2
2019-05-12	4.3	7.9	8.2	4.4	0.4
2019-05-13	2.7	7.5	8.0	4.6	0.6
2019-05-14	-1.0	8.0	8.5	5.4	0.7
2019-05-15	0.6	6.9	7.3	4.7	0.5
2019-05-16	1.9	7.4	7.9	5.0	0.6
2019-05-17	7.3	8.5	9.3	6.1	0.9
2019-05-18	12.6	10.3	10.9	7.3	1.3
2019-05-19	13.7	12.3	12.7	9.0	1.7
2019-05-20	12.2	13.3	13.8	10.3	2.1
2019-05-21	7.5	13.8	14.1	10.9	2.4
2019-05-22	5.0	13.1	12.8	10.3	2.2
2019-05-23	4.9	13.1	12.6	9.7	2.0
2019-05-24	3.0	13.0	12.4	9.6	2.1
2019-05-25	4.7	12.6	12.4	9.6	2.0
2019-05-26	9.3	12.6	13.1	10.3	2.3
2019-05-27	6.5	12.4	13.2	10.8	2.5

2019-05-28	13.1	13.1	14.1	11.7	2.9
2019-05-29	3.6	14.4	14.3	12.2	3.4
2019-05-30	3.5	9.6	9.7	8.6	2.5
2019-05-31	5.5	10.6	11.2	8.6	2.2
2019-06-01	9.2	12.8	12.9	9.2	2.9
2019-06-02	5.7	11.6	11.3	8.6	3.1
2019-06-03	3.7	9.8	9.4	7.7	3.0
2019-06-04	5.8	8.6	8.6	7.2	2.8
2019-06-05	7.7	8.4	8.5	7.1	2.8
2019-06-06	3.9	10.6	10.0	7.6	3.3
2019-06-07	5.3	9.0	8.5	7.0	3.3
2019-06-08	6.0	9.7	8.9	6.8	3.4
2019-06-09	5.1	11.2	9.9	6.7	3.4
2019-06-10	7.3	11.8	10.8	7.3	3.6
2019-06-11	13.9	13.9	13.3	9.3	4.3
2019-06-12	14.4	16.6	16.2	12.0	5.6
2019-06-13	16.4	18.6	18.5	14.4	6.7
2019-06-14	17.2	19.4	18.6	14.4	7.4
2019-06-15	16.5	20.6	19.9	15.6	8.0
2019-06-16	16.8	21.6	20.9	16.7	8.5
2019-06-17	18.1	20.5	20.5	17.2	8.8
2019-06-18	16.6	20.4	20.5	17.7	9.1
2019-06-19	16.7	20.4	20.2	17.9	9.3
2019-06-20	14.4	21.6	21.2	18.5	9.5
2019-06-21	14.0	20.8	20.2	17.8	9.4
2019-06-22	15.1	21.5	20.0	17.3	9.1
2019-06-23	19.0	22.0	20.3	17.0	9.1
2019-06-24	17.8	22.9	21.6	18.2	9.6
2019-06-25	17.7	22.9	21.4	17.9	9.9
2019-06-26	14.4	24.2	22.7	18.1	10.2
2019-06-27	12.7	22.4	21.3	17.3	10.2
2019-06-28	13.5	22.3	21.4	17.3	10.0
2019-06-29	15.6	22.6	21.7	17.8	10.0
2019-06-30	11.6	22.7	21.6	18.1	10.1
2019-07-01	9.0	20.4	18.9	16.6	9.8
2019-07-02	12.0	16.9	15.7	14.2	9.0

2019-07-03	12.6	15.7	14.5	13.0	8.7
2019-07-04	17.8	16.2	15.5	13.4	8.7
2019-07-05	14.6	20.0	19.1	15.4	9.6
2019-07-06	14.7	18.8	18.1	15.1	9.8
2019-07-07	10.1	18.6	17.8	15.0	9.9
2019-07-08	9.0	16.5	15.5	13.5	9.4
2019-07-09	11.1	16.3	14.9	12.6	9.0
2019-07-10	12.7	17.1	15.8	12.9	9.1
2019-07-11	12.7	18.2	17.0	13.8	9.5
2019-07-12	12.2	16.8	16.1	13.5	9.4
2019-07-13	11.7	17.5	16.7	13.6	9.3
2019-07-14	15.0	19.2	18.5	15.1	9.6
2019-07-15	18.9	20.9	20.1	16.9	10.0
2019-07-16	18.3	22.1	21.5	18.3	10.7
2019-07-17	20.6	23.0	22.7	19.4	11.2
2019-07-18	18.7	24.5	23.2	19.6	11.5
2019-07-19	16.0	24.5	23.0	19.7	11.6
2019-07-20	16.5	24.6	23.2	19.9	11.5
2019-07-21	19.4	24.6	23.6	20.6	11.7
2019-07-22	21.9	25.4	24.7	21.7	12.1
2019-07-23	21.0	26.3	25.5	22.7	12.6
2019-07-24	21.6	26.2	25.4	22.9	12.8
2019-07-25	20.3	26.8	25.7	23.0	12.9
2019-07-26	14.4	25.3	24.0	21.9	12.8
2019-07-27	12.4	21.2	20.0	18.5	12.1
2019-07-28	9.2	21.2	19.9	17.1	11.5
2019-07-29	15.4	21.4	20.3	17.1	11.1
2019-07-30	16.1	21.8	20.7	17.8	11.4
2019-07-31	14.6	19.9	19.1	17.0	11.4
2019-08-01	16.5	21.1	20.2	17.3	11.3
2019-08-02	16.2	22.2	21.0	18.1	11.6
2019-08-03	15.4	20.4	19.3	17.1	11.6
2019-08-04	16.5	19.7	18.6	16.3	11.4
2019-08-05	11.9	19.7	18.3	15.8	11.3
2019-08-06	11.6	17.5	16.6	14.6	10.9
2019-08-07	10.9	17.7	17.0	14.9	10.7



2019-08-08	12.9	16.8	16.4	14.9	10.6
2019-08-09	11.3	17.1	16.3	15.1	10.5
2019-08-10	14.1	15.9	15.5	14.7	10.5
2019-08-11	13.4	17.5	16.5	15.1	10.7
2019-08-12	14.2	19.1	18.2	15.9	10.9
2019-08-13	9.9	18.5	17.6	15.7	10.9
2019-08-14	14.3	17.2	16.6	15.0	10.6
2019-08-15	14.7	17.4	16.9	15.2	10.7
2019-08-16	10.4	17.7	17.2	15.4	10.9
2019-08-17	10.2	15.7	15.7	14.2	10.4
2019-08-18	9.9	16.5	15.5	13.6	10.0
2019-08-19	12.2	14.6	13.9	12.6	9.7
2019-08-20	10.3	16.3	15.0	13.3	9.8
2019-08-21	17.1	17.2	15.7	13.4	9.9
2019-08-22	13.6	17.3	16.1	13.8	10.2
2019-08-23	10.0	14.7	13.7	12.5	10.0
2019-08-24	11.7	14.6	13.9	12.4	9.6
2019-08-25	13.3	15.8	15.0	13.3	9.8
2019-08-26	13.2	16.9	16.1	13.9	9.8
2019-08-27	13.0	17.1	16.1	13.5	9.7
2019-08-28	14.2	17.5	16.8	14.1	9.7
2019-08-29	8.2	17.7	16.9	14.2	9.7
2019-08-30	7.4	15.4	15.3	13.3	9.5
2019-08-31	7.0	14.4	14.2	12.5	9.0
2019-09-01	8.1	13.7	13.4	12.0	8.6
2019-09-02	8.4	13.9	13.0	11.7	8.5
2019-09-03	8.9	13.1	12.3	11.3	8.5
2019-09-04	11.7	12.3	11.8	10.6	8.4
2019-09-05	9.0	13.6	12.8	11.0	8.3
2019-09-06	9.1	12.7	12.2	10.9	8.5
2019-09-07	8.1	12.4	11.8	10.5	8.3
2019-09-08	9.1	12.1	11.8	10.4	8.0
2019-09-09	9.3	12.4	12.0	10.6	7.6
2019-09-10	10.3	12.5	12.1	10.8	7.4
2019-09-11	10.4	12.7	12.4	11.2	7.4
2019-09-12	10.9	12.8	12.4	11.5	7.4

2019-09-13	13.1	13.1	12.6	11.8	7.5
2019-09-14	13.9	13.6	13.1	12.2	7.9
2019-09-15	9.6	13.2	12.7	11.9	8.3
2019-09-16	5.2	12.4	11.7	10.9	8.2
2019-09-17	7.1	11.3	10.6	9.9	7.8
2019-09-18	5.1	10.6	9.9	9.6	7.9
2019-09-19	7.0	9.8	9.1	8.8	7.5
2019-09-20	7.4	9.8	9.4	9.0	7.3
2019-09-21	8.5	9.4	9.2	9.0	7.4
2019-09-22	10.5	9.6	9.3	9.0	7.4
2019-09-23	5.7	10.0	9.7	9.5	7.5
2019-09-24	4.3	9.3	9.0	8.8	7.4
2019-09-25	2.8	8.6	8.3	8.0	6.7
2019-09-26	1.3	7.2	6.9	7.0	6.2
2019-09-27	2.8	6.1	5.9	5.9	5.4
2019-09-28	1.4	5.4	5.2	5.1	4.9
2019-09-29	4.8	4.8	4.9	4.7	4.7
2019-09-30	5.8	5.6	5.2	4.8	4.5
2019-10-01	4.9	5.7	5.2	4.8	4.3
2019-10-02	7.0	6.3	5.8	5.2	4.2
2019-10-03	8.9	7.1	6.8	5.9	4.6

### G.3. Heat Balance by Surface Type

	Asphalt	Chipseal	Gravel	Control
Net	7028.1477	12572.2894	8529.08607	2539.30104
Induction	31978.2967	35828.0557	28942.9581	26036.5521
Extraction	-24950.149	-23255.766	-20413.872	-23497.251

### G.4. Heat Balance by Month

Month	Asphalt	Chipseal	Gravel	Control
Jan*	-4861.92762	-5174.00598	-4594.45833	-6033.9312
Feb	-10993.68369	-11694.0813	-10642.2525	-10228.14936
Mar	1070.79192	1019.00634	324.29331	-4400.9757

Apr	1780.83081	2712.24378	2436.92613	-1165.31712
May	5920.59384	6783.89988	6095.38158	4125.07746
Jun	7573.6584	8635.97424	7530.60744	8799.10596
Jul	5368.39452	6843.42912	6094.04328	7036.7184
Aug	2083.76496	3362.40264	2015.1324	3955.00428
Sep	-921.9978	20.99424	-659.91636	597.00888
Oct*	7.72236	62.4264	-70.67088	-145.24056

## G.5. Heat Balance by Time

### January heat balance vs time of day

	Asphalt	Chipseal	Gravel	Control
00:00:00	-35.26182	-38.08068	-34.87671	-45.94392
02:00:00	-35.32023	-37.7124	-34.68564	-45.72414
04:00:00	-36.03204	-38.09718	-34.62129	-45.59049
06:00:00	-36.91215	-38.85684	-34.66188	-45.57663
08:00:00	-37.51704	-39.55842	-34.76484	-45.63306
10:00:00	-37.6893	-39.95508	-34.85988	-45.66672
12:00:00	-37.59822	-40.09632	-34.99056	-45.72216
14:00:00	-37.46061	-39.89304	-35.01432	-45.76473
16:00:00	-37.49031	-39.60792	-34.87473	-45.77859
18:00:00	-37.50219	-39.45942	-34.73415	-45.77265
20:00:00	-37.10817	-39.59142	-34.72524	-45.72414
22:00:00	-36.10134	-39.45546	-34.86879	-45.64197

### June heat balance vs time of day

	Asphalt	Chipseal	Gravel	Control
00:00:00	35.342964	33.193152	25.507956	23.066076
02:00:00	38.858496	34.448368	26.505228	25.314156
04:00:00	37.408416	33.053616	26.043072	27.385992
06:00:00	31.847496	29.052216	24.143832	28.67898
08:00:00	24.273792	23.72644	21.163872	28.641588
10:00:00	16.753896	19.059128	18.162708	27.573636
12:00:00	10.148508	15.961064	16.19598	25.73208
14:00:00	5.073684	14.455808	15.58266	23.603244

16:00:00	3.074808	14.96744	16.115724	21.583392
18:00:00	6.95058	18.152296	17.797224	20.273532
20:00:00	16.06602	23.221192	20.46984	20.14608
22:00:00	26.65662	28.575088	23.332152	21.304776

## G.6. Heat Balance vs. Thermal Gradient

grad_asphalt	H_asphalt	grad_gravel	H_gravel
-1.691128788	-36.832785	-1.598094697	-34.8065025
-1.502263393	-32.7192967	-1.454241071	-31.67337054
0.13216129	2.878472903	0.040025538	0.87175621
0.373623611	4.94675225	0.445718056	6.76923925
1.175767473	15.91557484	1.193577957	16.38543435
1.537861111	21.03794	1.529119444	20.918354
1.054909946	14.43116806	1.197502688	16.38183677
0.409467742	5.60151871	0.395981183	5.417022581
-0.187215278	-2.561105	-0.133998611	-1.833101
0.015680556	0.21451	-0.1435	-1.96308
<hr/>			
grad_chipseal	H_chipseal	grad_control	H_control
-1.799679293	-39.197015	-2.098787879	-45.7116
-1.59797123	-34.80381339	-1.397654762	-30.44092071
0.125769713	2.739264355	-0.543185484	-11.83057984
0.546280556	7.5340105	-0.148622222	-3.236992
1.337345878	18.23629	0.784373656	11.0889179
1.753568519	23.98881733	1.786693056	24.441961
1.344759857	18.39631484	1.382741935	18.91590968
0.66072491	9.038716774	0.777173387	10.63173194
0.004262963	0.058317333	0.121225	1.658358
0.126759259	1.734066667	-0.294916667	-4.03446

## G.7. Chan Lake Road Monthly Average

	Air Temperature	Surface Temperature
<b>2009</b>		
Oct	-1.73721865	-1.360610932
Nov	-10.28031496	-8.810097267
Dec	-20.97076677	-20.50527157
<b>2010</b>		
Jan	-22.82900552	-22.0253453
Feb	-15.12152152	-15.01826827
Mar	-7.340725806	-5.703853047
Apr	1.040839506	6.164148148
May	6.840367384	14.78033154
Jun	15.22824074	24.7050463
Jul	17.58928251	25.44668161
Aug	14.60730614	20.6009861
Sep	6.534792734	10.02515137
Oct	0.760965704	1.499052347
Nov	-11.29345708	-10.76923434
Dec	-21.14019337	-19.82541436
<b>2011</b>		
Jan	-23.71414514	-23.30824108
Feb	-19.93664948	-20.34572165
Mar	-15.83796671	-14.28618983
Apr	-6.15765896	1.530154143
May	8.694992915	17.58011337
Jun	14.17117702	23.42956441
Jul	17.93514851	26.02838284
Aug	15.18278986	21.94433877
Sep	10.10207059	13.29284706
Oct	1.183563672	1.873790721
Nov	-15.66131285	-13.67973917
Dec	-16.03550562	-16.25977528
<b>2012</b>		
Jan	-21.561672	-20.98095021

Feb	-14.38032866	-15.16007733
Mar	-14.8802168	-11.79760614
Apr	-3.278597215	3.545074781
May	9.269203062	16.84398919
Jun	14.73804227	23.71006674
Jul	19.55537489	28.74134659
Aug	16.53471715	23.09761905
Sep	11.08446828	14.48162313
Oct	-2.365294118	-0.496559529
Nov	-17.45831393	-15.88775035
Dec	-25.66331301	-24.69456301

**2013**

---

Jan	-25.23257086	-24.65390353
Feb	-17.18013279	-16.26777494
Mar	-16.99302536	-15.44752596
Apr	-6.674366332	
May	8.731726003	17.52069432
Jun	17.65341803	26.65571688
Jul	16.75096629	25.89101124
Aug	15.87839784	20.20135014
Sep	10.65518234	10.65427063
Oct	0.955205923	-0.893243869
Nov	-14.06501057	-19.15681818
Dec	-29.77118644	-22.45888261

**2014**

---

Jan	-23.09238606	-22.88514745
Feb	-24.91555	-15.13265
Mar	-18.33605596	-0.818727437
Apr	-5.653317757	1.456168224
May	5.501687956	14.87655109
Jun	15.22160781	26.14256506
Jul	18.47346481	24.77664724
Aug	13.68239289	18.64085684
Sep	6.781083793	10.21379829
Oct	-0.15791313	0.7666001
Nov	-16.57963906	-16.86436835
Dec	-20.09358457	-20.18941229

**2015**

---

Jan	-22.81182022	-22.8672809
Feb	-22.42001972	-21.61380671
Mar	-12.60903777	-8.572257194
Apr	-1.267361111	5.679768519
May	10.71292639	
Jun	16.1109773	
Jul	16.4785009	
Aug	15.37963129	
Sep	8.417050913	
Oct	0.321431981	
Nov	-10.37882298	
Dec	-16.05975774	

**2016**

---

Jan	-17.97456302	
Feb	-19.74796163	
Mar	-10.80812023	
Apr	-5.051814224	
May	9.660861759	
Jun	16.502595	
Jul	18.56516245	3.47017148
Aug	15.49320519	22.14389808
Sep	8.291019856	11.10315884
Oct	-1.536337761	0.014658444
Nov	-8.086547507	-8.116980245
Dec	-21.70406504	-20.91558266

**2017**

---

Jan	-18.73387314	-19.6511471
Feb	-17.95834579	-17.37558545
Mar	-16.50091033	-13.83136095
Apr	-3.549280576	5.002363823
May	10.03845805	18.21981859
Jun	14.67595172	24.46527391
Jul	17.90572727	26.85427273
Aug	17.67050093	23.82606679
Sep	10.73614458	14.19214458



Oct	0.515897939	0.998184495
Nov	-14.68244859	-14.02199904
Dec	-17.18218736	-17.52482695

**2018**

---

Jan	-22.02965143	-22.59067451
Feb	-18.45285935	-19.91154044
Mar	-12.54477401	-9.82306968
Apr	-4.60962963	2.11777778
May	9.168627451	16.18584409
Jun	15.78436155	22.41946437
Jul	18.52287209	25.7828816
Aug	15.26598267	20.20177839
Sep	3.793491399	5.948396095
Oct	-0.423661718	-1.59937022
Nov	-11.1483774	-10.3984976