



State of Utah

SPENCER J. COX  
Governor

DEIDRE HENDERSON  
Lieutenant Governor

Department of  
Environmental Quality

Kimberly D. Shelley  
Executive Director

DIVISION OF AIR QUALITY  
Bryce C. Bird  
Director

RN108190010

December 13, 2024

Mike Pool  
Springville City Corporation  
450 West 600 North  
Springville, UT 84663  
mpool@springville.org

Dear Mike Pool,

Re: Engineer Review:  
Modification to Approval Order DAQE-AN108190008-17 to Remove Engine Startup Hours  
Limitation  
Project Number: N108190010

The DAQ requests a company representative review and sign the attached Engineer Review (ER). This ER identifies all applicable elements of the New Source Review permitting program. Springville City Corporation should complete this review within **10 business days** of receipt.

Springville City Corporation should contact **Stockton Antczak** at (385) 306-6724 if there are questions or concerns with the review of the draft permit conditions. Upon resolution of your concerns, please email **Stockton Antczak** at [santczak@utah.gov](mailto:santczak@utah.gov) the signed cover letter. Upon receipt of the signed cover letter, the DAQ will prepare an ITA for a 30-day public comment period. At the completion of the comment period, the DAQ will address any comments and will prepare an Approval Order (AO) for signature by the DAQ Director.

If Springville City Corporation does not respond to this letter within **10 business days**, the project will move forward without source concurrence. If Springville City Corporation has concerns that cannot be resolved and the project becomes stagnant, the DAQ Director may issue an Order prohibiting construction.

Approval Signature \_\_\_\_\_

*(Signature & Date)*

# UTAH DIVISION OF AIR QUALITY ENGINEER REVIEW

## SOURCE INFORMATION

Project Number	N108190010
Owner Name	Springville City Corporation
Mailing Address	450 West 600 North Springville, UT, 84663
Source Name	Springville City Corporation- Whitehead Power Plant
Source Location	450 West 700 North Springville, UT 84663
UTM Projection	447400 m Easting, 4447250 m Northing
UTM Datum	NAD83
UTM Zone	UTM Zone 12
SIC Code	4911 (Electric Services)
Source Contact	Mike Pool
Phone Number	(801) 489-2750
Email	mpool@springville.org
Billing Contact	Mike Pool
Phone Number	801-489-2750
Email	mpool@springville.org
Project Engineer	Stockton Antczak, Engineer
Phone Number	(385) 306-6724
Email	santczak@utah.gov
Notice of Intent (NOI) Submitted	August 29, 2024
Date of Accepted Application	December 5, 2024

## **SOURCE DESCRIPTION**

### General Description

Springville Power Corporation (Springville) operates the Whitehead Power Plant. The facility is a minor source, municipal power plant. The plant consists of two Enterprise engines (K-1 and K-2) five Caterpillar G3520H engines (K-3-K-7) and one 6 MMBtu.hr natural gas boiler.

### NSR Classification:

Minor Modification at Minor Source

### Source Classification

Located in , Southern Wasatch Front O3 NAA, Utah County PM<sub>10</sub> Maint Area, Provo UT PM<sub>2.5</sub> NAA,  
Utah County  
Airs Source Size: SM

### Applicable Federal Standards

NSPS (Part 60), A: General Provisions

NSPS (Part 60), JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

MACT (Part 63), A: General Provisions

MACT (Part 63), ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Title V (Part 70) Area Source

### Project Proposal

Modification to Approval Order DAQE-AN108190008-17 to Remove Engine Startup Hours Limitation

### Project Description

Springville Power Corporation has requested the removal of condition II.B.2.e, which limits the start-up hours for the Caterpillar engines from 8:00-11:00 AM daily. Updated modeling has been submitted in support of removing this condition. Permitted emissions will not change as a result of this project.

## **EMISSION IMPACT ANALYSIS**

Modeling was conducted by the source with the same parameters as the 2023 modeling submitted for the current AO. The only change was the removal of the start-up timing restriction. Their modeling demonstrated compliance with the 1-hr NO<sub>2</sub> NAAQS. The parameters used and exact modeling results can be found in the modeling memo DAQE-MN008190010-24 [Last updated December 13, 2024]

## SUMMARY OF EMISSIONS

The emissions listed below are an estimate of the total potential emissions from the source. Some rounding of emissions is possible.

Criteria Pollutant	Change (TPY)	Total (TPY)
CO <sub>2</sub> Equivalent	0	60262.00
Carbon Monoxide	0	18.43
Nitrogen Oxides	0	45.40
Particulate Matter - PM <sub>10</sub>	0	4.19
Particulate Matter - PM <sub>2.5</sub>	0	4.19
Sulfur Dioxide	0	0.24
Volatile Organic Compounds	0	26.37

Hazardous Air Pollutant	Change (lbs/yr)	Total (lbs/yr)
Formaldehyde (CAS #50000)	0	17320
Generic HAPs (CAS #GHAPS)	0	7800
	Change (TPY)	Total (TPY)
Total HAPs	0	12.56

*Note: Change in emissions indicates the difference between previous AO and proposed modification.*

## Review of BACT for New/Modified Emission Units

1. **BACT review regarding Engines K-3 through K-7**

There are no changes to emissions or equipment as a result of this project. No BACT analysis is required. [Last updated December 5, 2024]

### SECTION I: GENERAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. (New or Modified conditions are indicated as “New” in the Outline Label):

I.1	All definitions, terms, abbreviations, and references used in this AO conform to those used in the Utah Administrative Code (UAC) Rule 307 (R307) and Title 40 of the Code of Federal Regulations (40 CFR). Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]
I.2	The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]
I.3	Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]
I.4	All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Director or Director's representative upon request, and the records shall include the two-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of two (2) years. [R307-401-8]
I.5	At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]
I.6	The owner/operator shall comply with UAC R307-107. General Requirements: Breakdowns. [R307-107]
I.7	The owner/operator shall comply with UAC, R307-150 Series. Inventories, Testing and Monitoring. [R307-150]

## SECTION II: PERMITTED EQUIPMENT

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. (New or Modified conditions are indicated as “New” in the Outline Label):

### II.A THE APPROVED EQUIPMENT

II.A.1	<b>Springville City Corporation</b> White Head Power Plant
II.A.2	<b>B-1</b> Boiler Fuel: Natural gas Rating: 6.0 MMBtu/hr
II.A.3	<b>Engines K-1 &amp; K-2</b> Enterprise DGSRV-16-4 engine generators Fuel: Dual fuel (diesel and natural gas) Rating: 5.5 MW/hr
II.A.4	<b>K-3 through K-7</b> Engine Type: Four (4) stroke lean burn Fuel: Natural gas Control: SCR and oxidation catalyst Rating: 3422 hp
II.A.5	<b>Cooling Towers</b>

## SECTION II: SPECIAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. (New or Modified conditions are indicated as “New” in the Outline Label):

### II.B REQUIREMENTS AND LIMITATIONS

II.B.1	<b>Site-Wide Requirements</b>
II.B.1.a	Visible emissions from any point or stationary fugitive emission source associated with the installation or control facilities shall not exceed 10% opacity, with the exception of an initial start-up period of 15 minutes. [R307-401-8]

II.B.1.b	<p>The owner/operator shall use the specified fuel mixtures as a primary fuel in the following equipment:</p> <ul style="list-style-type: none"><li>A. No less than 99% natural gas in the K-1 and K-2 engine/generators, except during a period of 30 minutes for start-up or shutdown</li><li>B. Natural gas 100% of the time in the 6.0 MMBTU/hr boiler</li><li>C. Natural gas 100% of the time in the K-3 through K-7 engine/generators</li></ul> <p>The engine/generators (K-1 and K-2) may be operated using diesel fuel only during the initial startup mode, shutdown mode or during natural gas curtailment. Hours of operation during natural gas curtailment shall be limited to 72 hours per calendar year. The owner/operator shall notify the Director within 24 hours of natural gas being curtailed, the reason for the curtailment, and the expected length of the curtailment. [R307-401, R307-401-8]</p>
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II.B.1.c	<p>Stack testing to demonstrate compliance with daily and rolling 12-month emission limitations shall be performed in accordance with the following:</p> <p>A. Sample Location: The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other EPA-approved testing methods acceptable to the Director. Occupational Safety and Health Administration (OSHA) approvable access shall be provided to the test location.</p> <p>B. Volumetric Flow Rate: 40 CFR 60, Appendix A, Method 2 or other EPA-approved testing methods acceptable to the Director.</p> <p>C. NO<sub>x</sub>: 40 CFR 60 Appendix A, Method 7E, or other EPA-approved testing methods acceptable to the Director.</p> <p>D. CO: 40 CFR 60 Appendix A, Method 10, 10B, or other EPA-approved testing methods acceptable to the Director.</p> <p>E. Calculations: To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors to give the results in the specified units of the emission limitation. A stack test protocol shall be provided at least 30 days prior to the test. A pretest conference shall be held if directed by the Director.</p> <p>F. The production rate during all compliance testing shall be no less than 90% of the maximum production rate achieved in the previous three (3) years. If the desired production rate is not achieved at the time of the test, the maximum production rate shall be 110% of the tested achieved rate, but not more than the maximum allowable production rate. This new allowable maximum production rate shall remain in effect until successfully tested at a higher rate. The owner/operator shall request a higher production rate when necessary. Testing at no less than 90% of the higher rate shall be conducted. A new maximum production rate (110% of the new rate) will then be allowed if the test is successful. This process may be repeated until the maximum allowable production rate is achieved.</p> <p>G. Stack testing on each internal combustion engine shall be performed once every 8,760 hours of operation of that engine, but no less frequently than once every three (3) years, whichever condition is met first. [40 CFR 60 Subpart JJJJ, R307-165]</p>
II.B.2	<b>K-1, K-2, K-3, K-4, K-6, and K-7 Engine Requirements</b>
II.B.2.a	<p>Emissions to the atmosphere from the engine generators K-1 and K-2 shall each not exceed the following rates and concentrations:  NO<sub>x</sub> 18.01 lb/hr  CO 2.5 lb/hr</p> <p>Emissions to the atmosphere from the engine generators K-3 through K-7 shall each not exceed the following rates and concentrations:  NO<sub>x</sub> 0.07 g/hp-hr  CO 0.108 g/hp-hr</p> <p>Stack testing to show compliance with the above emission limitations shall be performed as outlined in condition II.B.1.c. [R307-165, R307-401-8]</p>



II.B.2.b	<p>NO<sub>x</sub> emissions from the operation of all engines and boilers at the plant shall not exceed 1.68 tons per day and 45.4 tons per rolling 12-month period.</p> <p>CO emissions from the operation of all engines and boilers at the plant shall not exceed 1.15 tons per day and 18.5 tons per rolling 12-month period.</p> <p>Stack testing to show compliance with the above emission limitations shall be performed as outlined in condition II.B.1.c. [R307-165, R307-401-8]</p>
II.B.2.c	<p>Internal combustion engine emissions shall be calculated using the emission factors generated from the most recent stack test. Emissions totals from all engines shall be kept in table format, listing month, operating hours, and emissions, for each individual engine. Stack testing shall be performed as outlined in condition II.B.1.c.</p> <p>A day is equivalent to the time period from midnight to the following midnight. Emissions shall be calculated for NO<sub>x</sub> and CO for each individual engine with the following equations:</p> <p>Daily Rate Calculation:  <math>D = (X * H)</math></p> <p>Where:  X = lb/hr rate for each generator (based on the most recent stack test for that generator)  H = total hours of operation for that generator each day (recorded by hour meter)  D = daily output of pollutant in lbs/day</p> <p>Monthly Rate Calculation:</p> <p>The emissions (lb/hr) for each pollutant shall be calculated by summing the daily emissions for each month.</p> <p>Annual Rate Calculation:</p> <p>The annual emissions shall be calculated by summing the emissions from each of the previous 12-months. The lb per rolling 12-month rate shall be divided by 2000 pounds per ton to calculate tons per rolling 12-month period emissions. The rolling 12-month total shall be calculated by the twentieth day of each month. [R307-170, R307-401-8]</p>
II.B.2.d	<p>The sulfur content of any diesel burned shall not exceed 15 ppm by weight for fuels used in the dual fuel engines.</p> <p>The sulfur content shall be determined by ASTM Method D-4294-89 or approved equivalent. Certification of diesel fuel sulfur content shall be either by Springville City's own testing or test reports from the fuel marketer. [R307-401]</p>
II.B.2.e	<p>The stack heights of each engine (K-1 through K-7) shall be no less than 60 feet, as measured from ground level. [R307-410]</p>
II.B.3	<p><b>Boiler Requirements</b></p>
II.B.3.a	<p>The boiler shall not exceed 5,000 hours of operation per rolling 12-month period. [R307-401]</p>

II.B.3.a.1	To determine compliance with a rolling 12-month total the owner/operator shall calculate a new 12-month total by the twentieth day of each month using data from the previous 12 months. Records of operation shall be kept for all periods when the plant is in operation. An hour meter shall determine hours of operation. [R307-401]
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## PERMIT HISTORY

When issued, the approval order shall supersede (if a modification) or will be based on the following documents:

Supersedes	DAQE-AN108190009-24 dated May 8, 2024
Is Derived From	Source Submitted NOI dated August 28, 2024

## REVIEWER COMMENTS

1. **Comment regarding Change in Conditions:**  
Condition II.B.2.e, which limits the start-up hours of the engines, was removed. No other changes were made. [Last updated December 5, 2024]

## ACRONYMS

The following lists commonly used acronyms and associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by EPA to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CMS	Continuous monitoring system
CO	Carbon monoxide
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2</sub> e	Carbon Dioxide Equivalent - 40 CFR Part 98, Subpart A, Table A-1
COM	Continuous opacity monitor
DAQ/UDAQ	Division of Air Quality
DAQE	This is a document tracking code for internal UDAQ use
EPA	Environmental Protection Agency
FDCP	Fugitive dust control plan
GHG	Greenhouse Gas(es) - 40 CFR 52.21 (b)(49)(i)
GWP	Global Warming Potential - 40 CFR Part 86.1818-12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/HR	Pounds per hour
LB/YR	Pounds per year
MACT	Maximum Achievable Control Technology
MMBTU	Million British Thermal Units
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO <sub>x</sub>	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM <sub>10</sub>	Particulate matter less than 10 microns in size
PM <sub>2.5</sub>	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO <sub>2</sub>	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
TPY	Tons per year
UAC	Utah Administrative Code
VOC	Volatile organic compounds



AIR QUALITY

Form 2
Company Information/Notice of Intent (NOI)

Date 8/27/24

Utah Division of Air Quality
New Source Review Section

Application for: [ ] Initial Approval Order [x] Approval Order Modification

General Owner and Source Information

1. Company name and mailing address:

Springville Power Corporati

450 West 600 North

Springville, Utah 84663

Phone No.: ((801)) 489-2750

Fax No.: ( )

2. Company\*\* contact for environmental matters:

Mike Pool

Phone no.: ((801)) 489-2750

Email: mpool@springville.org

\*\* Company contact only; consultant or independent contractor contact information can be provided in a cover letter

3. Source name and physical address (if different from above):

Same as above

4. Source Property Universal Transverse Mercator coordinates (UTM), including System and Datum:

UTM: 12

X: 447400 m East

Y: 4447250 m North

5. The Source is located in: Utah County

6. Standard Industrial Classification Code (SIC) 4911

7. If request for modification, AO# to be modified: DAQE # AN108190008-17 DATED: 11 / 28 / 17

8. Brief (50 words or less) description of process.

This update is modeling related only. Only a change to some CAT modeled emission rates

Electronic NOI

9. A complete and accurate electronic NOI submitted to DAQ Permitting Mangers Jon Black (jblack@utah.gov) or Alan Humpherys (ahumpherys@utah.gov) can expedite review process. Please mark application type.

Hard Copy Submittal [ ]

Electronic Copy Submittal [x]

Both [ ]

Authorization/Signature

I hereby certify that the information and data submitted in and with this application is completely true, accurate and complete, based on reasonable inquiry made by me and to the best of my knowledge and belief.

Signature:

[Handwritten Signature]

Title: Power Superintendent

Mike Pool

Name (Type or print)

Telephone Number:

((801)) 489-2750

Email:

mpool@springville.org

Date:

8-28-2024



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DAQE-MN108190010-24

**MEMORANDUM**

**TO:** John Jenks, NSR Engineer   
**FROM:** Jason Krebs, Air Quality Modeler   
**DATE:** September 24, 2024  
**SUBJECT:** Modeling Analysis Review for the Notice of Intent for Springville City Corporation – Whitehead Power Plant, Utah County, Utah

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**This is not a Major Prevention of Significant Deterioration (PSD) Source.**

I. OBJECTIVE

Springville City Corporation (Applicant) is seeking an approval order for their Whitehead Power Plant located in Utah County, Utah.

This report, prepared by the Staff of the New Source Review Section (NSR), contains a review of the air quality impact analysis (AQIA) including the information, data, assumptions and modeling results used to determine if the facility will be in compliance with applicable State and Federal concentration standards.

II. APPLICABLE RULE(S)

Utah Air Quality Rules:

R307-401-6 Condition for Issuing an Approval Order  
R307-410-3 Use of Dispersion Models  
R307-410-4 Modeling of Criteria Pollutants in Attainment Areas

III. MODELING METHODOLOGY

A. Applicability

Emissions from the facility include PM<sub>10</sub>, NO<sub>x</sub>, CO, SO<sub>2</sub>, and HAPs. This modeling is part of a modified approval order. The emission rates for NO<sub>x</sub> triggered the requirement to model under R307-410. Modeling was performed by the Applicant.

## B. Assumptions

### 1. Topography/Terrain

The Plant is at an elevation 4530 feet with terrain features that have an affect on concentration predictions.

a. Zone: 12

b. Approximate Location:

UTM (NAD83): 447,400 meters East  
4,447,250 meters North

### 2. Urban or Rural Area Designation

After a review of the appropriate 7.5 minute quadrangles, it was concluded the area is “rural” for air modeling purposes.

### 3. Ambient Air

It was determined the Plant boundary used in the AQIA meets the State’s definition of ambient air.

### 4. Building Downwash

The source was modeled with the AERMOD model. All structures at the plant were used in the model to account for their influence on downwash.

### 5. Meteorology

Five (5) years of off-site surface and upper air data were used in the analysis consisting of the following:

Surface – Salt Lake Airport, UT NWS: 2016-2020

Upper Air – Salt Lake Airport, UT NWS: 2016-2020

### 6. Background

The background concentrations were based on concentrations measured in Spanish Fork, Utah.

### 7. Receptor and Terrain Elevations

The modeling domain used by the Applicant consisted of receptors including property boundary receptors. This area of the state contains mountainous terrain and the modeling domain has simple and complex terrain features in the near and far fields. Therefore, receptor points representing actual terrain elevations from the area were used in the analysis.

8. Model and Options

The State-accepted AERMOD model was used to predict air pollutant concentrations under a simple/complex terrain/wake effect situation. In quantifying concentrations, the regulatory default option was selected.

9. Air Pollutant Emission Rates

Springville City Corp – Whitehead Power Plant

Source	UTM Coordinates		Modeled Emission Rates		
	Easting (m)	Northing (m)	NOx		
			(lb/hr)	(tons/yr)	hrs/year
K1	447292	4447525	18.01	78.88	8760
K2	447291	4447513	18.01	78.88	8760
K3	447287	4447504	1.35	5.90	8760
K4	447286	4447494	1.35	5.90	8760
B1	447292	4447519	0.59	2.58	8760
K6	447293	4447469	1.35	5.90	8760
K7	447289	4447469	1.35	5.90	8760
K5	447297	4447469	1.35	5.90	8760

Total 43.34 189.84

Lakeside Power Plant

Source	UTM Coordinates		Modeled Emission Rates		
	Easting (m)	Northing (m)	NOx		
			(lb/hr)	(tons/yr)	hrs/year
LS2_CT1	435900	4464946	130.00	569.40	8760
LS2_CT2	435900	4464989	130.00	569.40	8760
LSAB001	435869	4464888	1.04	4.56	8760
LS1GT01	435890	4464750	130.00	569.40	8760
LS1GT02	435890	4464788	130.00	569.40	8760
LS1AB01	435885	4464771	1.04	4.56	8760
LS1DP01	435932	4464789	0.06	0.24	8760
LSSG001	435804	4464934	17.14	75.07	8760
LS1SG01	435797	4464686	19.71	86.33	8760
LS1FP01	435920	4464724	3.64	15.96	8760

Total 562.63 2464.33



McWane Ductile

Source	UTM Coordinates		Modeled Emission Rates		
	Easting (m)	Northing (m)	NOx		
			(lb/hr)	(tons/yr)	hrs/year
PACPIPE	446185	4449965	33.00	144.54	8760

Total 33.00 144.54

10. Source Location and Parameters

Source	Type	Source Parameters					
		Elev, (ft)	Ht (m)	Ht (ft)	Temp (K)	Flow (m/s)	Dia (ft)
K1	POINT	4531.1	18.3	60.0	629	33.56	1.07
K2	POINT	4530.4	18.3	60.0	629	33.56	1.07
K3	POINT	4529.5	18.3	60.0	662	24.32	0.61
K4	POINT	4529.3	18.3	60.0	662	24.32	0.61
B1	POINT	4530.8	17.7	58.0	583	50.75	0.54
K6	POINT	4530.2	18.3	60.0	662	24.32	0.61
K7	POINT	4530.0	18.3	60.0	662	24.32	0.61
K5	POINT	4530.4	18.3	60.0	662	24.32	0.61
PACPIPE	POINT	4500.1	36.6	120.0	321	20.90	1.00
LS2_CT1	POINT	4547.2	45.7	149.9	356	20.42	5.79
LS2_CT2	POINT	4547.2	45.7	149.9	356	20.42	5.79
LSAB001	POINT	4547.2	18.3	60.0	500	12.60	1.10
LS1GT01	POINT	4545.1	45.7	149.9	350	12.70	5.80
LS1GT02	POINT	4546.0	45.7	149.9	350	12.70	5.80
LS1AB01	POINT	4545.4	15.2	49.9	492	12.60	1.10
LS1DP01	POINT	4547.1	6.1	20.0	727	5.10	0.60
LSSG001	POINT	4547.2	6.1	20.0	858	57.50	0.30
LS1SG01	POINT	4544.0	6.1	20.0	797	50.30	0.30
LS1FP01	POINT	4545.8	6.1	20.0	730	9.70	0.30

IV. RESULTS AND CONCLUSIONS

A. National Ambient Air Quality Standards

The below table provides a comparison of the predicted total air quality concentrations with the NAAQS. The predicted total concentrations are less than the NAAQS.

<b>Air Pollutant</b>	<b>Period</b>	<b>Prediction</b>  (µg/m <sup>3</sup> )	<b>Class II Significant Impact Level</b>  (µg/m <sup>3</sup> )	<b>Background</b>  (µg/m <sup>3</sup> )	<b>Nearby Sources*</b>  (µg/m <sup>3</sup> )	<b>Total</b>  (µg/m <sup>3</sup> )	<b>NAAQS</b>  (µg/m <sup>3</sup> )	<b>Percent</b>  NAAQS
NO <sub>2</sub>	1-Hour	157.0	7.5	10.5	14.3	181.8	188	99.6%

JK:jg

SO BACKGRND MHRDOW7 23.33 26.27 25.1 21.87 22.17 24.1 25.43 29.37 30.53 23.03 14.7 12.53  
SO BACKGRND MHRDOW7 10.63 11.8 11. 14.6 14.17 23.33 25. 32.17 27.03 25.73 29.33 28.93  
SO BACKGRND MHRDOW7 13.07 14.83 11.2 7.27 9.03 19.97 21.03 16.43 22.1 17.5 10.77 9.6  
SO BACKGRND MHRDOW7 8.77 9.53 9.63 10.93 10.33 12.27 15.63 16.1 13.07 11.1 11.63 12.93  
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0.03767  
SO BACKGRND MHRDOW7 0.03867 0.039 0.03933 0.04033 0.03867 0.03567 0.03267 0.03267 0.03267 0.03267  
0.032 0.031  
SO BACKGRND MHRDOW7 0.03967 0.04033 0.04133 0.042 0.04167 0.03967 0.04 0.03833 0.03933 0.04 0.043  
0.045  
SO BACKGRND MHRDOW7 0.04633 0.04833 0.04933 0.049 0.04867 0.04667 0.04233 0.041 0.042 0.043 0.03967  
0.04033  
SO BACKGRND MHRDOW7 0.04133 0.04333 0.04233 0.04433 0.04167 0.04167 0.039 0.03833 0.03933 0.042  
0.04533 0.04767  
SO BACKGRND MHRDOW7 0.049 0.05133 0.053 0.053 0.05267 0.05067 0.047 0.04267 0.04233 0.03867 0.035  
0.03633  
SO BACKGRND MHRDOW7 0.041 0.04333 0.043 0.04533 0.046 0.04567 0.044 0.04467 0.04733 0.04967 0.051  
0.053  
SO BACKGRND MHRDOW7 0.05467 0.056 0.05667 0.059 0.06133 0.061 0.06067 0.05767 0.058 0.05633 0.05067  
0.047  
SO BACKGRND MHRDOW7 0.046 0.047 0.04667 0.046 0.04433 0.043 0.04367 0.04433 0.046 0.05067 0.05433  
0.05667  
SO BACKGRND MHRDOW7 0.05833 0.05933 0.06033 0.063 0.06267 0.05933 0.05767 0.058 0.056 0.05367 0.04967  
0.05067  
SO BACKGRND MHRDOW7 0.04733 0.04567 0.04533 0.04433 0.04533 0.044 0.04233 0.045 0.04833 0.051 0.05867  
0.06467  
SO BACKGRND MHRDOW7 0.068 0.061 0.06 0.06033 0.058 0.05967 0.05833 0.055 0.04733 0.04867 0.04767 0.049  
SO BACKGRND MHRDOW7 0.044 0.04333 0.04233 0.04167 0.04033 0.04 0.03933 0.041 0.04533 0.05233 0.05867  
0.06333  
SO BACKGRND MHRDOW7 0.06567 0.06433 0.06767 0.06667 0.06633 0.06733 0.06167 0.05233 0.047 0.04533  
0.04933 0.04533  
SO BACKGRND MHRDOW7 0.04833 0.046 0.04667 0.04567 0.04367 0.043 0.041 0.04067 0.04333 0.049 0.055  
0.06067  
SO BACKGRND MHRDOW7 0.06667 0.069 0.069 0.072 0.07033 0.06767 0.065 0.061 0.05967 0.057 0.051 0.05333  
SO BACKGRND MHRDOW7 0.04467 0.044 0.042 0.04033 0.04067 0.04033 0.039 0.03867 0.04367 0.04533 0.04967  
0.05467  
SO BACKGRND MHRDOW7 0.05867 0.06267 0.064 0.06467 0.063 0.06067 0.058 0.05 0.048 0.04933 0.05067  
0.04767  
SO BACKGRND MHRDOW7 0.04367 0.04233 0.045 0.03867 0.03633 0.03467 0.03667 0.03633 0.03733 0.03833  
0.04233 0.048  
SO BACKGRND MHRDOW7 0.05133 0.055 0.05567 0.05667 0.05333 0.04933 0.046 0.03533 0.03733 0.03933  
0.03933 0.03767  
SO BACKGRND MHRDOW7 0.033 0.03333 0.03833 0.036 0.03133 0.032 0.02767 0.02733 0.02933 0.03133 0.03567  
0.03733  
SO BACKGRND MHRDOW7 0.03867 0.041 0.04233 0.04267 0.04167 0.03833 0.03233 0.02367 0.02233 0.025 0.024  
0.024  
SO BACKGRND MHRDOW7 0.03633 0.03767 0.03567 0.038 0.04 0.03867 0.038 0.035 0.03667 0.03767 0.036  
0.03767  
SO BACKGRND MHRDOW7 0.03867 0.04 0.041 0.04 0.039 0.03633 0.03367 0.03467 0.03667 0.03467 0.03467  
0.03633

Providence Engineering and  
 Environmental Group, LLC  
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 info@oris-solutions.com

CurrentPollutant: NO2 (42602)  
 Averaging Period: Maximum Daily 1-Hour  
 Concentration units: PPB

Site: 5010  
 County: Utah (49)  
 State: Utah (49)

Summary 2019	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Number of Days	90	91	92	92
Number of Observations	90	90	92	92
Scheduled Frequency	1	1	1	1
Scheduled Observations	90	91	92	92
Completeness %	100.00	98.90	100.00	100.00
Acceptability	Valid	Valid	Valid	Valid
Maximum of Quarter	41.0	20.9	21.6	47.1

Summary 2020	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Number of Days	91	91	92	92
Number of Observations	91	91	92	92
Scheduled Frequency	1	1	1	1
Scheduled Observations	91	91	92	92
Completeness %	100.00	100.00	100.00	100.00
Acceptability	Valid	Valid	Valid	Valid
Maximum of Quarter	43.6	36.3	42.4	42.4

Summary 2021	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Number of Days	90	91	92	92
Number of Observations	90	91	92	91
Scheduled Frequency	1	1	1	1
Scheduled Observations	90	91	92	92
Completeness %	100.00	100.00	100.00	98.91
Acceptability	Valid	Valid	Valid	Valid
Maximum of Quarter	39.9	25.5	26.3	39.5

Summary 2019-2021				
Maximum of All Quarters	43.6	36.3	42.4	47.1

Year: 2019

Day of

Quarter	Season	Month	Week	Day	jDay	Observations	Max Daily
1st	Winter	January	Tuesday	1	1	24	19.6

1st	Winter	January	Wednesday	2	2	24	31.8
1st	Winter	January	Thursday	3	3	24	38.4
1st	Winter	January	Friday	4	4	23	41.0
1st	Winter	January	Saturday	5	5	24	37.5
1st	Winter	January	Sunday	6	6	23	22.0
1st	Winter	January	Monday	7	7	24	28.1
1st	Winter	January	Tuesday	8	8	24	28.6
1st	Winter	January	Wednesday	9	9	24	22.3
1st	Winter	January	Thursday	10	10	24	36.8
1st	Winter	January	Friday	11	11	23	26.5
1st	Winter	January	Saturday	12	12	24	23.1
1st	Winter	January	Sunday	13	13	23	17.7
1st	Winter	January	Monday	14	14	24	36.3
1st	Winter	January	Tuesday	15	15	24	36.0
1st	Winter	January	Wednesday	16	16	24	34.3
1st	Winter	January	Thursday	17	17	24	16.1
1st	Winter	January	Friday	18	18	23	23.4
1st	Winter	January	Saturday	19	19	24	14.1
1st	Winter	January	Sunday	20	20	23	17.8
1st	Winter	January	Monday	21	21	24	10.7
1st	Winter	January	Tuesday	22	22	24	25.0
1st	Winter	January	Wednesday	23	23	24	32.2
1st	Winter	January	Thursday	24	24	24	37.1
1st	Winter	January	Friday	25	25	23	36.0
1st	Winter	January	Saturday	26	26	24	25.8
1st	Winter	January	Sunday	27	27	23	34.4
1st	Winter	January	Monday	28	28	24	33.3
1st	Winter	January	Tuesday	29	29	24	29.3
1st	Winter	January	Wednesday	30	30	24	29.8
1st	Winter	January	Thursday	31	31	24	35.1
1st	Winter	February	Friday	1	32	23	14.9
1st	Winter	February	Saturday	2	33	24	10.2
1st	Winter	February	Sunday	3	34	23	2.9
1st	Winter	February	Monday	4	35	24	9.6
1st	Winter	February	Tuesday	5	36	24	7.7
1st	Winter	February	Wednesday	6	37	24	5.6
1st	Winter	February	Thursday	7	38	24	12.8
1st	Winter	February	Friday	8	39	23	26.2
1st	Winter	February	Saturday	9	40	24	7.7
1st	Winter	February	Sunday	10	41	23	6.0
1st	Winter	February	Monday	11	42	24	18.4
1st	Winter	February	Tuesday	12	43	24	21.3
1st	Winter	February	Wednesday	13	44	24	21.3
1st	Winter	February	Thursday	14	45	24	28.9
1st	Winter	February	Friday	15	46	23	15.5
1st	Winter	February	Saturday	16	47	24	9.2
1st	Winter	February	Sunday	17	48	23	6.3
1st	Winter	February	Monday	18	49	24	25.8
1st	Winter	February	Tuesday	19	50	24	10.1
1st	Winter	February	Wednesday	20	51	24	13.7
1st	Winter	February	Thursday	21	52	24	9.0
1st	Winter	February	Friday	22	53	21	12.9
1st	Winter	February	Saturday	23	54	24	17.6
1st	Winter	February	Sunday	24	55	23	17.9

1st	Winter	February	Monday	25	56	24	18.0
1st	Winter	February	Tuesday	26	57	24	14.0
1st	Winter	February	Wednesday	27	58	24	14.6
1st	Winter	February	Thursday	28	59	24	14.9
1st	Spring	March	Friday	1	60	23	8.8
1st	Spring	March	Saturday	2	61	24	9.8
1st	Spring	March	Sunday	3	62	23	14.0
1st	Spring	March	Monday	4	63	24	10.6
1st	Spring	March	Tuesday	5	64	24	10.7
1st	Spring	March	Wednesday	6	65	24	10.8
1st	Spring	March	Thursday	7	66	24	16.2
1st	Spring	March	Friday	8	67	23	24.0
1st	Spring	March	Saturday	9	68	24	12.5
1st	Spring	March	Sunday	10	69	23	7.9
1st	Spring	March	Monday	11	70	24	32.4
1st	Spring	March	Tuesday	12	71	24	24.4
1st	Spring	March	Wednesday	13	72	24	4.7
1st	Spring	March	Thursday	14	73	24	14.3
1st	Spring	March	Friday	15	74	23	16.8
1st	Spring	March	Saturday	16	75	24	15.7
1st	Spring	March	Sunday	17	76	23	19.5
1st	Spring	March	Monday	18	77	24	22.9
1st	Spring	March	Tuesday	19	78	24	18.1
1st	Spring	March	Wednesday	20	79	24	5.5
1st	Spring	March	Thursday	21	80	24	7.0
1st	Spring	March	Friday	22	81	23	10.1
1st	Spring	March	Saturday	23	82	24	14.6
1st	Spring	March	Sunday	24	83	23	23.4
1st	Spring	March	Monday	25	84	24	10.9
1st	Spring	March	Tuesday	26	85	24	15.1
1st	Spring	March	Wednesday	27	86	24	18.9
1st	Spring	March	Thursday	28	87	24	14.8
1st	Spring	March	Friday	29	88	23	12.1
1st	Spring	March	Saturday	30	89	24	9.8
1st	Spring	March	Sunday	31	90	23	12.3
2nd	Spring	April	Monday	1	91	24	17.1
2nd	Spring	April	Tuesday	2	92	24	9.9
2nd	Spring	April	Wednesday	3	93	24	17.4
2nd	Spring	April	Thursday	4	94	24	12.4
2nd	Spring	April	Friday	5	95	23	14.3
2nd	Spring	April	Saturday	6	96	24	16.0
2nd	Spring	April	Sunday	7	97	23	11.2
2nd	Spring	April	Monday	8	98	24	15.0
2nd	Spring	April	Tuesday	9	99	24	11.8
2nd	Spring	April	Wednesday	10	100	24	4.2
2nd	Spring	April	Thursday	11	101	24	6.9
2nd	Spring	April	Friday	12	102	23	11.4
2nd	Spring	April	Saturday	13	103	24	13.3
2nd	Spring	April	Sunday	14	104	23	17.0
2nd	Spring	April	Monday	15	105	24	16.3
2nd	Spring	April	Tuesday	16	106	24	20.5
2nd	Spring	April	Wednesday	17	107	24	11.7
2nd	Spring	April	Thursday	18	108	24	13.5
2nd	Spring	April	Friday	19	109	23	10.9

2nd	Spring	April	Saturday	20	110	24	7.6
2nd	Spring	April	Sunday	21	111	23	5.3
2nd	Spring	April	Monday	22	112	24	13.4
2nd	Spring	April	Tuesday	23	113	24	20.9
2nd	Spring	April	Wednesday	24	114	24	11.4
2nd	Spring	April	Thursday	25	115	24	13.5
2nd	Spring	April	Friday	26	116	23	10.6
2nd	Spring	April	Saturday	27	117	24	14.2
2nd	Spring	April	Sunday	28	118	23	8.9
2nd	Spring	April	Monday	29	119	24	10.9
2nd	Spring	April	Tuesday	30	120	24	6.4
2nd	Spring	May	Wednesday	1	121	24	13.6
2nd	Spring	May	Thursday	2	122	24	13.1
2nd	Spring	May	Friday	3	123	23	8.8
2nd	Spring	May	Saturday	4	124	24	8.4
2nd	Spring	May	Sunday	5	125	23	7.0
2nd	Spring	May	Monday	6	126	24	7.6
2nd	Spring	May	Tuesday	7	127	24	9.3
2nd	Spring	May	Wednesday	8	128	22	13.2
2nd	Spring	May	Thursday	9	129	24	7.8
2nd	Spring	May	Friday	10	130	23	9.1
2nd	Spring	May	Saturday	11	131	24	8.8
2nd	Spring	May	Sunday	12	132	23	12.6
2nd	Spring	May	Monday	13	133	23	9.7
2nd	Spring	May	Tuesday	14	134	24	10.9
2nd	Spring	May	Wednesday	15	135	24	10.6
2nd	Spring	May	Thursday	16	136	24	14.1
2nd	Spring	May	Friday	17	137	23	5.6
2nd	Spring	May	Saturday	18	138	24	4.9
2nd	Spring	May	Sunday	19	139	22	5.4
2nd	Spring	May	Monday	20	140	24	14.3
2nd	Spring	May	Tuesday	21	141	24	10.0
2nd	Spring	May	Wednesday	22	142	24	9.7
2nd	Spring	May	Thursday	23	143	24	8.6
2nd	Spring	May	Friday	24	144	23	10.4
2nd	Spring	May	Saturday	25	145	24	5.6
2nd	Spring	May	Sunday	26	146	23	4.1
2nd	Spring	May	Monday	27	147	24	3.3
2nd	Spring	May	Tuesday	28	148	24	7.5
2nd	Spring	May	Wednesday	29	149	24	9.1
2nd	Spring	May	Thursday	30	150	24	7.4
2nd	Spring	May	Friday	31	151	23	10.5
2nd	Summer	June	Saturday	1	152	24	9.6
2nd	Summer	June	Sunday	2	153	23	8.2
2nd	Summer	June	Monday	3	154	24	15.4
2nd	Summer	June	Tuesday	4	155	24	9.0
2nd	Summer	June	Wednesday	5	156	24	12.1
2nd	Summer	June	Thursday	6	157	24	10.2
2nd	Summer	June	Friday	7	158	23	10.8
2nd	Summer	June	Saturday	8	159	24	4.6
2nd	Summer	June	Sunday	9	160	23	7.2
2nd	Summer	June	Monday	10	161	24	11.3
2nd	Summer	June	Tuesday	11	162	24	12.8
2nd	Summer	June	Wednesday	12	163	24	10.9



2nd	Summer	June	Thursday	13	164	24	7.7
2nd	Summer	June	Friday	14	165	23	10.6
2nd	Summer	June	Saturday	15	166	24	6.3
2nd	Summer	June	Sunday	16	167	23	12.7
2nd	Summer	June	Monday	17	168	16	14.5
2nd	Summer	June	Tuesday	18	169	24	14.5
2nd	Summer	June	Wednesday	19	170	24	16.0
2nd	Summer	June	Thursday	20	171	24	20.3
2nd	Summer	June	Friday	21	172	23	8.2
2nd	Summer	June	Saturday	22	173	24	6.7
2nd	Summer	June	Sunday	23	174	23	6.2
2nd	Summer	June	Monday	24	175	24	9.2
2nd	Summer	June	Tuesday	25	176	24	12.9
2nd	Summer	June	Wednesday	26	177	24	19.0
2nd	Summer	June	Thursday	27	178	24	18.2
2nd	Summer	June	Friday	28	179	23	11.3
2nd	Summer	June	Saturday	29	180	24	7.9
2nd	Summer	June	Sunday	30	181	23	8.1
3rd	Summer	July	Monday	1	182	24	6.8
3rd	Summer	July	Tuesday	2	183	24	9.3
3rd	Summer	July	Wednesday	3	184	24	14.7
3rd	Summer	July	Thursday	4	185	24	7.6
3rd	Summer	July	Friday	5	186	23	9.0
3rd	Summer	July	Saturday	6	187	24	6.1
3rd	Summer	July	Sunday	7	188	23	7.1
3rd	Summer	July	Monday	8	189	23	10.0
3rd	Summer	July	Tuesday	9	190	24	17.5
3rd	Summer	July	Wednesday	10	191	24	9.7
3rd	Summer	July	Thursday	11	192	24	10.7
3rd	Summer	July	Friday	12	193	23	7.7
3rd	Summer	July	Saturday	13	194	24	8.9
3rd	Summer	July	Sunday	14	195	23	13.7
3rd	Summer	July	Monday	15	196	24	12.5
3rd	Summer	July	Tuesday	16	197	24	12.7
3rd	Summer	July	Wednesday	17	198	24	15.5
3rd	Summer	July	Thursday	18	199	24	16.7
3rd	Summer	July	Friday	19	200	23	12.5
3rd	Summer	July	Saturday	20	201	24	11.2
3rd	Summer	July	Sunday	21	202	23	6.4
3rd	Summer	July	Monday	22	203	24	8.0
3rd	Summer	July	Tuesday	23	204	24	8.5
3rd	Summer	July	Wednesday	24	205	24	9.9
3rd	Summer	July	Thursday	25	206	24	10.1
3rd	Summer	July	Friday	26	207	23	10.9
3rd	Summer	July	Saturday	27	208	24	11.6
3rd	Summer	July	Sunday	28	209	23	6.9
3rd	Summer	July	Monday	29	210	24	11.3
3rd	Summer	July	Tuesday	30	211	24	11.8
3rd	Summer	July	Wednesday	31	212	24	12.6
3rd	Summer	August	Thursday	1	213	24	12.7
3rd	Summer	August	Friday	2	214	23	9.9
3rd	Summer	August	Saturday	3	215	24	7.9
3rd	Summer	August	Sunday	4	216	23	7.2
3rd	Summer	August	Monday	5	217	24	7.9

3rd	Summer	August	Tuesday	6	218	24	9.9
3rd	Summer	August	Wednesday	7	219	24	16.3
3rd	Summer	August	Thursday	8	220	24	11.7
3rd	Summer	August	Friday	9	221	23	9.4
3rd	Summer	August	Saturday	10	222	24	8.9
3rd	Summer	August	Sunday	11	223	23	13.4
3rd	Summer	August	Monday	12	224	24	18.5
3rd	Summer	August	Tuesday	13	225	24	12.3
3rd	Summer	August	Wednesday	14	226	23	14.5
3rd	Summer	August	Thursday	15	227	24	10.5
3rd	Summer	August	Friday	16	228	23	18.0
3rd	Summer	August	Saturday	17	229	24	9.8
3rd	Summer	August	Sunday	18	230	23	8.9
3rd	Summer	August	Monday	19	231	24	15.0
3rd	Summer	August	Tuesday	20	232	24	9.3
3rd	Summer	August	Wednesday	21	233	24	14.2
3rd	Summer	August	Thursday	22	234	24	10.1
3rd	Summer	August	Friday	23	235	23	20.0
3rd	Summer	August	Saturday	24	236	24	12.2
3rd	Summer	August	Sunday	25	237	23	9.3
3rd	Summer	August	Monday	26	238	24	14.1
3rd	Summer	August	Tuesday	27	239	24	14.3
3rd	Summer	August	Wednesday	28	240	24	11.0
3rd	Summer	August	Thursday	29	241	24	11.6
3rd	Summer	August	Friday	30	242	23	10.4
3rd	Summer	August	Saturday	31	243	24	6.9
3rd	Fall	September	Sunday	1	244	23	7.8
3rd	Fall	September	Monday	2	245	24	10.9
3rd	Fall	September	Tuesday	3	246	24	15.8
3rd	Fall	September	Wednesday	4	247	24	11.1
3rd	Fall	September	Thursday	5	248	24	13.0
3rd	Fall	September	Friday	6	249	23	14.9
3rd	Fall	September	Saturday	7	250	24	12.5
3rd	Fall	September	Sunday	8	251	23	5.5
3rd	Fall	September	Monday	9	252	24	12.8
3rd	Fall	September	Tuesday	10	253	24	16.1
3rd	Fall	September	Wednesday	11	254	24	9.4
3rd	Fall	September	Thursday	12	255	24	10.0
3rd	Fall	September	Friday	13	256	23	10.1
3rd	Fall	September	Saturday	14	257	24	11.8
3rd	Fall	September	Sunday	15	258	23	11.3
3rd	Fall	September	Monday	16	259	24	12.2
3rd	Fall	September	Tuesday	17	260	24	11.8
3rd	Fall	September	Wednesday	18	261	24	19.2
3rd	Fall	September	Thursday	19	262	24	12.6
3rd	Fall	September	Friday	20	263	23	9.8
3rd	Fall	September	Saturday	21	264	24	17.3
3rd	Fall	September	Sunday	22	265	23	10.4
3rd	Fall	September	Monday	23	266	24	14.4
3rd	Fall	September	Tuesday	24	267	24	17.7
3rd	Fall	September	Wednesday	25	268	24	19.4
3rd	Fall	September	Thursday	26	269	24	16.4
3rd	Fall	September	Friday	27	270	23	21.6
3rd	Fall	September	Saturday	28	271	24	10.7

3rd	Fall	September	Sunday	29	272	23	7.2
3rd	Fall	September	Monday	30	273	24	13.6
4th	Fall	October	Tuesday	1	274	24	17.3
4th	Fall	October	Wednesday	2	275	24	24.4
4th	Fall	October	Thursday	3	276	24	28.0
4th	Fall	October	Friday	4	277	23	22.1
4th	Fall	October	Saturday	5	278	24	8.5
4th	Fall	October	Sunday	6	279	23	12.1
4th	Fall	October	Monday	7	280	24	32.1
4th	Fall	October	Tuesday	8	281	24	24.7
4th	Fall	October	Wednesday	9	282	24	34.0
4th	Fall	October	Thursday	10	283	24	16.3
4th	Fall	October	Friday	11	284	23	17.4
4th	Fall	October	Saturday	12	285	24	28.8
4th	Fall	October	Sunday	13	286	23	27.4
4th	Fall	October	Monday	14	287	24	19.1
4th	Fall	October	Tuesday	15	288	24	40.0
4th	Fall	October	Wednesday	16	289	24	23.9
4th	Fall	October	Thursday	17	290	24	11.5
4th	Fall	October	Friday	18	291	23	26.7
4th	Fall	October	Saturday	19	292	24	9.0
4th	Fall	October	Sunday	20	293	23	15.4
4th	Fall	October	Monday	21	294	24	33.1
4th	Fall	October	Tuesday	22	295	24	30.8
4th	Fall	October	Wednesday	23	296	20	27.5
4th	Fall	October	Thursday	24	297	24	28.0
4th	Fall	October	Friday	25	298	23	41.2
4th	Fall	October	Saturday	26	299	24	10.8
4th	Fall	October	Sunday	27	300	23	8.0
4th	Fall	October	Monday	28	301	24	27.9
4th	Fall	October	Tuesday	29	302	24	7.2
4th	Fall	October	Wednesday	30	303	24	18.7
4th	Fall	October	Thursday	31	304	24	35.6
4th	Fall	November	Friday	1	305	23	35.0
4th	Fall	November	Saturday	2	306	24	28.8
4th	Fall	November	Sunday	3	307	23	43.0
4th	Fall	November	Monday	4	308	24	33.2
4th	Fall	November	Tuesday	5	309	24	38.9
4th	Fall	November	Wednesday	6	310	24	38.2
4th	Fall	November	Thursday	7	311	24	45.1
4th	Fall	November	Friday	8	312	23	41.9
4th	Fall	November	Saturday	9	313	24	32.6
4th	Fall	November	Sunday	10	314	23	37.9
4th	Fall	November	Monday	11	315	24	33.4
4th	Fall	November	Tuesday	12	316	24	44.5
4th	Fall	November	Wednesday	13	317	24	28.9
4th	Fall	November	Thursday	14	318	24	42.9
4th	Fall	November	Friday	15	319	23	34.1
4th	Fall	November	Saturday	16	320	24	19.3
4th	Fall	November	Sunday	17	321	23	36.8
4th	Fall	November	Monday	18	322	24	45.1
4th	Fall	November	Tuesday	19	323	24	47.1
4th	Fall	November	Wednesday	20	324	24	15.1
4th	Fall	November	Thursday	21	325	24	19.4

4th	Fall	November	Friday	22	326	23	19.7
4th	Fall	November	Saturday	23	327	24	20.5
4th	Fall	November	Sunday	24	328	23	27.1
4th	Fall	November	Monday	25	329	24	21.7
4th	Fall	November	Tuesday	26	330	24	23.3
4th	Fall	November	Wednesday	27	331	24	7.7
4th	Fall	November	Thursday	28	332	24	19.6
4th	Fall	November	Friday	29	333	23	16.5
4th	Fall	November	Saturday	30	334	24	26.2
4th	Winter	December	Sunday	1	335	23	8.2
4th	Winter	December	Monday	2	336	24	39.5
4th	Winter	December	Tuesday	3	337	24	38.8
4th	Winter	December	Wednesday	4	338	24	45.0
4th	Winter	December	Thursday	5	339	24	40.0
4th	Winter	December	Friday	6	340	23	25.6
4th	Winter	December	Saturday	7	341	24	17.5
4th	Winter	December	Sunday	8	342	23	27.1
4th	Winter	December	Monday	9	343	24	18.5
4th	Winter	December	Tuesday	10	344	23	29.6
4th	Winter	December	Wednesday	11	345	18	30.2
4th	Winter	December	Thursday	12	346	24	32.4
4th	Winter	December	Friday	13	347	23	25.0
4th	Winter	December	Saturday	14	348	24	22.5
4th	Winter	December	Sunday	15	349	23	7.6
4th	Winter	December	Monday	16	350	24	18.9
4th	Winter	December	Tuesday	17	351	24	31.2
4th	Winter	December	Wednesday	18	352	24	32.2
4th	Winter	December	Thursday	19	353	24	36.3
4th	Winter	December	Friday	20	354	23	36.4
4th	Winter	December	Saturday	21	355	24	19.5
4th	Winter	December	Sunday	22	356	23	5.2
4th	Winter	December	Monday	23	357	24	12.8
4th	Winter	December	Tuesday	24	358	24	7.5
4th	Winter	December	Wednesday	25	359	24	20.9
4th	Winter	December	Thursday	26	360	24	16.8
4th	Winter	December	Friday	27	361	23	24.5
4th	Winter	December	Saturday	28	362	24	13.5
4th	Winter	December	Sunday	29	363	23	12.8
4th	Winter	December	Monday	30	364	24	13.1
4th	Winter	December	Tuesday	31	365	24	30.5

Year: 2020

Day of

Quarter	Season	Month	Week	Day	jDay	Observations	Max Daily
1st	Winter	January	Wednesday	1	1	24	15.2
1st	Winter	January	Thursday	2	2	24	21.9
1st	Winter	January	Friday	3	3	23	32.1
1st	Winter	January	Saturday	4	4	24	33.3
1st	Winter	January	Sunday	5	5	23	27.7
1st	Winter	January	Monday	6	6	24	34.2
1st	Winter	January	Tuesday	7	7	24	12.4
1st	Winter	January	Wednesday	8	8	23	25.0
1st	Winter	January	Thursday	9	9	24	23.8
1st	Winter	January	Friday	10	10	23	19.8

1st	Winter	January	Saturday	11	11	24	10.4
1st	Winter	January	Sunday	12	12	23	16.0
1st	Winter	January	Monday	13	13	24	36.8
1st	Winter	January	Tuesday	14	14	24	14.4
1st	Winter	January	Wednesday	15	15	24	16.7
1st	Winter	January	Thursday	16	16	24	8.0
1st	Winter	January	Friday	17	17	23	21.2
1st	Winter	January	Saturday	18	18	24	21.2
1st	Winter	January	Sunday	19	19	23	35.9
1st	Winter	January	Monday	20	20	24	31.8
1st	Winter	January	Tuesday	21	21	24	28.9
1st	Winter	January	Wednesday	22	22	24	27.6
1st	Winter	January	Thursday	23	23	24	30.9
1st	Winter	January	Friday	24	24	23	28.4
1st	Winter	January	Saturday	25	25	24	22.3
1st	Winter	January	Sunday	26	26	23	13.3
1st	Winter	January	Monday	27	27	24	27.9
1st	Winter	January	Tuesday	28	28	24	27.9
1st	Winter	January	Wednesday	29	29	24	14.2
1st	Winter	January	Thursday	30	30	24	29.3
1st	Winter	January	Friday	31	31	23	22.9
1st	Winter	February	Saturday	1	32	24	17.0
1st	Winter	February	Sunday	2	33	23	8.7
1st	Winter	February	Monday	3	34	24	13.6
1st	Winter	February	Tuesday	4	35	24	15.1
1st	Winter	February	Wednesday	5	36	24	29.3
1st	Winter	February	Thursday	6	37	24	32.9
1st	Winter	February	Friday	7	38	23	34.3
1st	Winter	February	Saturday	8	39	24	30.3
1st	Winter	February	Sunday	9	40	23	16.0
1st	Winter	February	Monday	10	41	24	23.0
1st	Winter	February	Tuesday	11	42	24	23.9
1st	Winter	February	Wednesday	12	43	24	29.3
1st	Winter	February	Thursday	13	44	24	30.8
1st	Winter	February	Friday	14	45	18	13.0
1st	Winter	February	Saturday	15	46	24	24.9
1st	Winter	February	Sunday	16	47	23	29.3
1st	Winter	February	Monday	17	48	24	17.8
1st	Winter	February	Tuesday	18	49	24	23.8
1st	Winter	February	Wednesday	19	50	24	27.9
1st	Winter	February	Thursday	20	51	24	39.4
1st	Winter	February	Friday	21	52	23	43.6
1st	Winter	February	Saturday	22	53	24	37.2
1st	Winter	February	Sunday	23	54	23	25.4
1st	Winter	February	Monday	24	55	24	12.6
1st	Winter	February	Tuesday	25	56	24	36.7
1st	Winter	February	Wednesday	26	57	24	29.4
1st	Winter	February	Thursday	27	58	24	32.0
1st	Winter	February	Friday	28	59	23	36.6
1st	Winter	February	Saturday	29	60	24	14.4
1st	Spring	March	Sunday	1	61	23	14.8
1st	Spring	March	Monday	2	62	24	24.9
1st	Spring	March	Tuesday	3	63	24	31.5
1st	Spring	March	Wednesday	4	64	24	29.8

1st	Spring	March	Thursday	5	65	24	16.2
1st	Spring	March	Friday	6	66	23	13.2
1st	Spring	March	Saturday	7	67	24	11.2
1st	Spring	March	Sunday	8	68	23	17.0
1st	Spring	March	Monday	9	69	24	19.6
1st	Spring	March	Tuesday	10	70	24	25.2
1st	Spring	March	Wednesday	11	71	24	22.8
1st	Spring	March	Thursday	12	72	24	21.1
1st	Spring	March	Friday	13	73	23	25.8
1st	Spring	March	Saturday	14	74	24	8.1
1st	Spring	March	Sunday	15	75	23	8.6
1st	Spring	March	Monday	16	76	24	18.8
1st	Spring	March	Tuesday	17	77	24	15.6
1st	Spring	March	Wednesday	18	78	24	7.2
1st	Spring	March	Thursday	19	79	24	14.2
1st	Spring	March	Friday	20	80	23	22.2
1st	Spring	March	Saturday	21	81	24	12.0
1st	Spring	March	Sunday	22	82	23	11.7
1st	Spring	March	Monday	23	83	24	9.6
1st	Spring	March	Tuesday	24	84	24	15.7
1st	Spring	March	Wednesday	25	85	24	20.1
1st	Spring	March	Thursday	26	86	24	18.0
1st	Spring	March	Friday	27	87	23	28.8
1st	Spring	March	Saturday	28	88	24	9.8
1st	Spring	March	Sunday	29	89	23	4.5
1st	Spring	March	Monday	30	90	24	19.2
1st	Spring	March	Tuesday	31	91	24	7.3
2nd	Spring	April	Wednesday	1	92	24	4.6
2nd	Spring	April	Thursday	2	93	24	8.6
2nd	Spring	April	Friday	3	94	23	9.9
2nd	Spring	April	Saturday	4	95	24	7.4
2nd	Spring	April	Sunday	5	96	23	6.9
2nd	Spring	April	Monday	6	97	24	14.7
2nd	Spring	April	Tuesday	7	98	24	11.0
2nd	Spring	April	Wednesday	8	99	24	12.1
2nd	Spring	April	Thursday	9	100	24	22.2
2nd	Spring	April	Friday	10	101	23	9.1
2nd	Spring	April	Saturday	11	102	24	6.5
2nd	Spring	April	Sunday	12	103	23	14.7
2nd	Spring	April	Monday	13	104	24	22.7
2nd	Spring	April	Tuesday	14	105	24	16.5
2nd	Spring	April	Wednesday	15	106	24	29.9
2nd	Spring	April	Thursday	16	107	24	9.1
2nd	Spring	April	Friday	17	108	23	9.5
2nd	Spring	April	Saturday	18	109	24	16.5
2nd	Spring	April	Sunday	19	110	23	7.0
2nd	Spring	April	Monday	20	111	24	8.2
2nd	Spring	April	Tuesday	21	112	24	12.6
2nd	Spring	April	Wednesday	22	113	24	19.6
2nd	Spring	April	Thursday	23	114	24	11.1
2nd	Spring	April	Friday	24	115	23	28.7
2nd	Spring	April	Saturday	25	116	24	9.0
2nd	Spring	April	Sunday	26	117	23	8.2
2nd	Spring	April	Monday	27	118	24	11.2

2nd	Spring	April	Tuesday	28	119	24	17.1
2nd	Spring	April	Wednesday	29	120	24	16.7
2nd	Spring	April	Thursday	30	121	24	14.8
2nd	Spring	May	Friday	1	122	23	11.7
2nd	Spring	May	Saturday	2	123	24	10.0
2nd	Spring	May	Sunday	3	124	23	4.6
2nd	Spring	May	Monday	4	125	24	18.7
2nd	Spring	May	Tuesday	5	126	24	10.1
2nd	Spring	May	Wednesday	6	127	24	8.4
2nd	Spring	May	Thursday	7	128	24	9.9
2nd	Spring	May	Friday	8	129	23	11.2
2nd	Spring	May	Saturday	9	130	24	10.4
2nd	Spring	May	Sunday	10	131	23	6.9
2nd	Spring	May	Monday	11	132	24	9.8
2nd	Spring	May	Tuesday	12	133	24	16.2
2nd	Spring	May	Wednesday	13	134	24	10.3
2nd	Spring	May	Thursday	14	135	24	18.0
2nd	Spring	May	Friday	15	136	23	11.9
2nd	Spring	May	Saturday	16	137	24	10.3
2nd	Spring	May	Sunday	17	138	23	11.4
2nd	Spring	May	Monday	18	139	24	14.1
2nd	Spring	May	Tuesday	19	140	24	14.5
2nd	Spring	May	Wednesday	20	141	24	10.8
2nd	Spring	May	Thursday	21	142	24	19.4
2nd	Spring	May	Friday	22	143	23	10.4
2nd	Spring	May	Saturday	23	144	24	9.6
2nd	Spring	May	Sunday	24	145	23	7.2
2nd	Spring	May	Monday	25	146	24	8.6
2nd	Spring	May	Tuesday	26	147	24	11.6
2nd	Spring	May	Wednesday	27	148	24	11.8
2nd	Spring	May	Thursday	28	149	24	8.4
2nd	Spring	May	Friday	29	150	23	10.4
2nd	Spring	May	Saturday	30	151	24	6.9
2nd	Spring	May	Sunday	31	152	23	4.2
2nd	Summer	June	Monday	1	153	23	10.9
2nd	Summer	June	Tuesday	2	154	24	25.5
2nd	Summer	June	Wednesday	3	155	24	16.6
2nd	Summer	June	Thursday	4	156	24	29.2
2nd	Summer	June	Friday	5	157	23	22.8
2nd	Summer	June	Saturday	6	158	24	33.2
2nd	Summer	June	Sunday	7	159	23	7.4
2nd	Summer	June	Monday	8	160	24	13.1
2nd	Summer	June	Tuesday	9	161	24	36.0
2nd	Summer	June	Wednesday	10	162	24	23.0
2nd	Summer	June	Thursday	11	163	24	36.3
2nd	Summer	June	Friday	12	164	23	16.6
2nd	Summer	June	Saturday	13	165	24	6.8
2nd	Summer	June	Sunday	14	166	23	7.7
2nd	Summer	June	Monday	15	167	24	20.9
2nd	Summer	June	Tuesday	16	168	24	5.8
2nd	Summer	June	Wednesday	17	169	24	8.7
2nd	Summer	June	Thursday	18	170	24	8.8
2nd	Summer	June	Friday	19	171	23	9.4
2nd	Summer	June	Saturday	20	172	24	10.3

2nd	Summer	June	Sunday	21	173	23	8.6
2nd	Summer	June	Monday	22	174	24	12.0
2nd	Summer	June	Tuesday	23	175	18	12.5
2nd	Summer	June	Wednesday	24	176	20	10.7
2nd	Summer	June	Thursday	25	177	22	13.8
2nd	Summer	June	Friday	26	178	23	9.4
2nd	Summer	June	Saturday	27	179	24	8.0
2nd	Summer	June	Sunday	28	180	23	6.9
2nd	Summer	June	Monday	29	181	23	7.9
2nd	Summer	June	Tuesday	30	182	24	14.5
3rd	Summer	July	Wednesday	1	183	24	14.4
3rd	Summer	July	Thursday	2	184	24	9.0
3rd	Summer	July	Friday	3	185	23	9.2
3rd	Summer	July	Saturday	4	186	24	5.0
3rd	Summer	July	Sunday	5	187	23	10.2
3rd	Summer	July	Monday	6	188	24	8.5
3rd	Summer	July	Tuesday	7	189	24	15.8
3rd	Summer	July	Wednesday	8	190	24	11.3
3rd	Summer	July	Thursday	9	191	24	8.7
3rd	Summer	July	Friday	10	192	23	12.0
3rd	Summer	July	Saturday	11	193	24	8.6
3rd	Summer	July	Sunday	12	194	23	13.6
3rd	Summer	July	Monday	13	195	24	13.0
3rd	Summer	July	Tuesday	14	196	24	14.5
3rd	Summer	July	Wednesday	15	197	24	10.0
3rd	Summer	July	Thursday	16	198	24	11.4
3rd	Summer	July	Friday	17	199	23	7.3
3rd	Summer	July	Saturday	18	200	24	6.4
3rd	Summer	July	Sunday	19	201	23	6.2
3rd	Summer	July	Monday	20	202	24	11.1
3rd	Summer	July	Tuesday	21	203	24	10.5
3rd	Summer	July	Wednesday	22	204	24	12.4
3rd	Summer	July	Thursday	23	205	24	7.1
3rd	Summer	July	Friday	24	206	23	6.6
3rd	Summer	July	Saturday	25	207	24	7.5
3rd	Summer	July	Sunday	26	208	23	6.5
3rd	Summer	July	Monday	27	209	24	9.4
3rd	Summer	July	Tuesday	28	210	24	14.9
3rd	Summer	July	Wednesday	29	211	24	13.9
3rd	Summer	July	Thursday	30	212	24	9.9
3rd	Summer	July	Friday	31	213	23	10.3
3rd	Summer	August	Saturday	1	214	24	9.1
3rd	Summer	August	Sunday	2	215	23	6.7
3rd	Summer	August	Monday	3	216	24	13.1
3rd	Summer	August	Tuesday	4	217	24	13.6
3rd	Summer	August	Wednesday	5	218	24	15.9
3rd	Summer	August	Thursday	6	219	24	21.2
3rd	Summer	August	Friday	7	220	23	10.8
3rd	Summer	August	Saturday	8	221	24	13.7
3rd	Summer	August	Sunday	9	222	23	11.2
3rd	Summer	August	Monday	10	223	24	9.8
3rd	Summer	August	Tuesday	11	224	24	10.9
3rd	Summer	August	Wednesday	12	225	24	16.0
3rd	Summer	August	Thursday	13	226	24	10.7



3rd	Summer	August	Friday	14	227	23	12.4
3rd	Summer	August	Saturday	15	228	24	9.9
3rd	Summer	August	Sunday	16	229	23	9.0
3rd	Summer	August	Monday	17	230	24	11.1
3rd	Summer	August	Tuesday	18	231	24	15.4
3rd	Summer	August	Wednesday	19	232	24	19.6
3rd	Summer	August	Thursday	20	233	24	17.8
3rd	Summer	August	Friday	21	234	23	14.0
3rd	Summer	August	Saturday	22	235	24	8.7
3rd	Summer	August	Sunday	23	236	23	6.3
3rd	Summer	August	Monday	24	237	24	13.5
3rd	Summer	August	Tuesday	25	238	24	12.8
3rd	Summer	August	Wednesday	26	239	24	14.8
3rd	Summer	August	Thursday	27	240	24	10.5
3rd	Summer	August	Friday	28	241	23	15.1
3rd	Summer	August	Saturday	29	242	24	10.9
3rd	Summer	August	Sunday	30	243	23	7.7
3rd	Summer	August	Monday	31	244	24	17.1
3rd	Fall	September	Tuesday	1	245	24	15.4
3rd	Fall	September	Wednesday	2	246	24	15.4
3rd	Fall	September	Thursday	3	247	24	19.9
3rd	Fall	September	Friday	4	248	23	16.3
3rd	Fall	September	Saturday	5	249	24	15.6
3rd	Fall	September	Sunday	6	250	23	16.4
3rd	Fall	September	Monday	7	251	24	15.4
3rd	Fall	September	Tuesday	8	252	24	7.6
3rd	Fall	September	Wednesday	9	253	24	12.1
3rd	Fall	September	Thursday	10	254	24	8.5
3rd	Fall	September	Friday	11	255	23	23.2
3rd	Fall	September	Saturday	12	256	24	20.3
3rd	Fall	September	Sunday	13	257	23	17.9
3rd	Fall	September	Monday	14	258	24	20.6
3rd	Fall	September	Tuesday	15	259	24	23.0
3rd	Fall	September	Wednesday	16	260	24	21.9
3rd	Fall	September	Thursday	17	261	24	16.8
3rd	Fall	September	Friday	18	262	23	32.1
3rd	Fall	September	Saturday	19	263	24	12.8
3rd	Fall	September	Sunday	20	264	23	20.4
3rd	Fall	September	Monday	21	265	24	12.7
3rd	Fall	September	Tuesday	22	266	24	21.0
3rd	Fall	September	Wednesday	23	267	24	17.6
3rd	Fall	September	Thursday	24	268	23	32.9
3rd	Fall	September	Friday	25	269	23	42.4
3rd	Fall	September	Saturday	26	270	22	22.7
3rd	Fall	September	Sunday	27	271	23	10.2
3rd	Fall	September	Monday	28	272	24	17.8
3rd	Fall	September	Tuesday	29	273	18	24.5
3rd	Fall	September	Wednesday	30	274	20	27.2
4th	Fall	October	Thursday	1	275	24	30.2
4th	Fall	October	Friday	2	276	23	22.1
4th	Fall	October	Saturday	3	277	24	21.4
4th	Fall	October	Sunday	4	278	23	20.3
4th	Fall	October	Monday	5	279	24	22.4
4th	Fall	October	Tuesday	6	280	24	29.6

4th	Fall	October	Wednesday	7	281	24	22.2
4th	Fall	October	Thursday	8	282	24	31.7
4th	Fall	October	Friday	9	283	23	19.1
4th	Fall	October	Saturday	10	284	24	6.8
4th	Fall	October	Sunday	11	285	23	8.5
4th	Fall	October	Monday	12	286	24	24.4
4th	Fall	October	Tuesday	13	287	24	22.4
4th	Fall	October	Wednesday	14	288	24	28.9
4th	Fall	October	Thursday	15	289	24	26.3
4th	Fall	October	Friday	16	290	23	30.1
4th	Fall	October	Saturday	17	291	24	26.1
4th	Fall	October	Sunday	18	292	23	27.5
4th	Fall	October	Monday	19	293	24	23.8
4th	Fall	October	Tuesday	20	294	24	27.4
4th	Fall	October	Wednesday	21	295	24	32.0
4th	Fall	October	Thursday	22	296	24	12.3
4th	Fall	October	Friday	23	297	23	31.3
4th	Fall	October	Saturday	24	298	24	25.3
4th	Fall	October	Sunday	25	299	23	3.5
4th	Fall	October	Monday	26	300	24	21.9
4th	Fall	October	Tuesday	27	301	24	32.5
4th	Fall	October	Wednesday	28	302	24	33.1
4th	Fall	October	Thursday	29	303	24	30.3
4th	Fall	October	Friday	30	304	23	32.6
4th	Fall	October	Saturday	31	305	24	19.3
4th	Fall	November	Sunday	1	306	23	37.3
4th	Fall	November	Monday	2	307	24	40.1
4th	Fall	November	Tuesday	3	308	24	17.8
4th	Fall	November	Wednesday	4	309	24	36.5
4th	Fall	November	Thursday	5	310	24	21.9
4th	Fall	November	Friday	6	311	23	8.9
4th	Fall	November	Saturday	7	312	24	5.7
4th	Fall	November	Sunday	8	313	23	17.9
4th	Fall	November	Monday	9	314	24	14.1
4th	Fall	November	Tuesday	10	315	24	17.1
4th	Fall	November	Wednesday	11	316	24	14.3
4th	Fall	November	Thursday	12	317	24	32.3
4th	Fall	November	Friday	13	318	23	10.1
4th	Fall	November	Saturday	14	319	24	24.6
4th	Fall	November	Sunday	15	320	23	27.4
4th	Fall	November	Monday	16	321	24	28.0
4th	Fall	November	Tuesday	17	322	24	9.0
4th	Fall	November	Wednesday	18	323	24	25.3
4th	Fall	November	Thursday	19	324	24	26.6
4th	Fall	November	Friday	20	325	23	27.3
4th	Fall	November	Saturday	21	326	24	27.8
4th	Fall	November	Sunday	22	327	23	33.8
4th	Fall	November	Monday	23	328	24	29.9
4th	Fall	November	Tuesday	24	329	24	32.8
4th	Fall	November	Wednesday	25	330	24	29.3
4th	Fall	November	Thursday	26	331	24	14.5
4th	Fall	November	Friday	27	332	23	26.4
4th	Fall	November	Saturday	28	333	24	31.0
4th	Fall	November	Sunday	29	334	23	30.4

4th	Fall	November	Monday	30	335	24	37.5
4th	Winter	December	Tuesday	1	336	24	16.4
4th	Winter	December	Wednesday	2	337	24	25.7
4th	Winter	December	Thursday	3	338	24	35.6
4th	Winter	December	Friday	4	339	23	39.6
4th	Winter	December	Saturday	5	340	24	38.5
4th	Winter	December	Sunday	6	341	23	34.5
4th	Winter	December	Monday	7	342	24	38.0
4th	Winter	December	Tuesday	8	343	24	42.4
4th	Winter	December	Wednesday	9	344	24	41.0
4th	Winter	December	Thursday	10	345	23	38.2
4th	Winter	December	Friday	11	346	23	33.9
4th	Winter	December	Saturday	12	347	24	31.9
4th	Winter	December	Sunday	13	348	23	16.1
4th	Winter	December	Monday	14	349	24	18.7
4th	Winter	December	Tuesday	15	350	24	32.9
4th	Winter	December	Wednesday	16	351	24	32.1
4th	Winter	December	Thursday	17	352	24	18.6
4th	Winter	December	Friday	18	353	23	33.3
4th	Winter	December	Saturday	19	354	24	31.7
4th	Winter	December	Sunday	20	355	23	27.6
4th	Winter	December	Monday	21	356	24	27.3
4th	Winter	December	Tuesday	22	357	24	24.1
4th	Winter	December	Wednesday	23	358	24	25.6
4th	Winter	December	Thursday	24	359	24	29.7
4th	Winter	December	Friday	25	360	23	24.7
4th	Winter	December	Saturday	26	361	24	26.8
4th	Winter	December	Sunday	27	362	23	29.4
4th	Winter	December	Monday	28	363	24	21.7
4th	Winter	December	Tuesday	29	364	24	19.2
4th	Winter	December	Wednesday	30	365	24	22.0
4th	Winter	December	Thursday	31	366	24	19.1

Year: 2021

Day of

Quarter	Season	Month	Week	Day	jDay	Observations	Max Daily
1st	Winter	January	Friday	1	1	23	21.0
1st	Winter	January	Saturday	2	2	24	23.9
1st	Winter	January	Sunday	3	3	23	26.5
1st	Winter	January	Monday	4	4	24	26.4
1st	Winter	January	Tuesday	5	5	24	19.2
1st	Winter	January	Wednesday	6	6	24	33.3
1st	Winter	January	Thursday	7	7	24	33.6
1st	Winter	January	Friday	8	8	23	30.5
1st	Winter	January	Saturday	9	9	24	28.4
1st	Winter	January	Sunday	10	10	23	28.5
1st	Winter	January	Monday	11	11	24	39.2
1st	Winter	January	Tuesday	12	12	24	34.0
1st	Winter	January	Wednesday	13	13	24	30.5
1st	Winter	January	Thursday	14	14	24	39.9
1st	Winter	January	Friday	15	15	23	33.4
1st	Winter	January	Saturday	16	16	24	36.6
1st	Winter	January	Sunday	17	17	23	31.1
1st	Winter	January	Monday	18	18	24	29.1

1st	Winter	January	Tuesday	19	19	24	27.3
1st	Winter	January	Wednesday	20	20	24	34.1
1st	Winter	January	Thursday	21	21	24	29.5
1st	Winter	January	Friday	22	22	23	14.3
1st	Winter	January	Saturday	23	23	24	12.5
1st	Winter	January	Sunday	24	24	23	15.6
1st	Winter	January	Monday	25	25	24	18.8
1st	Winter	January	Tuesday	26	26	24	8.2
1st	Winter	January	Wednesday	27	27	24	14.8
1st	Winter	January	Thursday	28	28	24	6.0
1st	Winter	January	Friday	29	29	23	13.3
1st	Winter	January	Saturday	30	30	24	15.6
1st	Winter	January	Sunday	31	31	23	30.7
1st	Winter	February	Monday	1	32	24	34.5
1st	Winter	February	Tuesday	2	33	24	13.8
1st	Winter	February	Wednesday	3	34	24	10.7
1st	Winter	February	Thursday	4	35	24	27.6
1st	Winter	February	Friday	5	36	23	23.5
1st	Winter	February	Saturday	6	37	24	23.7
1st	Winter	February	Sunday	7	38	23	29.8
1st	Winter	February	Monday	8	39	24	20.8
1st	Winter	February	Tuesday	9	40	24	31.5
1st	Winter	February	Wednesday	10	41	24	30.6
1st	Winter	February	Thursday	11	42	24	32.7
1st	Winter	February	Friday	12	43	23	17.6
1st	Winter	February	Saturday	13	44	24	18.5
1st	Winter	February	Sunday	14	45	23	17.3
1st	Winter	February	Monday	15	46	24	15.1
1st	Winter	February	Tuesday	16	47	24	17.4
1st	Winter	February	Wednesday	17	48	24	21.4
1st	Winter	February	Thursday	18	49	24	20.6
1st	Winter	February	Friday	19	50	23	13.0
1st	Winter	February	Saturday	20	51	24	8.9
1st	Winter	February	Sunday	21	52	23	17.6
1st	Winter	February	Monday	22	53	24	18.7
1st	Winter	February	Tuesday	23	54	24	25.7
1st	Winter	February	Wednesday	24	55	24	23.7
1st	Winter	February	Thursday	25	56	24	18.2
1st	Winter	February	Friday	26	57	23	26.4
1st	Winter	February	Saturday	27	58	24	8.3
1st	Winter	February	Sunday	28	59	23	21.2
1st	Spring	March	Monday	1	60	24	25.8
1st	Spring	March	Tuesday	2	61	19	20.8
1st	Spring	March	Wednesday	3	62	24	20.2
1st	Spring	March	Thursday	4	63	24	18.7
1st	Spring	March	Friday	5	64	23	31.7
1st	Spring	March	Saturday	6	65	24	11.4
1st	Spring	March	Sunday	7	66	23	20.8
1st	Spring	March	Monday	8	67	24	19.7
1st	Spring	March	Tuesday	9	68	24	5.6
1st	Spring	March	Wednesday	10	69	23	23.4
1st	Spring	March	Thursday	11	70	24	15.3
1st	Spring	March	Friday	12	71	23	14.0
1st	Spring	March	Saturday	13	72	24	12.8

1st	Spring	March	Sunday	14	73	23	16.7
1st	Spring	March	Monday	15	74	24	14.0
1st	Spring	March	Tuesday	16	75	24	28.6
1st	Spring	March	Wednesday	17	76	24	21.0
1st	Spring	March	Thursday	18	77	22	19.0
1st	Spring	March	Friday	19	78	23	15.6
1st	Spring	March	Saturday	20	79	24	12.4
1st	Spring	March	Sunday	21	80	23	11.0
1st	Spring	March	Monday	22	81	24	18.4
1st	Spring	March	Tuesday	23	82	24	25.2
1st	Spring	March	Wednesday	24	83	24	25.4
1st	Spring	March	Thursday	25	84	24	14.6
1st	Spring	March	Friday	26	85	23	15.4
1st	Spring	March	Saturday	27	86	24	17.8
1st	Spring	March	Sunday	28	87	23	19.2
1st	Spring	March	Monday	29	88	24	19.1
1st	Spring	March	Tuesday	30	89	24	31.2
1st	Spring	March	Wednesday	31	90	24	13.4
2nd	Spring	April	Thursday	1	91	24	24.4
2nd	Spring	April	Friday	2	92	23	14.1
2nd	Spring	April	Saturday	3	93	24	8.1
2nd	Spring	April	Sunday	4	94	23	15.2
2nd	Spring	April	Monday	5	95	24	16.7
2nd	Spring	April	Tuesday	6	96	24	14.1
2nd	Spring	April	Wednesday	7	97	24	13.0
2nd	Spring	April	Thursday	8	98	24	24.5
2nd	Spring	April	Friday	9	99	23	9.6
2nd	Spring	April	Saturday	10	100	24	22.0
2nd	Spring	April	Sunday	11	101	23	14.2
2nd	Spring	April	Monday	12	102	24	25.1
2nd	Spring	April	Tuesday	13	103	24	10.3
2nd	Spring	April	Wednesday	14	104	24	8.7
2nd	Spring	April	Thursday	15	105	24	15.7
2nd	Spring	April	Friday	16	106	23	18.1
2nd	Spring	April	Saturday	17	107	24	10.3
2nd	Spring	April	Sunday	18	108	23	13.9
2nd	Spring	April	Monday	19	109	24	14.2
2nd	Spring	April	Tuesday	20	110	24	11.4
2nd	Spring	April	Wednesday	21	111	24	12.2
2nd	Spring	April	Thursday	22	112	24	25.5
2nd	Spring	April	Friday	23	113	23	15.4
2nd	Spring	April	Saturday	24	114	24	9.9
2nd	Spring	April	Sunday	25	115	23	11.9
2nd	Spring	April	Monday	26	116	24	9.4
2nd	Spring	April	Tuesday	27	117	24	11.2
2nd	Spring	April	Wednesday	28	118	24	19.5
2nd	Spring	April	Thursday	29	119	24	16.2
2nd	Spring	April	Friday	30	120	23	23.2
2nd	Spring	May	Saturday	1	121	24	7.7
2nd	Spring	May	Sunday	2	122	23	6.9
2nd	Spring	May	Monday	3	123	24	22.9
2nd	Spring	May	Tuesday	4	124	24	15.0
2nd	Spring	May	Wednesday	5	125	24	17.0
2nd	Spring	May	Thursday	6	126	24	13.2

2nd	Spring	May	Friday	7	127	23	13.5
2nd	Spring	May	Saturday	8	128	24	6.3
2nd	Spring	May	Sunday	9	129	23	13.3
2nd	Spring	May	Monday	10	130	24	7.0
2nd	Spring	May	Tuesday	11	131	24	22.8
2nd	Spring	May	Wednesday	12	132	24	13.8
2nd	Spring	May	Thursday	13	133	24	14.9
2nd	Spring	May	Friday	14	134	23	9.4
2nd	Spring	May	Saturday	15	135	24	14.9
2nd	Spring	May	Sunday	16	136	23	9.5
2nd	Spring	May	Monday	17	137	24	17.0
2nd	Spring	May	Tuesday	18	138	24	15.7
2nd	Spring	May	Wednesday	19	139	24	10.8
2nd	Spring	May	Thursday	20	140	24	15.8
2nd	Spring	May	Friday	21	141	23	15.7
2nd	Spring	May	Saturday	22	142	24	5.5
2nd	Spring	May	Sunday	23	143	23	4.7
2nd	Spring	May	Monday	24	144	24	16.4
2nd	Spring	May	Tuesday	25	145	24	7.9
2nd	Spring	May	Wednesday	26	146	24	11.3
2nd	Spring	May	Thursday	27	147	24	10.9
2nd	Spring	May	Friday	28	148	23	10.2
2nd	Spring	May	Saturday	29	149	24	13.7
2nd	Spring	May	Sunday	30	150	23	8.3
2nd	Spring	May	Monday	31	151	24	10.9
2nd	Summer	June	Tuesday	1	152	24	16.8
2nd	Summer	June	Wednesday	2	153	24	10.4
2nd	Summer	June	Thursday	3	154	24	16.7
2nd	Summer	June	Friday	4	155	23	9.3
2nd	Summer	June	Saturday	5	156	24	13.4
2nd	Summer	June	Sunday	6	157	23	8.8
2nd	Summer	June	Monday	7	158	24	17.5
2nd	Summer	June	Tuesday	8	159	24	11.9
2nd	Summer	June	Wednesday	9	160	24	15.8
2nd	Summer	June	Thursday	10	161	24	13.4
2nd	Summer	June	Friday	11	162	23	10.2
2nd	Summer	June	Saturday	12	163	24	12.3
2nd	Summer	June	Sunday	13	164	23	18.1
2nd	Summer	June	Monday	14	165	24	13.3
2nd	Summer	June	Tuesday	15	166	24	14.5
2nd	Summer	June	Wednesday	16	167	24	19.3
2nd	Summer	June	Thursday	17	168	24	13.8
2nd	Summer	June	Friday	18	169	23	22.3
2nd	Summer	June	Saturday	19	170	24	10.1
2nd	Summer	June	Sunday	20	171	23	10.9
2nd	Summer	June	Monday	21	172	24	11.5
2nd	Summer	June	Tuesday	22	173	24	22.8
2nd	Summer	June	Wednesday	23	174	24	10.6
2nd	Summer	June	Thursday	24	175	24	13.0
2nd	Summer	June	Friday	25	176	23	7.9
2nd	Summer	June	Saturday	26	177	24	5.2
2nd	Summer	June	Sunday	27	178	23	4.3
2nd	Summer	June	Monday	28	179	24	4.2
2nd	Summer	June	Tuesday	29	180	24	6.2

2nd	Summer	June	Wednesday	30	181	24	7.7
3rd	Summer	July	Thursday	1	182	24	11.9
3rd	Summer	July	Friday	2	183	23	13.6
3rd	Summer	July	Saturday	3	184	24	8.5
3rd	Summer	July	Sunday	4	185	23	6.5
3rd	Summer	July	Monday	5	186	24	6.8
3rd	Summer	July	Tuesday	6	187	24	10.1
3rd	Summer	July	Wednesday	7	188	24	9.4
3rd	Summer	July	Thursday	8	189	24	11.5
3rd	Summer	July	Friday	9	190	23	16.6
3rd	Summer	July	Saturday	10	191	24	12.3
3rd	Summer	July	Sunday	11	192	23	8.8
3rd	Summer	July	Monday	12	193	24	16.7
3rd	Summer	July	Tuesday	13	194	24	10.8
3rd	Summer	July	Wednesday	14	195	24	9.4
3rd	Summer	July	Thursday	15	196	24	10.7
3rd	Summer	July	Friday	16	197	23	8.6
3rd	Summer	July	Saturday	17	198	24	10.8
3rd	Summer	July	Sunday	18	199	23	7.8
3rd	Summer	July	Monday	19	200	24	11.4
3rd	Summer	July	Tuesday	20	201	24	14.2
3rd	Summer	July	Wednesday	21	202	20	11.4
3rd	Summer	July	Thursday	22	203	24	9.0
3rd	Summer	July	Friday	23	204	23	8.0
3rd	Summer	July	Saturday	24	205	24	12.1
3rd	Summer	July	Sunday	25	206	21	17.6
3rd	Summer	July	Monday	26	207	24	10.6
3rd	Summer	July	Tuesday	27	208	24	13.3
3rd	Summer	July	Wednesday	28	209	18	10.3
3rd	Summer	July	Thursday	29	210	24	12.5
3rd	Summer	July	Friday	30	211	23	13.5
3rd	Summer	July	Saturday	31	212	24	6.4
3rd	Summer	August	Sunday	1	213	23	5.8
3rd	Summer	August	Monday	2	214	24	15.7
3rd	Summer	August	Tuesday	3	215	24	17.0
3rd	Summer	August	Wednesday	4	216	24	22.5
3rd	Summer	August	Thursday	5	217	24	13.9
3rd	Summer	August	Friday	6	218	23	16.4
3rd	Summer	August	Saturday	7	219	24	14.8
3rd	Summer	August	Sunday	8	220	23	13.0
3rd	Summer	August	Monday	9	221	24	20.2
3rd	Summer	August	Tuesday	10	222	24	15.1
3rd	Summer	August	Wednesday	11	223	24	15.2
3rd	Summer	August	Thursday	12	224	24	12.8
3rd	Summer	August	Friday	13	225	23	14.6
3rd	Summer	August	Saturday	14	226	24	8.4
3rd	Summer	August	Sunday	15	227	23	12.3
3rd	Summer	August	Monday	16	228	24	21.2
3rd	Summer	August	Tuesday	17	229	24	10.4
3rd	Summer	August	Wednesday	18	230	24	10.5
3rd	Summer	August	Thursday	19	231	24	15.0
3rd	Summer	August	Friday	20	232	23	12.0
3rd	Summer	August	Saturday	21	233	24	6.3
3rd	Summer	August	Sunday	22	234	23	7.5

3rd	Summer	August	Monday	23	235	24	19.1
3rd	Summer	August	Tuesday	24	236	24	9.9
3rd	Summer	August	Wednesday	25	237	24	10.3
3rd	Summer	August	Thursday	26	238	24	14.8
3rd	Summer	August	Friday	27	239	23	12.6
3rd	Summer	August	Saturday	28	240	24	11.2
3rd	Summer	August	Sunday	29	241	23	16.3
3rd	Summer	August	Monday	30	242	24	14.9
3rd	Summer	August	Tuesday	31	243	24	12.1
3rd	Fall	September	Wednesday	1	244	24	10.5
3rd	Fall	September	Thursday	2	245	24	12.8
3rd	Fall	September	Friday	3	246	23	11.3
3rd	Fall	September	Saturday	4	247	24	12.0
3rd	Fall	September	Sunday	5	248	23	8.6
3rd	Fall	September	Monday	6	249	24	14.0
3rd	Fall	September	Tuesday	7	250	24	18.8
3rd	Fall	September	Wednesday	8	251	24	17.8
3rd	Fall	September	Thursday	9	252	24	18.2
3rd	Fall	September	Friday	10	253	23	11.3
3rd	Fall	September	Saturday	11	254	24	15.6
3rd	Fall	September	Sunday	12	255	23	8.2
3rd	Fall	September	Monday	13	256	24	18.1
3rd	Fall	September	Tuesday	14	257	24	16.9
3rd	Fall	September	Wednesday	15	258	24	21.5
3rd	Fall	September	Thursday	16	259	24	17.2
3rd	Fall	September	Friday	17	260	23	15.0
3rd	Fall	September	Saturday	18	261	24	13.3
3rd	Fall	September	Sunday	19	262	23	3.9
3rd	Fall	September	Monday	20	263	24	16.1
3rd	Fall	September	Tuesday	21	264	24	12.1
3rd	Fall	September	Wednesday	22	265	24	20.6
3rd	Fall	September	Thursday	23	266	24	20.0
3rd	Fall	September	Friday	24	267	23	26.3
3rd	Fall	September	Saturday	25	268	24	26.0
3rd	Fall	September	Sunday	26	269	23	15.0
3rd	Fall	September	Monday	27	270	24	19.3
3rd	Fall	September	Tuesday	28	271	24	13.0
3rd	Fall	September	Wednesday	29	272	24	11.2
3rd	Fall	September	Thursday	30	273	24	18.6
4th	Fall	October	Friday	1	274	23	19.5
4th	Fall	October	Saturday	2	275	24	17.3
4th	Fall	October	Sunday	3	276	23	11.4
4th	Fall	October	Monday	4	277	24	22.5
4th	Fall	October	Tuesday	5	278	24	10.0
4th	Fall	October	Wednesday	6	279	24	11.9
4th	Fall	October	Thursday	7	280	24	22.7
4th	Fall	October	Friday	8	281	23	14.9
4th	Fall	October	Saturday	9	282	24	8.2
4th	Fall	October	Sunday	10	283	23	14.2
4th	Fall	October	Monday	11	284	24	8.9
4th	Fall	October	Tuesday	12	285	24	11.0
4th	Fall	October	Wednesday	13	286	24	16.6
4th	Fall	October	Thursday	14	287	24	15.4
4th	Fall	October	Friday	15	288	23	16.2



4th	Fall	October	Saturday	16	289	24	29.8
4th	Fall	October	Sunday	17	290	23	19.5
4th	Fall	October	Monday	18	291	24	12.1
4th	Fall	October	Tuesday	19	292	24	11.4
4th	Fall	October	Wednesday	20	293	24	13.8
4th	Fall	October	Thursday	21	294	24	14.3
4th	Fall	October	Friday	22	295	23	14.1
4th	Fall	October	Saturday	23	296	24	10.3
4th	Fall	October	Sunday	24	297	23	12.4
4th	Fall	October	Monday	25	298	24	13.4
4th	Fall	October	Tuesday	26	299	24	17.9
4th	Fall	October	Wednesday	27	300	24	21.6
4th	Fall	October	Thursday	28	301	24	19.4
4th	Fall	October	Friday	29	302	23	16.4
4th	Fall	October	Saturday	30	303	24	25.0
4th	Fall	October	Sunday	31	304	23	23.2
4th	Fall	November	Monday	1	305	24	25.9
4th	Fall	November	Tuesday	2	306	24	17.4
4th	Fall	November	Wednesday	3	307	24	18.1
4th	Fall	November	Thursday	4	308	24	30.8
4th	Fall	November	Friday	5	309	23	18.7
4th	Fall	November	Saturday	6	310	24	16.9
4th	Fall	November	Sunday	7	311	23	8.4
4th	Fall	November	Monday	8	312	24	23.1
4th	Fall	November	Tuesday	9	313	24	21.1
4th	Fall	November	Wednesday	10	314	24	24.4
4th	Fall	November	Thursday	11	315	24	27.5
4th	Fall	November	Friday	12	316	23	23.0
4th	Fall	November	Saturday	13	317	24	20.7
4th	Fall	November	Sunday	14	318	23	18.9
4th	Fall	November	Monday	15	319	24	30.2
4th	Fall	November	Tuesday	16	320	24	17.0
4th	Fall	November	Wednesday	17	321	24	23.7
4th	Fall	November	Thursday	18	322	24	28.5
4th	Fall	November	Friday	19	323	23	31.6
4th	Fall	November	Saturday	20	324	24	25.6
4th	Fall	November	Sunday	21	325	23	22.5
4th	Fall	November	Monday	22	326	24	29.8
4th	Fall	November	Tuesday	23	327	24	17.3
4th	Fall	November	Wednesday	24	328	24	22.1
4th	Fall	November	Thursday	25	329	24	24.0
4th	Fall	November	Friday	26	330	23	28.7
4th	Fall	November	Saturday	27	331	24	23.6
4th	Fall	November	Sunday	28	332	23	29.6
4th	Fall	November	Monday	29	333	23	32.2
4th	Fall	November	Tuesday	30	334	24	32.9
4th	Winter	December	Wednesday	1	335	24	34.6
4th	Winter	December	Thursday	2	336	24	33.0
4th	Winter	December	Friday	3	337	23	33.0
4th	Winter	December	Saturday	4	338	24	28.8
4th	Winter	December	Sunday	5	339	22	27.4
4th	Winter	December	Monday	6	340	23	34.4
4th	Winter	December	Tuesday	7	341	24	31.9
4th	Winter	December	Wednesday	8	342	24	13.7

4th	Winter	December	Thursday	9	343	24	15.0
4th	Winter	December	Friday	10	344	23	28.3
4th	Winter	December	Saturday	11	345	24	19.6
4th	Winter	December	Sunday	12	346	20	5.7
4th	Winter	December	Monday	13	347	23	7.3
4th	Winter	December	Tuesday	14	348	22	7.9
4th	Winter	December	Wednesday	15	349	24	24.3
4th	Winter	December	Thursday	16	350	17	29.7
4th	Winter	December	Friday	17	351	23	38.9
4th	Winter	December	Saturday	18	352	24	36.1
4th	Winter	December	Sunday	19	353	23	32.5
4th	Winter	December	Monday	20	354	24	28.4
4th	Winter	December	Tuesday	21	355	24	39.5
4th	Winter	December	Wednesday	22	356	24	34.3
4th	Winter	December	Thursday	23	357	24	12.1
4th	Winter	December	Friday	24	358	23	10.6
4th	Winter	December	Saturday	25	359	24	2.9
4th	Winter	December	Sunday	26	360	23	14.9
4th	Winter	December	Monday	27	361	24	21.3
4th	Winter	December	Tuesday	28	362	24	15.7
4th	Winter	December	Wednesday	29	363	24	36.9
4th	Winter	December	Thursday	30	364	24	5.2
4th	Winter	December	Friday	31	365	23	12.1

Providence Engineering and  
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CurrentPollutant: O3 (44201)  
 Averaging Period: 1-Hour Average  
 Concentration units: PPM

Site: 5010  
 County: Utah (49)  
 State: Utah (49)

Summary 2019	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Number of Days	90	91	92	92
Number of Observations	2141	2163	2189	2190
Scheduled Frequency	1	1	1	1
Scheduled Observations	2160	2184	2208	2208
Completeness %	99.12	99.04	99.14	99.18
Acceptability	Valid	Valid	Valid	Valid
Maximum 1-Hour	0.0610	0.0800	0.0790	0.0560

Summary 2020	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Number of Days	91	91	92	92
Number of Observations	2169	2159	2194	2190
Scheduled Frequency	1	1	1	1
Scheduled Observations	2184	2184	2208	2208
Completeness %	99.31	98.86	99.37	99.18
Acceptability	Valid	Valid	Valid	Valid
Maximum 1-Hour	0.0540	0.0740	0.0960	0.0650

Summary 2021	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Number of Days	90	91	92	92
Number of Observations	2143	2167	2192	2200
Scheduled Frequency	1	1	1	1
Scheduled Observations	2160	2184	2208	2208
Completeness %	99.21	99.22	99.28	99.64
Acceptability	Valid	Valid	Valid	Valid
Maximum 1-Hour	0.0590	0.0960	0.0970	0.0590

	2019	2020	2021
Annual 2nd High	0.0790	0.0910	0.0960

Year: 2019

Day of

Quarter	Season	Month	Week	Day	jDay	Observations	Max 1-Hour
1st	Winter	January	Tuesday	1	1	1	0.0350

1st	Winter	January	Wednesday	2	2	1	0.0340
1st	Winter	January	Thursday	3	3	1	0.0350
1st	Winter	January	Friday	4	4	1	0.0320
1st	Winter	January	Saturday	5	5	1	0.0380
1st	Winter	January	Sunday	6	6	1	0.0390
1st	Winter	January	Monday	7	7	1	0.0410
1st	Winter	January	Tuesday	8	8	1	0.0420
1st	Winter	January	Wednesday	9	9	1	0.0410
1st	Winter	January	Thursday	10	10	1	0.0380
1st	Winter	January	Friday	11	11	1	0.0350
1st	Winter	January	Saturday	12	12	1	0.0290
1st	Winter	January	Sunday	13	13	1	0.0330
1st	Winter	January	Monday	14	14	1	0.0310
1st	Winter	January	Tuesday	15	15	1	0.0230
1st	Winter	January	Wednesday	16	16	1	0.0380
1st	Winter	January	Thursday	17	17	1	0.0370
1st	Winter	January	Friday	18	18	1	0.0420
1st	Winter	January	Saturday	19	19	1	0.0370
1st	Winter	January	Sunday	20	20	1	0.0400
1st	Winter	January	Monday	21	21	1	0.0390
1st	Winter	January	Tuesday	22	22	1	0.0380
1st	Winter	January	Wednesday	23	23	1	0.0310
1st	Winter	January	Thursday	24	24	1	0.0370
1st	Winter	January	Friday	25	25	1	0.0390
1st	Winter	January	Saturday	26	26	1	0.0400
1st	Winter	January	Sunday	27	27	1	0.0420
1st	Winter	January	Monday	28	28	1	0.0400
1st	Winter	January	Tuesday	29	29	1	0.0380
1st	Winter	January	Wednesday	30	30	1	0.0450
1st	Winter	January	Thursday	31	31	1	0.0440
1st	Winter	February	Friday	1	32	1	0.0410
1st	Winter	February	Saturday	2	33	1	0.0420
1st	Winter	February	Sunday	3	34	1	0.0480
1st	Winter	February	Monday	4	35	1	0.0450
1st	Winter	February	Tuesday	5	36	1	0.0530
1st	Winter	February	Wednesday	6	37	1	0.0540
1st	Winter	February	Thursday	7	38	1	0.0470
1st	Winter	February	Friday	8	39	1	0.0440
1st	Winter	February	Saturday	9	40	1	0.0500
1st	Winter	February	Sunday	10	41	1	0.0530
1st	Winter	February	Monday	11	42	1	0.0490
1st	Winter	February	Tuesday	12	43	1	0.0460
1st	Winter	February	Wednesday	13	44	1	0.0470
1st	Winter	February	Thursday	14	45	1	0.0430
1st	Winter	February	Friday	15	46	1	0.0540
1st	Winter	February	Saturday	16	47	1	0.0510
1st	Winter	February	Sunday	17	48	1	0.0470
1st	Winter	February	Monday	18	49	1	0.0460
1st	Winter	February	Tuesday	19	50	1	0.0460
1st	Winter	February	Wednesday	20	51	1	0.0470
1st	Winter	February	Thursday	21	52	1	0.0480
1st	Winter	February	Friday	22	53	1	0.0460
1st	Winter	February	Saturday	23	54	1	0.0490
1st	Winter	February	Sunday	24	55	1	0.0500

1st	Winter	February	Monday	25	56	1	0.0490
1st	Winter	February	Tuesday	26	57	1	0.0510
1st	Winter	February	Wednesday	27	58	1	0.0480
1st	Winter	February	Thursday	28	59	1	0.0490
1st	Spring	March	Friday	1	60	1	0.0430
1st	Spring	March	Saturday	2	61	1	0.0430
1st	Spring	March	Sunday	3	62	1	0.0510
1st	Spring	March	Monday	4	63	1	0.0510
1st	Spring	March	Tuesday	5	64	1	0.0460
1st	Spring	March	Wednesday	6	65	1	0.0430
1st	Spring	March	Thursday	7	66	1	0.0430
1st	Spring	March	Friday	8	67	1	0.0520
1st	Spring	March	Saturday	9	68	1	0.0480
1st	Spring	March	Sunday	10	69	1	0.0540
1st	Spring	March	Monday	11	70	1	0.0560
1st	Spring	March	Tuesday	12	71	1	0.0550
1st	Spring	March	Wednesday	13	72	1	0.0500
1st	Spring	March	Thursday	14	73	1	0.0540
1st	Spring	March	Friday	15	74	1	0.0560
1st	Spring	March	Saturday	16	75	1	0.0600
1st	Spring	March	Sunday	17	76	1	0.0570
1st	Spring	March	Monday	18	77	1	0.0540
1st	Spring	March	Tuesday	19	78	1	0.0600
1st	Spring	March	Wednesday	20	79	1	0.0610
1st	Spring	March	Thursday	21	80	1	0.0590
1st	Spring	March	Friday	22	81	1	0.0510
1st	Spring	March	Saturday	23	82	1	0.0510
1st	Spring	March	Sunday	24	83	1	0.0500
1st	Spring	March	Monday	25	84	1	0.0610
1st	Spring	March	Tuesday	26	85	1	0.0610
1st	Spring	March	Wednesday	27	86	1	0.0580
1st	Spring	March	Thursday	28	87	1	0.0550
1st	Spring	March	Friday	29	88	1	0.0520
1st	Spring	March	Saturday	30	89	1	0.0520
1st	Spring	March	Sunday	31	90	1	0.0550
2nd	Spring	April	Monday	1	91	1	0.0520
2nd	Spring	April	Tuesday	2	92	1	0.0490
2nd	Spring	April	Wednesday	3	93	1	0.0520
2nd	Spring	April	Thursday	4	94	1	0.0530
2nd	Spring	April	Friday	5	95	1	0.0540
2nd	Spring	April	Saturday	6	96	1	0.0480
2nd	Spring	April	Sunday	7	97	1	0.0510
2nd	Spring	April	Monday	8	98	1	0.0490
2nd	Spring	April	Tuesday	9	99	1	0.0550
2nd	Spring	April	Wednesday	10	100	1	0.0470
2nd	Spring	April	Thursday	11	101	1	0.0510
2nd	Spring	April	Friday	12	102	1	0.0520
2nd	Spring	April	Saturday	13	103	1	0.0520
2nd	Spring	April	Sunday	14	104	1	0.0530
2nd	Spring	April	Monday	15	105	1	0.0530
2nd	Spring	April	Tuesday	16	106	1	0.0570
2nd	Spring	April	Wednesday	17	107	1	0.0560
2nd	Spring	April	Thursday	18	108	1	0.0590
2nd	Spring	April	Friday	19	109	1	0.0540

2nd	Spring	April	Saturday	20	110	1	0.0600
2nd	Spring	April	Sunday	21	111	1	0.0550
2nd	Spring	April	Monday	22	112	1	0.0610
2nd	Spring	April	Tuesday	23	113	1	0.0600
2nd	Spring	April	Wednesday	24	114	1	0.0570
2nd	Spring	April	Thursday	25	115	1	0.0430
2nd	Spring	April	Friday	26	116	1	0.0540
2nd	Spring	April	Saturday	27	117	1	0.0540
2nd	Spring	April	Sunday	28	118	1	0.0690
2nd	Spring	April	Monday	29	119	1	0.0540
2nd	Spring	April	Tuesday	30	120	1	0.0490
2nd	Spring	May	Wednesday	1	121	1	0.0560
2nd	Spring	May	Thursday	2	122	1	0.0550
2nd	Spring	May	Friday	3	123	1	0.0590
2nd	Spring	May	Saturday	4	124	1	0.0600
2nd	Spring	May	Sunday	5	125	1	0.0600
2nd	Spring	May	Monday	6	126	1	0.0580
2nd	Spring	May	Tuesday	7	127	1	0.0550
2nd	Spring	May	Wednesday	8	128	1	0.0490
2nd	Spring	May	Thursday	9	129	1	0.0540
2nd	Spring	May	Friday	10	130	1	0.0610
2nd	Spring	May	Saturday	11	131	1	0.0670
2nd	Spring	May	Sunday	12	132	1	0.0610
2nd	Spring	May	Monday	13	133	1	0.0610
2nd	Spring	May	Tuesday	14	134	1	0.0590
2nd	Spring	May	Wednesday	15	135	1	0.0570
2nd	Spring	May	Thursday	16	136	1	0.0600
2nd	Spring	May	Friday	17	137	1	0.0550
2nd	Spring	May	Saturday	18	138	1	0.0430
2nd	Spring	May	Sunday	19	139	1	0.0570
2nd	Spring	May	Monday	20	140	1	0.0590
2nd	Spring	May	Tuesday	21	141	1	0.0470
2nd	Spring	May	Wednesday	22	142	1	0.0530
2nd	Spring	May	Thursday	23	143	1	0.0640
2nd	Spring	May	Friday	24	144	1	0.0470
2nd	Spring	May	Saturday	25	145	1	0.0560
2nd	Spring	May	Sunday	26	146	1	0.0610
2nd	Spring	May	Monday	27	147	1	0.0580
2nd	Spring	May	Tuesday	28	148	1	0.0510
2nd	Spring	May	Wednesday	29	149	1	0.0600
2nd	Spring	May	Thursday	30	150	1	0.0580
2nd	Spring	May	Friday	31	151	1	0.0620
2nd	Summer	June	Saturday	1	152	1	0.0730
2nd	Summer	June	Sunday	2	153	1	0.0650
2nd	Summer	June	Monday	3	154	1	0.0690
2nd	Summer	June	Tuesday	4	155	1	0.0800
2nd	Summer	June	Wednesday	5	156	1	0.0710
2nd	Summer	June	Thursday	6	157	1	0.0570
2nd	Summer	June	Friday	7	158	1	0.0640
2nd	Summer	June	Saturday	8	159	1	0.0570
2nd	Summer	June	Sunday	9	160	1	0.0560
2nd	Summer	June	Monday	10	161	1	0.0690
2nd	Summer	June	Tuesday	11	162	1	0.0710
2nd	Summer	June	Wednesday	12	163	1	0.0570

2nd	Summer	June	Thursday	13	164	1	0.0700
2nd	Summer	June	Friday	14	165	1	0.0680
2nd	Summer	June	Saturday	15	166	1	0.0630
2nd	Summer	June	Sunday	16	167	1	0.0610
2nd	Summer	June	Monday	17	168	1	0.0550
2nd	Summer	June	Tuesday	18	169	1	0.0710
2nd	Summer	June	Wednesday	19	170	1	0.0660
2nd	Summer	June	Thursday	20	171	1	0.0560
2nd	Summer	June	Friday	21	172	1	0.0550
2nd	Summer	June	Saturday	22	173	1	0.0500
2nd	Summer	June	Sunday	23	174	1	0.0530
2nd	Summer	June	Monday	24	175	1	0.0600
2nd	Summer	June	Tuesday	25	176	1	0.0660
2nd	Summer	June	Wednesday	26	177	1	0.0660
2nd	Summer	June	Thursday	27	178	1	0.0580
2nd	Summer	June	Friday	28	179	1	0.0650
2nd	Summer	June	Saturday	29	180	1	0.0670
2nd	Summer	June	Sunday	30	181	1	0.0430
3rd	Summer	July	Monday	1	182	1	0.0540
3rd	Summer	July	Tuesday	2	183	1	0.0570
3rd	Summer	July	Wednesday	3	184	1	0.0730
3rd	Summer	July	Thursday	4	185	1	0.0620
3rd	Summer	July	Friday	5	186	1	0.0790
3rd	Summer	July	Saturday	6	187	1	0.0640
3rd	Summer	July	Sunday	7	188	1	0.0500
3rd	Summer	July	Monday	8	189	1	0.0500
3rd	Summer	July	Tuesday	9	190	1	0.0680
3rd	Summer	July	Wednesday	10	191	1	0.0570
3rd	Summer	July	Thursday	11	192	1	0.0500
3rd	Summer	July	Friday	12	193	1	0.0620
3rd	Summer	July	Saturday	13	194	1	0.0490
3rd	Summer	July	Sunday	14	195	1	0.0550
3rd	Summer	July	Monday	15	196	1	0.0560
3rd	Summer	July	Tuesday	16	197	1	0.0620
3rd	Summer	July	Wednesday	17	198	1	0.0650
3rd	Summer	July	Thursday	18	199	1	0.0590
3rd	Summer	July	Friday	19	200	1	0.0570
3rd	Summer	July	Saturday	20	201	1	0.0680
3rd	Summer	July	Sunday	21	202	1	0.0580
3rd	Summer	July	Monday	22	203	1	0.0630
3rd	Summer	July	Tuesday	23	204	1	0.0590
3rd	Summer	July	Wednesday	24	205	1	0.0640
3rd	Summer	July	Thursday	25	206	1	0.0640
3rd	Summer	July	Friday	26	207	1	0.0620
3rd	Summer	July	Saturday	27	208	1	0.0620
3rd	Summer	July	Sunday	28	209	1	0.0600
3rd	Summer	July	Monday	29	210	1	0.0610
3rd	Summer	July	Tuesday	30	211	1	0.0540
3rd	Summer	July	Wednesday	31	212	1	0.0420
3rd	Summer	August	Thursday	1	213	1	0.0590
3rd	Summer	August	Friday	2	214	1	0.0690
3rd	Summer	August	Saturday	3	215	1	0.0650
3rd	Summer	August	Sunday	4	216	1	0.0650
3rd	Summer	August	Monday	5	217	1	0.0660

3rd	Summer	August	Tuesday	6	218	1	0.0630
3rd	Summer	August	Wednesday	7	219	1	0.0490
3rd	Summer	August	Thursday	8	220	1	0.0630
3rd	Summer	August	Friday	9	221	1	0.0600
3rd	Summer	August	Saturday	10	222	1	0.0510
3rd	Summer	August	Sunday	11	223	1	0.0550
3rd	Summer	August	Monday	12	224	1	0.0710
3rd	Summer	August	Tuesday	13	225	1	0.0610
3rd	Summer	August	Wednesday	14	226	1	0.0640
3rd	Summer	August	Thursday	15	227	1	0.0750
3rd	Summer	August	Friday	16	228	1	0.0690
3rd	Summer	August	Saturday	17	229	1	0.0610
3rd	Summer	August	Sunday	18	230	1	0.0610
3rd	Summer	August	Monday	19	231	1	0.0510
3rd	Summer	August	Tuesday	20	232	1	0.0630
3rd	Summer	August	Wednesday	21	233	1	0.0620
3rd	Summer	August	Thursday	22	234	1	0.0560
3rd	Summer	August	Friday	23	235	1	0.0650
3rd	Summer	August	Saturday	24	236	1	0.0570
3rd	Summer	August	Sunday	25	237	1	0.0590
3rd	Summer	August	Monday	26	238	1	0.0730
3rd	Summer	August	Tuesday	27	239	1	0.0710
3rd	Summer	August	Wednesday	28	240	1	0.0770
3rd	Summer	August	Thursday	29	241	1	0.0510
3rd	Summer	August	Friday	30	242	1	0.0550
3rd	Summer	August	Saturday	31	243	1	0.0660
3rd	Fall	September	Sunday	1	244	1	0.0570
3rd	Fall	September	Monday	2	245	1	0.0560
3rd	Fall	September	Tuesday	3	246	1	0.0630
3rd	Fall	September	Wednesday	4	247	1	0.0640
3rd	Fall	September	Thursday	5	248	1	0.0620
3rd	Fall	September	Friday	6	249	1	0.0660
3rd	Fall	September	Saturday	7	250	1	0.0650
3rd	Fall	September	Sunday	8	251	1	0.0600
3rd	Fall	September	Monday	9	252	1	0.0660
3rd	Fall	September	Tuesday	10	253	1	0.0580
3rd	Fall	September	Wednesday	11	254	1	0.0530
3rd	Fall	September	Thursday	12	255	1	0.0530
3rd	Fall	September	Friday	13	256	1	0.0550
3rd	Fall	September	Saturday	14	257	1	0.0570
3rd	Fall	September	Sunday	15	258	1	0.0590
3rd	Fall	September	Monday	16	259	1	0.0510
3rd	Fall	September	Tuesday	17	260	1	0.0590
3rd	Fall	September	Wednesday	18	261	1	0.0550
3rd	Fall	September	Thursday	19	262	1	0.0540
3rd	Fall	September	Friday	20	263	1	0.0430
3rd	Fall	September	Saturday	21	264	1	0.0470
3rd	Fall	September	Sunday	22	265	1	0.0480
3rd	Fall	September	Monday	23	266	1	0.0520
3rd	Fall	September	Tuesday	24	267	1	0.0560
3rd	Fall	September	Wednesday	25	268	1	0.0530
3rd	Fall	September	Thursday	26	269	1	0.0480
3rd	Fall	September	Friday	27	270	1	0.0460
3rd	Fall	September	Saturday	28	271	1	0.0480



3rd	Fall	September	Sunday	29	272	1	0.0490
3rd	Fall	September	Monday	30	273	1	0.0530
4th	Fall	October	Tuesday	1	274	1	0.0550
4th	Fall	October	Wednesday	2	275	1	0.0440
4th	Fall	October	Thursday	3	276	1	0.0560
4th	Fall	October	Friday	4	277	1	0.0490
4th	Fall	October	Saturday	5	278	1	0.0450
4th	Fall	October	Sunday	6	279	1	0.0500
4th	Fall	October	Monday	7	280	1	0.0510
4th	Fall	October	Tuesday	8	281	1	0.0470
4th	Fall	October	Wednesday	9	282	1	0.0450
4th	Fall	October	Thursday	10	283	1	0.0360
4th	Fall	October	Friday	11	284	1	0.0450
4th	Fall	October	Saturday	12	285	1	0.0510
4th	Fall	October	Sunday	13	286	1	0.0500
4th	Fall	October	Monday	14	287	1	0.0530
4th	Fall	October	Tuesday	15	288	1	0.0550
4th	Fall	October	Wednesday	16	289	1	0.0540
4th	Fall	October	Thursday	17	290	1	0.0540
4th	Fall	October	Friday	18	291	1	0.0440
4th	Fall	October	Saturday	19	292	1	0.0420
4th	Fall	October	Sunday	20	293	1	0.0400
4th	Fall	October	Monday	21	294	1	0.0420
4th	Fall	October	Tuesday	22	295	1	0.0450
4th	Fall	October	Wednesday	23	296	1	0.0450
4th	Fall	October	Thursday	24	297	1	0.0430
4th	Fall	October	Friday	25	298	1	0.0470
4th	Fall	October	Saturday	26	299	1	0.0440
4th	Fall	October	Sunday	27	300	1	0.0390
4th	Fall	October	Monday	28	301	1	0.0430
4th	Fall	October	Tuesday	29	302	1	0.0390
4th	Fall	October	Wednesday	30	303	1	0.0360
4th	Fall	October	Thursday	31	304	1	0.0350
4th	Fall	November	Friday	1	305	1	0.0370
4th	Fall	November	Saturday	2	306	1	0.0400
4th	Fall	November	Sunday	3	307	1	0.0470
4th	Fall	November	Monday	4	308	1	0.0460
4th	Fall	November	Tuesday	5	309	1	0.0440
4th	Fall	November	Wednesday	6	310	1	0.0400
4th	Fall	November	Thursday	7	311	1	0.0420
4th	Fall	November	Friday	8	312	1	0.0400
4th	Fall	November	Saturday	9	313	1	0.0450
4th	Fall	November	Sunday	10	314	1	0.0440
4th	Fall	November	Monday	11	315	1	0.0400
4th	Fall	November	Tuesday	12	316	1	0.0440
4th	Fall	November	Wednesday	13	317	1	0.0470
4th	Fall	November	Thursday	14	318	1	0.0330
4th	Fall	November	Friday	15	319	1	0.0440
4th	Fall	November	Saturday	16	320	1	0.0450
4th	Fall	November	Sunday	17	321	1	0.0480
4th	Fall	November	Monday	18	322	1	0.0380
4th	Fall	November	Tuesday	19	323	1	0.0450
4th	Fall	November	Wednesday	20	324	1	0.0370
4th	Fall	November	Thursday	21	325	1	0.0370

4th	Fall	November	Friday	22	326	1	0.0230
4th	Fall	November	Saturday	23	327	1	0.0390
4th	Fall	November	Sunday	24	328	1	0.0320
4th	Fall	November	Monday	25	329	1	0.0400
4th	Fall	November	Tuesday	26	330	1	0.0360
4th	Fall	November	Wednesday	27	331	1	0.0390
4th	Fall	November	Thursday	28	332	1	0.0500
4th	Fall	November	Friday	29	333	1	0.0440
4th	Fall	November	Saturday	30	334	1	0.0420
4th	Winter	December	Sunday	1	335	1	0.0400
4th	Winter	December	Monday	2	336	1	0.0360
4th	Winter	December	Tuesday	3	337	1	0.0250
4th	Winter	December	Wednesday	4	338	1	0.0340
4th	Winter	December	Thursday	5	339	1	0.0210
4th	Winter	December	Friday	6	340	1	0.0320
4th	Winter	December	Saturday	7	341	1	0.0350
4th	Winter	December	Sunday	8	342	1	0.0380
4th	Winter	December	Monday	9	343	1	0.0360
4th	Winter	December	Tuesday	10	344	1	0.0320
4th	Winter	December	Wednesday	11	345	1	0.0330
4th	Winter	December	Thursday	12	346	1	0.0270
4th	Winter	December	Friday	13	347	1	0.0390
4th	Winter	December	Saturday	14	348	1	0.0390
4th	Winter	December	Sunday	15	349	1	0.0410
4th	Winter	December	Monday	16	350	1	0.0390
4th	Winter	December	Tuesday	17	351	1	0.0360
4th	Winter	December	Wednesday	18	352	1	0.0390
4th	Winter	December	Thursday	19	353	1	0.0290
4th	Winter	December	Friday	20	354	1	0.0320
4th	Winter	December	Saturday	21	355	1	0.0390
4th	Winter	December	Sunday	22	356	1	0.0410
4th	Winter	December	Monday	23	357	1	0.0390
4th	Winter	December	Tuesday	24	358	1	0.0370
4th	Winter	December	Wednesday	25	359	1	0.0370
4th	Winter	December	Thursday	26	360	1	0.0420
4th	Winter	December	Friday	27	361	1	0.0390
4th	Winter	December	Saturday	28	362	1	0.0380
4th	Winter	December	Sunday	29	363	1	0.0390
4th	Winter	December	Monday	30	364	1	0.0350
4th	Winter	December	Tuesday	31	365	1	0.0400

Year: 2020

Day of

Quarter	Season	Month	Week	Day	jDay	Observations	Max 1-Hour
1st	Winter	January	Wednesday	1	1	1	0.0400
1st	Winter	January	Thursday	2	2	1	0.0400
1st	Winter	January	Friday	3	3	1	0.0370
1st	Winter	January	Saturday	4	4	1	0.0380
1st	Winter	January	Sunday	5	5	1	0.0340
1st	Winter	January	Monday	6	6	1	0.0380
1st	Winter	January	Tuesday	7	7	1	0.0420
1st	Winter	January	Wednesday	8	8	1	0.0420
1st	Winter	January	Thursday	9	9	1	0.0370
1st	Winter	January	Friday	10	10	1	0.0440

1st	Winter	January	Saturday	11	11	1	0.0420
1st	Winter	January	Sunday	12	12	1	0.0390
1st	Winter	January	Monday	13	13	1	0.0410
1st	Winter	January	Tuesday	14	14	1	0.0450
1st	Winter	January	Wednesday	15	15	1	0.0460
1st	Winter	January	Thursday	16	16	1	0.0460
1st	Winter	January	Friday	17	17	1	0.0440
1st	Winter	January	Saturday	18	18	1	0.0390
1st	Winter	January	Sunday	19	19	1	0.0410
1st	Winter	January	Monday	20	20	1	0.0450
1st	Winter	January	Tuesday	21	21	1	0.0440
1st	Winter	January	Wednesday	22	22	1	0.0250
1st	Winter	January	Thursday	23	23	1	0.0300
1st	Winter	January	Friday	24	24	1	0.0300
1st	Winter	January	Saturday	25	25	1	0.0220
1st	Winter	January	Sunday	26	26	1	0.0300
1st	Winter	January	Monday	27	27	1	0.0430
1st	Winter	January	Tuesday	28	28	1	0.0380
1st	Winter	January	Wednesday	29	29	1	0.0380
1st	Winter	January	Thursday	30	30	1	0.0290
1st	Winter	January	Friday	31	31	1	0.0380
1st	Winter	February	Saturday	1	32	1	0.0390
1st	Winter	February	Sunday	2	33	1	0.0460
1st	Winter	February	Monday	3	34	1	0.0430
1st	Winter	February	Tuesday	4	35	1	0.0410
1st	Winter	February	Wednesday	5	36	1	0.0430
1st	Winter	February	Thursday	6	37	1	0.0340
1st	Winter	February	Friday	7	38	1	0.0270
1st	Winter	February	Saturday	8	39	1	0.0470
1st	Winter	February	Sunday	9	40	1	0.0430
1st	Winter	February	Monday	10	41	1	0.0410
1st	Winter	February	Tuesday	11	42	1	0.0440
1st	Winter	February	Wednesday	12	43	1	0.0410
1st	Winter	February	Thursday	13	44	1	0.0470
1st	Winter	February	Friday	14	45	1	0.0430
1st	Winter	February	Saturday	15	46	1	0.0370
1st	Winter	February	Sunday	16	47	1	0.0410
1st	Winter	February	Monday	17	48	1	0.0480
1st	Winter	February	Tuesday	18	49	1	0.0450
1st	Winter	February	Wednesday	19	50	1	0.0470
1st	Winter	February	Thursday	20	51	1	0.0460
1st	Winter	February	Friday	21	52	1	0.0480
1st	Winter	February	Saturday	22	53	1	0.0370
1st	Winter	February	Sunday	23	54	1	0.0510
1st	Winter	February	Monday	24	55	1	0.0470
1st	Winter	February	Tuesday	25	56	1	0.0450
1st	Winter	February	Wednesday	26	57	1	0.0490
1st	Winter	February	Thursday	27	58	1	0.0470
1st	Winter	February	Friday	28	59	1	0.0470
1st	Winter	February	Saturday	29	60	1	0.0450
1st	Spring	March	Sunday	1	61	1	0.0440
1st	Spring	March	Monday	2	62	1	0.0480
1st	Spring	March	Tuesday	3	63	1	0.0440
1st	Spring	March	Wednesday	4	64	1	0.0480

1st	Spring	March	Thursday	5	65	1	0.0500
1st	Spring	March	Friday	6	66	1	0.0470
1st	Spring	March	Saturday	7	67	1	0.0510
1st	Spring	March	Sunday	8	68	1	0.0480
1st	Spring	March	Monday	9	69	1	0.0470
1st	Spring	March	Tuesday	10	70	1	0.0480
1st	Spring	March	Wednesday	11	71	1	0.0410
1st	Spring	March	Thursday	12	72	1	0.0520
1st	Spring	March	Friday	13	73	1	0.0370
1st	Spring	March	Saturday	14	74	1	0.0420
1st	Spring	March	Sunday	15	75	1	0.0490
1st	Spring	March	Monday	16	76	1	0.0530
1st	Spring	March	Tuesday	17	77	1	0.0520
1st	Spring	March	Wednesday	18	78	1	0.0500
1st	Spring	March	Thursday	19	79	1	0.0440
1st	Spring	March	Friday	20	80	1	0.0490
1st	Spring	March	Saturday	21	81	1	0.0530
1st	Spring	March	Sunday	22	82	1	0.0490
1st	Spring	March	Monday	23	83	1	0.0470
1st	Spring	March	Tuesday	24	84	1	0.0490
1st	Spring	March	Wednesday	25	85	1	0.0500
1st	Spring	March	Thursday	26	86	1	0.0540
1st	Spring	March	Friday	27	87	1	0.0460
1st	Spring	March	Saturday	28	88	1	0.0480
1st	Spring	March	Sunday	29	89	1	0.0460
1st	Spring	March	Monday	30	90	1	0.0470
1st	Spring	March	Tuesday	31	91	1	0.0490
2nd	Spring	April	Wednesday	1	92	1	0.0500
2nd	Spring	April	Thursday	2	93	1	0.0510
2nd	Spring	April	Friday	3	94	1	0.0520
2nd	Spring	April	Saturday	4	95	1	0.0490
2nd	Spring	April	Sunday	5	96	1	0.0530
2nd	Spring	April	Monday	6	97	1	0.0480
2nd	Spring	April	Tuesday	7	98	1	0.0510
2nd	Spring	April	Wednesday	8	99	1	0.0570
2nd	Spring	April	Thursday	9	100	1	0.0410
2nd	Spring	April	Friday	10	101	1	0.0630
2nd	Spring	April	Saturday	11	102	1	0.0500
2nd	Spring	April	Sunday	12	103	1	0.0540
2nd	Spring	April	Monday	13	104	1	0.0540
2nd	Spring	April	Tuesday	14	105	1	0.0530
2nd	Spring	April	Wednesday	15	106	1	0.0470
2nd	Spring	April	Thursday	16	107	1	0.0490
2nd	Spring	April	Friday	17	108	1	0.0550
2nd	Spring	April	Saturday	18	109	1	0.0520
2nd	Spring	April	Sunday	19	110	1	0.0510
2nd	Spring	April	Monday	20	111	1	0.0570
2nd	Spring	April	Tuesday	21	112	1	0.0650
2nd	Spring	April	Wednesday	22	113	1	0.0530
2nd	Spring	April	Thursday	23	114	1	0.0500
2nd	Spring	April	Friday	24	115	1	0.0530
2nd	Spring	April	Saturday	25	116	1	0.0520
2nd	Spring	April	Sunday	26	117	1	0.0530
2nd	Spring	April	Monday	27	118	1	0.0510

2nd	Spring	April	Tuesday	28	119	1	0.0620
2nd	Spring	April	Wednesday	29	120	1	0.0550
2nd	Spring	April	Thursday	30	121	1	0.0520
2nd	Spring	May	Friday	1	122	1	0.0530
2nd	Spring	May	Saturday	2	123	1	0.0530
2nd	Spring	May	Sunday	3	124	1	0.0570
2nd	Spring	May	Monday	4	125	1	0.0660
2nd	Spring	May	Tuesday	5	126	1	0.0600
2nd	Spring	May	Wednesday	6	127	1	0.0650
2nd	Spring	May	Thursday	7	128	1	0.0610
2nd	Spring	May	Friday	8	129	1	0.0690
2nd	Spring	May	Saturday	9	130	1	0.0710
2nd	Spring	May	Sunday	10	131	1	0.0660
2nd	Spring	May	Monday	11	132	1	0.0600
2nd	Spring	May	Tuesday	12	133	1	0.0560
2nd	Spring	May	Wednesday	13	134	1	0.0550
2nd	Spring	May	Thursday	14	135	1	0.0580
2nd	Spring	May	Friday	15	136	1	0.0550
2nd	Spring	May	Saturday	16	137	1	0.0540
2nd	Spring	May	Sunday	17	138	1	0.0510
2nd	Spring	May	Monday	18	139	1	0.0540
2nd	Spring	May	Tuesday	19	140	1	0.0560
2nd	Spring	May	Wednesday	20	141	1	0.0480
2nd	Spring	May	Thursday	21	142	1	0.0530
2nd	Spring	May	Friday	22	143	1	0.0530
2nd	Spring	May	Saturday	23	144	1	0.0550
2nd	Spring	May	Sunday	24	145	1	0.0480
2nd	Spring	May	Monday	25	146	1	0.0560
2nd	Spring	May	Tuesday	26	147	1	0.0530
2nd	Spring	May	Wednesday	27	148	1	0.0640
2nd	Spring	May	Thursday	28	149	1	0.0660
2nd	Spring	May	Friday	29	150	1	0.0540
2nd	Spring	May	Saturday	30	151	1	0.0510
2nd	Spring	May	Sunday	31	152	1	0.0510
2nd	Summer	June	Monday	1	153	1	0.0510
2nd	Summer	June	Tuesday	2	154	1	0.0720
2nd	Summer	June	Wednesday	3	155	1	0.0600
2nd	Summer	June	Thursday	4	156	1	0.0550
2nd	Summer	June	Friday	5	157	1	0.0610
2nd	Summer	June	Saturday	6	158	1	0.0560
2nd	Summer	June	Sunday	7	159	1	0.0600
2nd	Summer	June	Monday	8	160	1	0.0380
2nd	Summer	June	Tuesday	9	161	1	0.0530
2nd	Summer	June	Wednesday	10	162	1	0.0490
2nd	Summer	June	Thursday	11	163	1	0.0580
2nd	Summer	June	Friday	12	164	1	0.0510
2nd	Summer	June	Saturday	13	165	1	0.0510
2nd	Summer	June	Sunday	14	166	1	0.0560
2nd	Summer	June	Monday	15	167	1	0.0600
2nd	Summer	June	Tuesday	16	168	1	0.0540
2nd	Summer	June	Wednesday	17	169	1	0.0530
2nd	Summer	June	Thursday	18	170	1	0.0530
2nd	Summer	June	Friday	19	171	1	0.0640
2nd	Summer	June	Saturday	20	172	1	0.0590

2nd	Summer	June	Sunday	21	173	1	0.0560
2nd	Summer	June	Monday	22	174	1	0.0610
2nd	Summer	June	Tuesday	23	175	1	0.0700
2nd	Summer	June	Wednesday	24	176	1	0.0730
2nd	Summer	June	Thursday	25	177	1	0.0670
2nd	Summer	June	Friday	26	178	1	0.0740
2nd	Summer	June	Saturday	27	179	1	0.0630
2nd	Summer	June	Sunday	28	180	1	0.0620
2nd	Summer	June	Monday	29	181	1	0.0560
2nd	Summer	June	Tuesday	30	182	1	0.0430
3rd	Summer	July	Wednesday	1	183	1	0.0610
3rd	Summer	July	Thursday	2	184	1	0.0580
3rd	Summer	July	Friday	3	185	1	0.0440
3rd	Summer	July	Saturday	4	186	1	0.0410
3rd	Summer	July	Sunday	5	187	1	0.0590
3rd	Summer	July	Monday	6	188	1	0.0520
3rd	Summer	July	Tuesday	7	189	1	0.0620
3rd	Summer	July	Wednesday	8	190	1	0.0760
3rd	Summer	July	Thursday	9	191	1	0.0730
3rd	Summer	July	Friday	10	192	1	0.0760
3rd	Summer	July	Saturday	11	193	1	0.0770
3rd	Summer	July	Sunday	12	194	1	0.0680
3rd	Summer	July	Monday	13	195	1	0.0740
3rd	Summer	July	Tuesday	14	196	1	0.0730
3rd	Summer	July	Wednesday	15	197	1	0.0810
3rd	Summer	July	Thursday	16	198	1	0.0600
3rd	Summer	July	Friday	17	199	1	0.0490
3rd	Summer	July	Saturday	18	200	1	0.0610
3rd	Summer	July	Sunday	19	201	1	0.0630
3rd	Summer	July	Monday	20	202	1	0.0710
3rd	Summer	July	Tuesday	21	203	1	0.0610
3rd	Summer	July	Wednesday	22	204	1	0.0470
3rd	Summer	July	Thursday	23	205	1	0.0480
3rd	Summer	July	Friday	24	206	1	0.0550
3rd	Summer	July	Saturday	25	207	1	0.0530
3rd	Summer	July	Sunday	26	208	1	0.0540
3rd	Summer	July	Monday	27	209	1	0.0650
3rd	Summer	July	Tuesday	28	210	1	0.0520
3rd	Summer	July	Wednesday	29	211	1	0.0800
3rd	Summer	July	Thursday	30	212	1	0.0710
3rd	Summer	July	Friday	31	213	1	0.0650
3rd	Summer	August	Saturday	1	214	1	0.0610
3rd	Summer	August	Sunday	2	215	1	0.0640
3rd	Summer	August	Monday	3	216	1	0.0710
3rd	Summer	August	Tuesday	4	217	1	0.0760
3rd	Summer	August	Wednesday	5	218	1	0.0630
3rd	Summer	August	Thursday	6	219	1	0.0660
3rd	Summer	August	Friday	7	220	1	0.0680
3rd	Summer	August	Saturday	8	221	1	0.0650
3rd	Summer	August	Sunday	9	222	1	0.0600
3rd	Summer	August	Monday	10	223	1	0.0650
3rd	Summer	August	Tuesday	11	224	1	0.0580
3rd	Summer	August	Wednesday	12	225	1	0.0560
3rd	Summer	August	Thursday	13	226	1	0.0680

3rd	Summer	August	Friday	14	227	1	0.0730
3rd	Summer	August	Saturday	15	228	1	0.0670
3rd	Summer	August	Sunday	16	229	1	0.0740
3rd	Summer	August	Monday	17	230	1	0.0840
3rd	Summer	August	Tuesday	18	231	1	0.0960
3rd	Summer	August	Wednesday	19	232	1	0.0680
3rd	Summer	August	Thursday	20	233	1	0.0700
3rd	Summer	August	Friday	21	234	1	0.0910
3rd	Summer	August	Saturday	22	235	1	0.0750
3rd	Summer	August	Sunday	23	236	1	0.0670
3rd	Summer	August	Monday	24	237	1	0.0710
3rd	Summer	August	Tuesday	25	238	1	0.0680
3rd	Summer	August	Wednesday	26	239	1	0.0710
3rd	Summer	August	Thursday	27	240	1	0.0640
3rd	Summer	August	Friday	28	241	1	0.0670
3rd	Summer	August	Saturday	29	242	1	0.0560
3rd	Summer	August	Sunday	30	243	1	0.0650
3rd	Summer	August	Monday	31	244	1	0.0580
3rd	Fall	September	Tuesday	1	245	1	0.0550
3rd	Fall	September	Wednesday	2	246	1	0.0570
3rd	Fall	September	Thursday	3	247	1	0.0590
3rd	Fall	September	Friday	4	248	1	0.0630
3rd	Fall	September	Saturday	5	249	1	0.0600
3rd	Fall	September	Sunday	6	250	1	0.0700
3rd	Fall	September	Monday	7	251	1	0.0620
3rd	Fall	September	Tuesday	8	252	1	0.0390
3rd	Fall	September	Wednesday	9	253	1	0.0410
3rd	Fall	September	Thursday	10	254	1	0.0600
3rd	Fall	September	Friday	11	255	1	0.0580
3rd	Fall	September	Saturday	12	256	1	0.0580
3rd	Fall	September	Sunday	13	257	1	0.0560
3rd	Fall	September	Monday	14	258	1	0.0570
3rd	Fall	September	Tuesday	15	259	1	0.0550
3rd	Fall	September	Wednesday	16	260	1	0.0620
3rd	Fall	September	Thursday	17	261	1	0.0610
3rd	Fall	September	Friday	18	262	1	0.0560
3rd	Fall	September	Saturday	19	263	1	0.0510
3rd	Fall	September	Sunday	20	264	1	0.0650
3rd	Fall	September	Monday	21	265	1	0.0580
3rd	Fall	September	Tuesday	22	266	1	0.0530
3rd	Fall	September	Wednesday	23	267	1	0.0560
3rd	Fall	September	Thursday	24	268	1	0.0550
3rd	Fall	September	Friday	25	269	1	0.0600
3rd	Fall	September	Saturday	26	270	1	0.0500
3rd	Fall	September	Sunday	27	271	1	0.0510
3rd	Fall	September	Monday	28	272	1	0.0540
3rd	Fall	September	Tuesday	29	273	1	0.0560
3rd	Fall	September	Wednesday	30	274	1	0.0600
4th	Fall	October	Thursday	1	275	1	0.0550
4th	Fall	October	Friday	2	276	1	0.0540
4th	Fall	October	Saturday	3	277	1	0.0590
4th	Fall	October	Sunday	4	278	1	0.0620
4th	Fall	October	Monday	5	279	1	0.0550
4th	Fall	October	Tuesday	6	280	1	0.0590

4th	Fall	October	Wednesday	7	281	1	0.0650
4th	Fall	October	Thursday	8	282	1	0.0560
4th	Fall	October	Friday	9	283	1	0.0480
4th	Fall	October	Saturday	10	284	1	0.0560
4th	Fall	October	Sunday	11	285	1	0.0560
4th	Fall	October	Monday	12	286	1	0.0480
4th	Fall	October	Tuesday	13	287	1	0.0480
4th	Fall	October	Wednesday	14	288	1	0.0420
4th	Fall	October	Thursday	15	289	1	0.0490
4th	Fall	October	Friday	16	290	1	0.0510
4th	Fall	October	Saturday	17	291	1	0.0390
4th	Fall	October	Sunday	18	292	1	0.0470
4th	Fall	October	Monday	19	293	1	0.0410
4th	Fall	October	Tuesday	20	294	1	0.0460
4th	Fall	October	Wednesday	21	295	1	0.0440
4th	Fall	October	Thursday	22	296	1	0.0480
4th	Fall	October	Friday	23	297	1	0.0420
4th	Fall	October	Saturday	24	298	1	0.0420
4th	Fall	October	Sunday	25	299	1	0.0370
4th	Fall	October	Monday	26	300	1	0.0360
4th	Fall	October	Tuesday	27	301	1	0.0410
4th	Fall	October	Wednesday	28	302	1	0.0430
4th	Fall	October	Thursday	29	303	1	0.0450
4th	Fall	October	Friday	30	304	1	0.0380
4th	Fall	October	Saturday	31	305	1	0.0390
4th	Fall	November	Sunday	1	306	1	0.0400
4th	Fall	November	Monday	2	307	1	0.0380
4th	Fall	November	Tuesday	3	308	1	0.0420
4th	Fall	November	Wednesday	4	309	1	0.0470
4th	Fall	November	Thursday	5	310	1	0.0440
4th	Fall	November	Friday	6	311	1	0.0390
4th	Fall	November	Saturday	7	312	1	0.0450
4th	Fall	November	Sunday	8	313	1	0.0430
4th	Fall	November	Monday	9	314	1	0.0320
4th	Fall	November	Tuesday	10	315	1	0.0330
4th	Fall	November	Wednesday	11	316	1	0.0400
4th	Fall	November	Thursday	12	317	1	0.0380
4th	Fall	November	Friday	13	318	1	0.0460
4th	Fall	November	Saturday	14	319	1	0.0420
4th	Fall	November	Sunday	15	320	1	0.0320
4th	Fall	November	Monday	16	321	1	0.0320
4th	Fall	November	Tuesday	17	322	1	0.0340
4th	Fall	November	Wednesday	18	323	1	0.0340
4th	Fall	November	Thursday	19	324	1	0.0400
4th	Fall	November	Friday	20	325	1	0.0330
4th	Fall	November	Saturday	21	326	1	0.0390
4th	Fall	November	Sunday	22	327	1	0.0280
4th	Fall	November	Monday	23	328	1	0.0310
4th	Fall	November	Tuesday	24	329	1	0.0410
4th	Fall	November	Wednesday	25	330	1	0.0420
4th	Fall	November	Thursday	26	331	1	0.0360
4th	Fall	November	Friday	27	332	1	0.0330
4th	Fall	November	Saturday	28	333	1	0.0280
4th	Fall	November	Sunday	29	334	1	0.0300



4th	Fall	November	Monday	30	335	1	0.0320
4th	Winter	December	Tuesday	1	336	1	0.0370
4th	Winter	December	Wednesday	2	337	1	0.0410
4th	Winter	December	Thursday	3	338	1	0.0390
4th	Winter	December	Friday	4	339	1	0.0330
4th	Winter	December	Saturday	5	340	1	0.0270
4th	Winter	December	Sunday	6	341	1	0.0250
4th	Winter	December	Monday	7	342	1	0.0290
4th	Winter	December	Tuesday	8	343	1	0.0270
4th	Winter	December	Wednesday	9	344	1	0.0180
4th	Winter	December	Thursday	10	345	1	0.0200
4th	Winter	December	Friday	11	346	1	0.0260
4th	Winter	December	Saturday	12	347	1	0.0380
4th	Winter	December	Sunday	13	348	1	0.0340
4th	Winter	December	Monday	14	349	1	0.0350
4th	Winter	December	Tuesday	15	350	1	0.0370
4th	Winter	December	Wednesday	16	351	1	0.0340
4th	Winter	December	Thursday	17	352	1	0.0360
4th	Winter	December	Friday	18	353	1	0.0330
4th	Winter	December	Saturday	19	354	1	0.0330
4th	Winter	December	Sunday	20	355	1	0.0360
4th	Winter	December	Monday	21	356	1	0.0320
4th	Winter	December	Tuesday	22	357	1	0.0390
4th	Winter	December	Wednesday	23	358	1	0.0370
4th	Winter	December	Thursday	24	359	1	0.0310
4th	Winter	December	Friday	25	360	1	0.0320
4th	Winter	December	Saturday	26	361	1	0.0340
4th	Winter	December	Sunday	27	362	1	0.0380
4th	Winter	December	Monday	28	363	1	0.0400
4th	Winter	December	Tuesday	29	364	1	0.0380
4th	Winter	December	Wednesday	30	365	1	0.0340
4th	Winter	December	Thursday	31	366	1	0.0370

Year: 2021

Day of

Quarter	Season	Month	Week	Day	jDay	Observations	Max 1-Hour
1st	Winter	January	Friday	1	1	1	0.0370
1st	Winter	January	Saturday	2	2	1	0.0370
1st	Winter	January	Sunday	3	3	1	0.0270
1st	Winter	January	Monday	4	4	1	0.0370
1st	Winter	January	Tuesday	5	5	1	0.0410
1st	Winter	January	Wednesday	6	6	1	0.0370
1st	Winter	January	Thursday	7	7	1	0.0380
1st	Winter	January	Friday	8	8	1	0.0310
1st	Winter	January	Saturday	9	9	1	0.0360
1st	Winter	January	Sunday	10	10	1	0.0400
1st	Winter	January	Monday	11	11	1	0.0350
1st	Winter	January	Tuesday	12	12	1	0.0290
1st	Winter	January	Wednesday	13	13	1	0.0340
1st	Winter	January	Thursday	14	14	1	0.0430
1st	Winter	January	Friday	15	15	1	0.0340
1st	Winter	January	Saturday	16	16	1	0.0410
1st	Winter	January	Sunday	17	17	1	0.0380
1st	Winter	January	Monday	18	18	1	0.0340

1st	Winter	January	Tuesday	19	19	1	0.0410
1st	Winter	January	Wednesday	20	20	1	0.0360
1st	Winter	January	Thursday	21	21	1	0.0330
1st	Winter	January	Friday	22	22	1	0.0340
1st	Winter	January	Saturday	23	23	1	0.0410
1st	Winter	January	Sunday	24	24	1	0.0390
1st	Winter	January	Monday	25	25	1	0.0430
1st	Winter	January	Tuesday	26	26	1	0.0430
1st	Winter	January	Wednesday	27	27	1	0.0380
1st	Winter	January	Thursday	28	28	1	0.0440
1st	Winter	January	Friday	29	29	1	0.0420
1st	Winter	January	Saturday	30	30	1	0.0440
1st	Winter	January	Sunday	31	31	1	0.0380
1st	Winter	February	Monday	1	32	1	0.0430
1st	Winter	February	Tuesday	2	33	1	0.0420
1st	Winter	February	Wednesday	3	34	1	0.0430
1st	Winter	February	Thursday	4	35	1	0.0400
1st	Winter	February	Friday	5	36	1	0.0400
1st	Winter	February	Saturday	6	37	1	0.0430
1st	Winter	February	Sunday	7	38	1	0.0440
1st	Winter	February	Monday	8	39	1	0.0440
1st	Winter	February	Tuesday	9	40	1	0.0420
1st	Winter	February	Wednesday	10	41	1	0.0420
1st	Winter	February	Thursday	11	42	1	0.0410
1st	Winter	February	Friday	12	43	1	0.0360
1st	Winter	February	Saturday	13	44	1	0.0350
1st	Winter	February	Sunday	14	45	1	0.0390
1st	Winter	February	Monday	15	46	1	0.0340
1st	Winter	February	Tuesday	16	47	1	0.0400
1st	Winter	February	Wednesday	17	48	1	0.0420
1st	Winter	February	Thursday	18	49	1	0.0430
1st	Winter	February	Friday	19	50	1	0.0440
1st	Winter	February	Saturday	20	51	1	0.0440
1st	Winter	February	Sunday	21	52	1	0.0460
1st	Winter	February	Monday	22	53	1	0.0440
1st	Winter	February	Tuesday	23	54	1	0.0490
1st	Winter	February	Wednesday	24	55	1	0.0460
1st	Winter	February	Thursday	25	56	1	0.0480
1st	Winter	February	Friday	26	57	1	0.0450
1st	Winter	February	Saturday	27	58	1	0.0440
1st	Winter	February	Sunday	28	59	1	0.0460
1st	Spring	March	Monday	1	60	1	0.0420
1st	Spring	March	Tuesday	2	61	1	0.0440
1st	Spring	March	Wednesday	3	62	1	0.0460
1st	Spring	March	Thursday	4	63	1	0.0480
1st	Spring	March	Friday	5	64	1	0.0520
1st	Spring	March	Saturday	6	65	1	0.0480
1st	Spring	March	Sunday	7	66	1	0.0550
1st	Spring	March	Monday	8	67	1	0.0520
1st	Spring	March	Tuesday	9	68	1	0.0510
1st	Spring	March	Wednesday	10	69	1	0.0500
1st	Spring	March	Thursday	11	70	1	0.0480
1st	Spring	March	Friday	12	71	1	0.0480
1st	Spring	March	Saturday	13	72	1	0.0390

1st	Spring	March	Sunday	14	73	1	0.0500
1st	Spring	March	Monday	15	74	1	0.0480
1st	Spring	March	Tuesday	16	75	1	0.0490
1st	Spring	March	Wednesday	17	76	1	0.0480
1st	Spring	March	Thursday	18	77	1	0.0500
1st	Spring	March	Friday	19	78	1	0.0480
1st	Spring	March	Saturday	20	79	1	0.0470
1st	Spring	March	Sunday	21	80	1	0.0470
1st	Spring	March	Monday	22	81	1	0.0490
1st	Spring	March	Tuesday	23	82	1	0.0450
1st	Spring	March	Wednesday	24	83	1	0.0490
1st	Spring	March	Thursday	25	84	1	0.0440
1st	Spring	March	Friday	26	85	1	0.0430
1st	Spring	March	Saturday	27	86	1	0.0530
1st	Spring	March	Sunday	28	87	1	0.0490
1st	Spring	March	Monday	29	88	1	0.0560
1st	Spring	March	Tuesday	30	89	1	0.0500
1st	Spring	March	Wednesday	31	90	1	0.0590
2nd	Spring	April	Thursday	1	91	1	0.0590
2nd	Spring	April	Friday	2	92	1	0.0570
2nd	Spring	April	Saturday	3	93	1	0.0570
2nd	Spring	April	Sunday	4	94	1	0.0560
2nd	Spring	April	Monday	5	95	1	0.0510
2nd	Spring	April	Tuesday	6	96	1	0.0490
2nd	Spring	April	Wednesday	7	97	1	0.0560
2nd	Spring	April	Thursday	8	98	1	0.0570
2nd	Spring	April	Friday	9	99	1	0.0580
2nd	Spring	April	Saturday	10	100	1	0.0530
2nd	Spring	April	Sunday	11	101	1	0.0640
2nd	Spring	April	Monday	12	102	1	0.0680
2nd	Spring	April	Tuesday	13	103	1	0.0480
2nd	Spring	April	Wednesday	14	104	1	0.0570
2nd	Spring	April	Thursday	15	105	1	0.0480
2nd	Spring	April	Friday	16	106	1	0.0450
2nd	Spring	April	Saturday	17	107	1	0.0540
2nd	Spring	April	Sunday	18	108	1	0.0570
2nd	Spring	April	Monday	19	109	1	0.0490
2nd	Spring	April	Tuesday	20	110	1	0.0540
2nd	Spring	April	Wednesday	21	111	1	0.0510
2nd	Spring	April	Thursday	22	112	1	0.0620
2nd	Spring	April	Friday	23	113	1	0.0600
2nd	Spring	April	Saturday	24	114	1	0.0530
2nd	Spring	April	Sunday	25	115	1	0.0470
2nd	Spring	April	Monday	26	116	1	0.0450
2nd	Spring	April	Tuesday	27	117	1	0.0450
2nd	Spring	April	Wednesday	28	118	1	0.0560
2nd	Spring	April	Thursday	29	119	1	0.0700
2nd	Spring	April	Friday	30	120	1	0.0590
2nd	Spring	May	Saturday	1	121	1	0.0530
2nd	Spring	May	Sunday	2	122	1	0.0540
2nd	Spring	May	Monday	3	123	1	0.0510
2nd	Spring	May	Tuesday	4	124	1	0.0580
2nd	Spring	May	Wednesday	5	125	1	0.0650
2nd	Spring	May	Thursday	6	126	1	0.0620

2nd	Spring	May	Friday	7	127	1	0.0540
2nd	Spring	May	Saturday	8	128	1	0.0560
2nd	Spring	May	Sunday	9	129	1	0.0510
2nd	Spring	May	Monday	10	130	1	0.0530
2nd	Spring	May	Tuesday	11	131	1	0.0580
2nd	Spring	May	Wednesday	12	132	1	0.0580
2nd	Spring	May	Thursday	13	133	1	0.0610
2nd	Spring	May	Friday	14	134	1	0.0560
2nd	Spring	May	Saturday	15	135	1	0.0700
2nd	Spring	May	Sunday	16	136	1	0.0570
2nd	Spring	May	Monday	17	137	1	0.0570
2nd	Spring	May	Tuesday	18	138	1	0.0650
2nd	Spring	May	Wednesday	19	139	1	0.0550
2nd	Spring	May	Thursday	20	140	1	0.0600
2nd	Spring	May	Friday	21	141	1	0.0560
2nd	Spring	May	Saturday	22	142	1	0.0620
2nd	Spring	May	Sunday	23	143	1	0.0550
2nd	Spring	May	Monday	24	144	1	0.0530
2nd	Spring	May	Tuesday	25	145	1	0.0530
2nd	Spring	May	Wednesday	26	146	1	0.0560
2nd	Spring	May	Thursday	27	147	1	0.0590
2nd	Spring	May	Friday	28	148	1	0.0680
2nd	Spring	May	Saturday	29	149	1	0.0660
2nd	Spring	May	Sunday	30	150	1	0.0640
2nd	Spring	May	Monday	31	151	1	0.0600
2nd	Summer	June	Tuesday	1	152	1	0.0720
2nd	Summer	June	Wednesday	2	153	1	0.0790
2nd	Summer	June	Thursday	3	154	1	0.0640
2nd	Summer	June	Friday	4	155	1	0.0790
2nd	Summer	June	Saturday	5	156	1	0.0560
2nd	Summer	June	Sunday	6	157	1	0.0620
2nd	Summer	June	Monday	7	158	1	0.0600
2nd	Summer	June	Tuesday	8	159	1	0.0610
2nd	Summer	June	Wednesday	9	160	1	0.0520
2nd	Summer	June	Thursday	10	161	1	0.0570
2nd	Summer	June	Friday	11	162	1	0.0690
2nd	Summer	June	Saturday	12	163	1	0.0730
2nd	Summer	June	Sunday	13	164	1	0.0820
2nd	Summer	June	Monday	14	165	1	0.0500
2nd	Summer	June	Tuesday	15	166	1	0.0560
2nd	Summer	June	Wednesday	16	167	1	0.0890
2nd	Summer	June	Thursday	17	168	1	0.0960
2nd	Summer	June	Friday	18	169	1	0.0810
2nd	Summer	June	Saturday	19	170	1	0.0650
2nd	Summer	June	Sunday	20	171	1	0.0600
2nd	Summer	June	Monday	21	172	1	0.0760
2nd	Summer	June	Tuesday	22	173	1	0.0610
2nd	Summer	June	Wednesday	23	174	1	0.0560
2nd	Summer	June	Thursday	24	175	1	0.0600
2nd	Summer	June	Friday	25	176	1	0.0660
2nd	Summer	June	Saturday	26	177	1	0.0680
2nd	Summer	June	Sunday	27	178	1	0.0620
2nd	Summer	June	Monday	28	179	1	0.0570
2nd	Summer	June	Tuesday	29	180	1	0.0550

2nd	Summer	June	Wednesday	30	181	1	0.0490
3rd	Summer	July	Thursday	1	182	1	0.0600
3rd	Summer	July	Friday	2	183	1	0.0590
3rd	Summer	July	Saturday	3	184	1	0.0670
3rd	Summer	July	Sunday	4	185	1	0.0660
3rd	Summer	July	Monday	5	186	1	0.0650
3rd	Summer	July	Tuesday	6	187	1	0.0720
3rd	Summer	July	Wednesday	7	188	1	0.0720
3rd	Summer	July	Thursday	8	189	1	0.0650
3rd	Summer	July	Friday	9	190	1	0.0970
3rd	Summer	July	Saturday	10	191	1	0.0840
3rd	Summer	July	Sunday	11	192	1	0.0850
3rd	Summer	July	Monday	12	193	1	0.0780
3rd	Summer	July	Tuesday	13	194	1	0.0590
3rd	Summer	July	Wednesday	14	195	1	0.0670
3rd	Summer	July	Thursday	15	196	1	0.0660
3rd	Summer	July	Friday	16	197	1	0.0690
3rd	Summer	July	Saturday	17	198	1	0.0680
3rd	Summer	July	Sunday	18	199	1	0.0680
3rd	Summer	July	Monday	19	200	1	0.0680
3rd	Summer	July	Tuesday	20	201	1	0.0640
3rd	Summer	July	Wednesday	21	202	1	0.0730
3rd	Summer	July	Thursday	22	203	1	0.0610
3rd	Summer	July	Friday	23	204	1	0.0650
3rd	Summer	July	Saturday	24	205	1	0.0860
3rd	Summer	July	Sunday	25	206	1	0.0850
3rd	Summer	July	Monday	26	207	1	0.0810
3rd	Summer	July	Tuesday	27	208	1	0.0620
3rd	Summer	July	Wednesday	28	209	1	0.0620
3rd	Summer	July	Thursday	29	210	1	0.0650
3rd	Summer	July	Friday	30	211	1	0.0730
3rd	Summer	July	Saturday	31	212	1	0.0650
3rd	Summer	August	Sunday	1	213	1	0.0660
3rd	Summer	August	Monday	2	214	1	0.0540
3rd	Summer	August	Tuesday	3	215	1	0.0730
3rd	Summer	August	Wednesday	4	216	1	0.0740
3rd	Summer	August	Thursday	5	217	1	0.0680
3rd	Summer	August	Friday	6	218	1	0.0650
3rd	Summer	August	Saturday	7	219	1	0.0780
3rd	Summer	August	Sunday	8	220	1	0.0810
3rd	Summer	August	Monday	9	221	1	0.0730
3rd	Summer	August	Tuesday	10	222	1	0.0770
3rd	Summer	August	Wednesday	11	223	1	0.0800
3rd	Summer	August	Thursday	12	224	1	0.0550
3rd	Summer	August	Friday	13	225	1	0.0830
3rd	Summer	August	Saturday	14	226	1	0.0760
3rd	Summer	August	Sunday	15	227	1	0.0770
3rd	Summer	August	Monday	16	228	1	0.0790
3rd	Summer	August	Tuesday	17	229	1	0.0650
3rd	Summer	August	Wednesday	18	230	1	0.0500
3rd	Summer	August	Thursday	19	231	1	0.0600
3rd	Summer	August	Friday	20	232	1	0.0640
3rd	Summer	August	Saturday	21	233	1	0.0550
3rd	Summer	August	Sunday	22	234	1	0.0600

3rd	Summer	August	Monday	23	235	1	0.0570
3rd	Summer	August	Tuesday	24	236	1	0.0640
3rd	Summer	August	Wednesday	25	237	1	0.0540
3rd	Summer	August	Thursday	26	238	1	0.0720
3rd	Summer	August	Friday	27	239	1	0.0750
3rd	Summer	August	Saturday	28	240	1	0.0800
3rd	Summer	August	Sunday	29	241	1	0.0720
3rd	Summer	August	Monday	30	242	1	0.0650
3rd	Summer	August	Tuesday	31	243	1	0.0550
3rd	Fall	September	Wednesday	1	244	1	0.0520
3rd	Fall	September	Thursday	2	245	1	0.0590
3rd	Fall	September	Friday	3	246	1	0.0710
3rd	Fall	September	Saturday	4	247	1	0.0680
3rd	Fall	September	Sunday	5	248	1	0.0680
3rd	Fall	September	Monday	6	249	1	0.0670
3rd	Fall	September	Tuesday	7	250	1	0.0790
3rd	Fall	September	Wednesday	8	251	1	0.0810
3rd	Fall	September	Thursday	9	252	1	0.0710
3rd	Fall	September	Friday	10	253	1	0.0570
3rd	Fall	September	Saturday	11	254	1	0.0550
3rd	Fall	September	Sunday	12	255	1	0.0530
3rd	Fall	September	Monday	13	256	1	0.0660
3rd	Fall	September	Tuesday	14	257	1	0.0740
3rd	Fall	September	Wednesday	15	258	1	0.0640
3rd	Fall	September	Thursday	16	259	1	0.0630
3rd	Fall	September	Friday	17	260	1	0.0590
3rd	Fall	September	Saturday	18	261	1	0.0430
3rd	Fall	September	Sunday	19	262	1	0.0510
3rd	Fall	September	Monday	20	263	1	0.0500
3rd	Fall	September	Tuesday	21	264	1	0.0530
3rd	Fall	September	Wednesday	22	265	1	0.0560
3rd	Fall	September	Thursday	23	266	1	0.0620
3rd	Fall	September	Friday	24	267	1	0.0570
3rd	Fall	September	Saturday	25	268	1	0.0560
3rd	Fall	September	Sunday	26	269	1	0.0530
3rd	Fall	September	Monday	27	270	1	0.0580
3rd	Fall	September	Tuesday	28	271	1	0.0450
3rd	Fall	September	Wednesday	29	272	1	0.0480
3rd	Fall	September	Thursday	30	273	1	0.0530
4th	Fall	October	Friday	1	274	1	0.0560
4th	Fall	October	Saturday	2	275	1	0.0580
4th	Fall	October	Sunday	3	276	1	0.0590
4th	Fall	October	Monday	4	277	1	0.0520
4th	Fall	October	Tuesday	5	278	1	0.0410
4th	Fall	October	Wednesday	6	279	1	0.0430
4th	Fall	October	Thursday	7	280	1	0.0420
4th	Fall	October	Friday	8	281	1	0.0370
4th	Fall	October	Saturday	9	282	1	0.0390
4th	Fall	October	Sunday	10	283	1	0.0460
4th	Fall	October	Monday	11	284	1	0.0430
4th	Fall	October	Tuesday	12	285	1	0.0270
4th	Fall	October	Wednesday	13	286	1	0.0380
4th	Fall	October	Thursday	14	287	1	0.0350
4th	Fall	October	Friday	15	288	1	0.0430

4th	Fall	October	Saturday	16	289	1	0.0480
4th	Fall	October	Sunday	17	290	1	0.0500
4th	Fall	October	Monday	18	291	1	0.0460
4th	Fall	October	Tuesday	19	292	1	0.0450
4th	Fall	October	Wednesday	20	293	1	0.0450
4th	Fall	October	Thursday	21	294	1	0.0480
4th	Fall	October	Friday	22	295	1	0.0440
4th	Fall	October	Saturday	23	296	1	0.0420
4th	Fall	October	Sunday	24	297	1	0.0360
4th	Fall	October	Monday	25	298	1	0.0470
4th	Fall	October	Tuesday	26	299	1	0.0440
4th	Fall	October	Wednesday	27	300	1	0.0370
4th	Fall	October	Thursday	28	301	1	0.0370
4th	Fall	October	Friday	29	302	1	0.0360
4th	Fall	October	Saturday	30	303	1	0.0320
4th	Fall	October	Sunday	31	304	1	0.0430
4th	Fall	November	Monday	1	305	1	0.0410
4th	Fall	November	Tuesday	2	306	1	0.0330
4th	Fall	November	Wednesday	3	307	1	0.0370
4th	Fall	November	Thursday	4	308	1	0.0350
4th	Fall	November	Friday	5	309	1	0.0400
4th	Fall	November	Saturday	6	310	1	0.0390
4th	Fall	November	Sunday	7	311	1	0.0430
4th	Fall	November	Monday	8	312	1	0.0290
4th	Fall	November	Tuesday	9	313	1	0.0350
4th	Fall	November	Wednesday	10	314	1	0.0440
4th	Fall	November	Thursday	11	315	1	0.0340
4th	Fall	November	Friday	12	316	1	0.0340
4th	Fall	November	Saturday	13	317	1	0.0340
4th	Fall	November	Sunday	14	318	1	0.0300
4th	Fall	November	Monday	15	319	1	0.0250
4th	Fall	November	Tuesday	16	320	1	0.0400
4th	Fall	November	Wednesday	17	321	1	0.0440
4th	Fall	November	Thursday	18	322	1	0.0270
4th	Fall	November	Friday	19	323	1	0.0260
4th	Fall	November	Saturday	20	324	1	0.0360
4th	Fall	November	Sunday	21	325	1	0.0370
4th	Fall	November	Monday	22	326	1	0.0310
4th	Fall	November	Tuesday	23	327	1	0.0400
4th	Fall	November	Wednesday	24	328	1	0.0380
4th	Fall	November	Thursday	25	329	1	0.0360
4th	Fall	November	Friday	26	330	1	0.0300
4th	Fall	November	Saturday	27	331	1	0.0290
4th	Fall	November	Sunday	28	332	1	0.0290
4th	Fall	November	Monday	29	333	1	0.0390
4th	Fall	November	Tuesday	30	334	1	0.0250
4th	Winter	December	Wednesday	1	335	1	0.0310
4th	Winter	December	Thursday	2	336	1	0.0240
4th	Winter	December	Friday	3	337	1	0.0270
4th	Winter	December	Saturday	4	338	1	0.0260
4th	Winter	December	Sunday	5	339	1	0.0360
4th	Winter	December	Monday	6	340	1	0.0190
4th	Winter	December	Tuesday	7	341	1	0.0370
4th	Winter	December	Wednesday	8	342	1	0.0340

4th	Winter	December	Thursday	9	343	1	0.0360
4th	Winter	December	Friday	10	344	1	0.0370
4th	Winter	December	Saturday	11	345	1	0.0350
4th	Winter	December	Sunday	12	346	1	0.0360
4th	Winter	December	Monday	13	347	1	0.0360
4th	Winter	December	Tuesday	14	348	1	0.0530
4th	Winter	December	Wednesday	15	349	1	0.0520
4th	Winter	December	Thursday	16	350	1	0.0380
4th	Winter	December	Friday	17	351	1	0.0370
4th	Winter	December	Saturday	18	352	1	0.0380
4th	Winter	December	Sunday	19	353	1	0.0370
4th	Winter	December	Monday	20	354	1	0.0350
4th	Winter	December	Tuesday	21	355	1	0.0340
4th	Winter	December	Wednesday	22	356	1	0.0330
4th	Winter	December	Thursday	23	357	1	0.0380
4th	Winter	December	Friday	24	358	1	0.0440
4th	Winter	December	Saturday	25	359	1	0.0440
4th	Winter	December	Sunday	26	360	1	0.0450
4th	Winter	December	Monday	27	361	1	0.0420
4th	Winter	December	Tuesday	28	362	1	0.0440
4th	Winter	December	Wednesday	29	363	1	0.0380
4th	Winter	December	Thursday	30	364	1	0.0420
4th	Winter	December	Friday	31	365	1	0.0440





# Memo

To: Alan Humpherys  
Utah Division of Air Quality

From: Eric Clark, P.E.  
727 E. Riverpark Lane,  
Suite 150  
Boise, Idaho 83706

Project/File: 203723274

Date: August 28, 2024

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## Reference: Updated Dispersion Modeling for AO Modification – Springville Power Corporation

Mr. Humphreys:

Stantec Consulting Services, Inc. (Stantec) is submitting a proposed modification/revision to the current Approval Order (AO), DAQE-AN108190009-24, issued May 8<sup>th</sup>, 2024, on behalf of Springville Power Corporation (Springville). The current AO includes permit condition II.B.2.e, which limits the start-up hours for the Caterpillar engines from 8:00-11:00 AM daily. This condition was included because of the initial 1-hr NO<sub>2</sub> dispersion modeling incorporated that restricted. However, Stantec has reassessed and conducted new modeling in support of removal the condition. All permitted emissions are unchanged.

The updated modeling is consistent with the analysis conducted for the current AO in terms of stack parameters, background values and meteorological data. The only modification was to eliminate the start-up time hours. Rather, the new analysis assumes that start-up could occur at any time throughout the year. Thus, the start-up emission rate is applied continuously.

Stantec and Springville are also providing a new Form 2 with signature. No other information is included in this submittal. Should UDAQ require anything further, please let us know. Any associated fees will be paid upon receipt of an invoice from UDAQ.

Regards,

**STANTEC CONSULTING SERVICES INC.**

---

**Eric Clark** P.E.  
Senior Engineer  
Phone: (208) 388-4324  
Mobile: (208) 861-7182  
eric.clark@stantec.com

Attachment: Form 2, August 2024 Updated Modeling Report



State of Utah

SPENCER J. COX  
Governor

DEIDRE HENDERSON  
Lieutenant Governor

Department of  
Environmental Quality

Kimberly D. Shelley  
Executive Director

DIVISION OF AIR QUALITY  
Bryce C. Bird  
Director

RN108190010

December 13, 2024

Mike Pool  
Springville City Corporation  
450 West 600 North  
Springville, UT 84663  
mpool@springville.org


Dear Mike Pool,

Re: Engineer Review:  
Modification to Approval Order DAQE-AN108190008-17 to Remove Engine Startup Hours  
Limitation  
Project Number: N108190010

The DAQ requests a company representative review and sign the attached Engineer Review (ER). This ER identifies all applicable elements of the New Source Review permitting program. Springville City Corporation should complete this review within **10 business days** of receipt.

Springville City Corporation should contact **Stockton Antczak** at (385) 306-6724 if there are questions or concerns with the review of the draft permit conditions. Upon resolution of your concerns, please email **Stockton Antczak** at [santczak@utah.gov](mailto:santczak@utah.gov) the signed cover letter. Upon receipt of the signed cover letter, the DAQ will prepare an ITA for a 30-day public comment period. At the completion of the comment period, the DAQ will address any comments and will prepare an Approval Order (AO) for signature by the DAQ Director.

If Springville City Corporation does not respond to this letter within **10 business days**, the project will move forward without source concurrence. If Springville City Corporation has concerns that cannot be resolved and the project becomes stagnant, the DAQ Director may issue an Order prohibiting construction.

Approval Signature  12-16-24  
(Signature & Date)

**Air Quality Modeling Report –  
Springville Power Corporation –  
Notice of Intent**

Springville Power Corporation  
1-hr NO<sub>2</sub> Modeling



Prepared for:  
Utah Dept. of Environmental Quality  
Division of Air Quality  
PO Box 144820  
Salt Lake City, Utah 84114-482  
Phone: 801-536-4000

Prepared by:  
Stantec Consulting Services  
727 East Riverpark Lane, Suite 150  
Boise, ID 83706  
Contact: Eric Clark  
Ph: 208-388-4324

August 28, 2024

## Sign-off Sheet

The conclusions in the Report titled **Air Quality Modeling Report – Springville Power Corporation – Notice of Intent** are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

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## AIR QUALITY MODELING REPORT – Springville Power Corporation – Notice of Intent

Purpose  
August 28, 2024

### 1.0 PURPOSE

This air quality modeling report documents a minor change to the previous to the current Approval Order, DAQE-AN108190009-24, issued May 8<sup>th</sup>, 2024. The current Approval Order allows the Springville Power Corporation (Springville) facility to comprise two Enterprise natural gas/diesel engines (K1&K2), five Caterpillar G3520H engines (K3-K7) and a 6 MMBtu/hr natural gas boiler. There are no emissions or physical changes to the August 2023 modeling files. The only modifications are the elimination of the start-up timing restriction. This updated modeling report demonstrates compliance with the 1-hr NO<sub>2</sub> National Ambient Air Quality Standard with the removal of permit condition II.B.2.e.

All pertinent, updated modeling-related files are provided in electronic format. This includes AERMAP terrain information, BPIP downwash files, NED data and meteorological/background data.

### 1.1 PROCESS DESCRIPTION

Springville Power currently consists of two nameplate 7.0 megawatt (MW) Enterprise engines (will not exceed 5.5 MW when operating); five 2,403 kW 4-stroke lean burn natural gas engines and one 6.0 MMBtu/hr boiler. Each of the Caterpillar engines will be equipped with an oxidation catalyst and selective catalytic reduction (SCR). The 6.0 MMBtu/hr boiler remains unchanged.

A nearby facility, Pacific pipeline, was included in the modeling analysis at the request of the Utah Division of Air Quality (UDAQ). This was included from 2017 UDAQ modeling conducted at the facility and has been applied without modification. Lastly, Springville owns the property to the south of 700 North. The property boundary has been adjusted to the incorporate those parcels. In accordance with the Utah County assessor, three parcels are owned by Springville that comprise approximately 13.23 acres. These parcels are now excluded from ambient air (700 North remains part of ambient air). This is consistent with the 2023 modeling. For details, refer to Appendix B of the 2023 Notice of Intent.

Model Description/Justification  
August 28, 2024

## **2.0 MODEL DESCRIPTION/JUSTIFICATION**

AERMOD is one of the most frequently used regulatory dispersion models in the United States since it replaced ISCST3. Based on EPA guidance, AERMOD (version 23132) is the most appropriate of the EPA-approved models, given the site's physical characteristics and the facility emission sources. AERMOD was applied as recommended in EPA's Guideline on Air Quality Models and consistent with guidance in UDAQ's Modeling Guidelines. The BPIP Prime building downwash algorithm was applied for the facility.

Terrain data were processed consistent with the approved model protocol and EPA guidance for AERMAP. The United States Geological Survey (USGS) National Viewer was used to obtain appropriate National Elevation Dataset (NED) data to establish proper elevations. Five years of meteorological data from the Spanish Fork Airport (2004-2008) was provided by UDAQ for this analysis. The model receptor network and model domain remain consistent with the 2023 modeling.

Emission And Source Data  
August 28, 2024

### 3.0 EMISSION AND SOURCE DATA

The maximum annual hour usage was estimated to establish the potential emissions. Table 1 illustrates the projected NO<sub>x</sub> emission rates for all engines. All engine emission rates listed in Table 1 are based on 2021 performance test results for the Enterprise engines and manufacturer information for the Caterpillar engines. The Enterprise engines have the capacity of running on diesel fuel 1% of the time during typical operations. The NO<sub>x</sub> factors are from test data and account for the 1% diesel. As stated above the worst-case average test results plus a safety factor were 1.485 g/kw-hr. The maximum horsepower assumed for both Enterprise engines is 7,370 hp (5500 kW). This rate was applied to both units K1 and K2.

$$Enterprise\ NO_2\ \frac{lb}{hr} = 1.485\ \frac{g}{kW\ hr} * 5,500\ kW \div 453.6\ \frac{g}{lb} = 18.01\ \frac{lb}{hr}$$

All Caterpillar engine emissions are derived from specification data from the manufacturer. The CAT G3520H units are 3,422 hp each at the site elevation. Each engine is specified to emit 1 g/hp-hr for NO<sub>x</sub>, but the SCR controls all NO<sub>x</sub> by 93% or a factor of 0.07 g/hp-hr. However, due to a potential SCR startup time of 7 minutes, potential emission rates vary. The hourly emission rate assume the ability to start-up at any hour of the year are as follows:

$$CAT\ Start\ NO_2\ \frac{lb}{hr} = \left[ \left( 1.0\ \frac{g}{hp\ hr} * \frac{7}{60} \right) + \left( 0.07\ \frac{g}{hp\ hr} * \frac{53}{60} \right) \right] * 3422\ hp * \frac{lb}{453.6\ g} = 1.347\ \frac{lb}{hr}$$

The permitted 6 MMBtu/hr natural gas boiler remains unchanged and NO<sub>x</sub> emissions are derived from AP-42, Section 1.4 and a natural gas heating value of 1,020 btu/scf.

$$Boiler\ NO_2\ \frac{lb}{hr} = 6.0\ \frac{MMBtu}{hr} * 100\ \frac{lb}{MMscf} * \frac{MMBtu}{1020\ MMscf} = 0.588\ \frac{lb}{hr}$$

### 3.1 EMISSION SOURCES

Emissions sources at the Springville facility that were included in the model are listed below:

- Engine emissions
  - Caterpillar
  - Enterprise
- Boiler emissions



Emission And Source Data  
August 28, 2024

### 3.1.1 Engines And Boiler

**Table 3-1 Generator Emissions**

Model #	Engine Type	NO <sub>2</sub> lb/hr Rate
K1	Enterprise	18.01
K2	Enterprise	18.01
K3	CAT 3520H	1.347
K4	CAT 3520H	1.347
K5	CAT 3520H	1.347
K6	CAT 3520H	1.347
K7	CAT 3520H	1.347
B1	6.0 MMBtu/hr Boiler	0.588

## 3.2 SOURCE CHARACTERIZATION

All emission sources are characterized as point sources. The following sections outline the rationale and basis for all parameters.

### 3.2.1 Point Sources

There are eight point sources within Springville. All parameters shown below are unchanged from the 2023 modeling, which were derived from manufacturer specification sheets, calculations based on test data or consistent with the 2017 modeling conducted by UDAQ.

**Table 3-2 Source Stack Parameters**

Stack	Stack Height (ft)	Temperature (°F)	Stack Diameter (inches)	Flow Rate (acfm)
K1	60	672.3	42	63,557
K2		672.3	42	63,557
K3		732	24	15,043
K4		732	24	15,043
K5		732	24	15,043
K6		732	24	15,043
K7		732	24	15,043
B1	58	590	21.3	24,627

Receptor network  
August 28, 2024

### 4.0 RECEPTOR NETWORK

The facility is located in a rural area in Springville, Utah within Utah County. Consistent with UDAQ Air Dispersion Modeling Guidance, the ambient air boundary used in this analysis is the owned property boundary, which also serves as the Public Access Boundary (PAB). Springville owns the area south of 700 North and can control access. Receptors along the PAB were spaced at 25 meter increments. The PAB represents the limit of access by the public to the project site. The receptor grid was established as follows:

- Receptors spaced at 25 meters along the PAB;
- Receptors spaced at 25 meters for the first 100 meters past the PAB;
- Receptors spaced at a density of one per 50 meters from 100 meters out to 350 meters past the PAB;
- Receptors spaced at 100 meters from 350 out to 850 meters past the PAB;
- Receptors spaced at 250 meters from 850 out to 1,850 meters past the PAB;
- Receptors spaced at 500 meters from 1.85 kilometers out to 4.35 kilometers past the PAB; and
- Receptors spaced at 1 kilometer from 4.35 kilometers out to 7.35 kilometers past the PAB.

### 5.0 ELEVATION DATA

All source base and receptor elevations were calculated from USGS NED data obtained via the National Map Viewer website using the Bee-Line BEEST preprocessing system. A 1/3 arc second NED file was used in the analysis input and output files from AERMAP and will be included submitted with the report.

Meteorological data  
August 28, 2024

## **6.0 METEOROLOGICAL DATA**

Preprocessed AERMOD-ready meteorological files were obtained via the UDAQ Guideline website<sup>1</sup>. The data files cover the years 2004 through 2008 from the Spanish Fork Airport. The hourly average data is from the National Weather Service (NWS) Automated Surface Observing System (ASOS). The data presented by UDAQ is model-ready and was used without alteration or processing. Although these data originated from UDAQ, it will be included as part of this submittal.

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<sup>1</sup> <https://deq.utah.gov/air-quality/emissions-impact-assessment-guideline-preface>

Land use Classification  
August 28, 2024

## **7.0 LAND USE CLASSIFICATION**

AERMOD includes rural and urban algorithm options. These options affect the wind speed profile, dispersion rates, and mixing-height formula used in calculating ground-level pollutant concentrations. A protocol was developed by USEPA to classify an area as either rural or urban for dispersion modeling purposes. The classification is based on average heat flux, land use, or population density within a three-km radius from the plant site. Of these techniques, the USEPA has specified that land use is the most definitive criterion (USEPA, 1987). The urban/rural classification scheme based on land use is as follows:

*The land use within the total area,  $A_0$ , circumscribed by a 3-km circle about the source, is classified using the meteorological land use typing scheme proposed by Auer (1978). The classification scheme requires that more than 50% of the area,  $A_0$ , be from the following land use types in order to be considered urban for dispersion modeling purposes: heavy industrial (I1); light-moderate industrial (I2); commercial (C1); single-family compact residential (R2); and multi-family compact residential (R3). Otherwise, the use of rural dispersion coefficients is appropriate.*

The Springville facility is located in a light industrial area, at Springville, Utah surrounded by residential areas to the south and east. To the north is light industrial and agriculture land to the west. Site and map reconnaissance showed that the area  $A_0$  within a 3-km radius of the source is likely at or slightly above the 50% urban land use criteria necessary for use of urban dispersion coefficients. Thus, they were applied in the dispersion modeling. The estimated 2023 population<sup>2</sup> of Springville of 35,471 was implemented. Default roughness was assumed.

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<sup>2</sup> <https://www.census.gov/quickfacts/springvillecityutah>

Background Concentrations  
August 28, 2024

## **8.0 BACKGROUND CONCENTRATIONS**

### **NO<sub>2</sub>**

Starting in 2018, NO<sub>2</sub> and ozone monitors were placed in Spanish Fork (AQS Site ID 49-049-5010). The AERMOD Wizard tool associated with the BEEST software was used to obtain three years of NO<sub>2</sub> and ozone data from the monitor. The years are 2019-2021. 2022 was not selected because the tool doesn't have the full year available for download. The data was then processed with the tool to establish the appropriate 1-hr background values for both NO<sub>2</sub> and ozone. The ozone data completeness by quarter was 98.86% or greater for each of the three years (NO<sub>2</sub> was 98.90%).

The 1<sup>st</sup> high values were determined for the temporal array flag of MHRDOW7 (month hour of day, seven days per week). This was selected to allow for the most representative values throughout the evaluation period. This is fairly consistent with the 2017 UDAQ modeling that used hourly files.

AERMOD input SO format files are provided as are text files. Note the NO<sub>2</sub> file had missing data on Friday hour 5 and Sunday hour 5 for all months. Similarly, the ozone file had missing data for Saturday hour 5 for all months, but December. The average of the preceding and following concentrations was applied for the missing data.

The ozone limiting method was applied as part of this analysis, again to remain consistent with 2017 modeling. Note that this approach is unchanged from the 2023 modeling.

### **NO<sub>2</sub> In-Stack Ratio**

Lastly, a representative NO<sub>2</sub>/NO<sub>x</sub> in-stack ratio of 0.1 for each Enterprise engine and the boiler was applied to remain consistent with the 2017 UDAQ modeling. The 0.1 is also a reasonable value for natural gas combustion on average per the EPA In-stack Ratio database<sup>3</sup>.

Lastly, an average of three Caterpillar G3520 engines as referenced in the EPA In-stack Ratio database was applied for the G3520H units. This number is 0.1625 from previously tested units by the Oklahoma DEQ.

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<sup>3</sup> <https://www.epa.gov/scram/nitrogen-dioxidenitrogen-oxide-stack-ratio-isr-database>

Results  
August 28, 2024

## 9.0 RESULTS

The following sections outline the methods used to complete an ambient air impact analysis as a result of the proposed Springville project.

### 9.1 APPLICABLE LIMITS

The air quality impact limits applicable to this analysis are the National Ambient Air Quality Standards (NAAQS). NO<sub>2</sub> uses the design value that is the 98<sup>th</sup> percentile averaged over three years. That equates to a design value that is the 8<sup>th</sup> high over a five year period.

### 9.2 IMPACT

The tables shown below demonstrate that there is no exceedance of the 1-hr NO<sub>2</sub> NAAQS standards due to the proposed operation of the facility.

#### 9.2.1 NO<sub>2</sub> Results

**Table 9-1 PM<sub>10</sub> Modeling Results**

PM <sub>10</sub>	Averaging Period	Background Concentration (µg/m <sup>3</sup> ) <sup>1</sup>	Modeled Impact (µg/m <sup>3</sup> ) <sup>3</sup>	Total Concentration (µg/m <sup>3</sup> )	NAAQS (µg/m <sup>3</sup> )	% of Standard
Springville	1-hr <sup>2</sup>	OLM	175.89	175.9	188	93.6%

1. MHRDOW7 ozone and NO<sub>2</sub> backgrounds
2. 8<sup>th</sup> high design value
3. 2004-2008 Spanish Fork Met data