



Robin L. Simmons  
Regional Land Manager

September 27, 2021

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Oklahoma Water Resources Board

Oklahoma Water Resources Board  
3800 N. Classen Boulevard  
Oklahoma City, OK 73118  
Attn: Mr. Matt Cogburn

Re: Martin Marietta/TXI Mill Creek Limestone Quarry Monitoring Report Q2 2021

Dear Mr. Cogburn:

Attached please find the Q2 2021 Quarterly Monitoring Report for Martin Marietta/TXI's Mill Creek Limestone quarry. The report is summarized on the table labeled Appendix C. Supporting data is also included. Please note that the Q1 numbers have been updated to the latest data.

Please call if you have any questions or comments.

Sincerely,

A handwritten signature in blue ink that reads 'Robin L. Simmons'.

Robin L. Simmons  
Regional Land Manager

North Texas/Oklahoma District  
1503 LBJ Parkway Suite 400, Dallas, Texas 75234  
t. (972) 350-8228 m. (214) 213-6024 e. [Robin.Simmons@martinmarietta.com](mailto:Robin.Simmons@martinmarietta.com)  
[www.martinmarietta.com](http://www.martinmarietta.com)

**ATTACHMENT 1 (Appendix C)**  
**Martin Marietta (TXI) Mill Creek 2021**

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**Appendix C . Consumptive use of Pitwater**

Q1 2021    Q2 2021

<b>PIT GROUNDWATER VOLUME</b>			
1	Total volume pumped from producing mine pit(s) (AC-FT)	673.8263	633.9368
2	Volume of precipitation that falls onto the surface of producing Mine Pits (AC-FT)	11.52567	32.63633
3	Portion of total precipitation that flows over the land surface that drains into the mine pit water (AC-FT)	51.99433	143.6068
4	<b>(WATER HELD IN PIT FROM PREVIOUS MONTHS) other non pit waters pumped from the producing mining pit (AC-FT)</b>	-91.5971	31.58163
5	add lines 2 through 4	155.12	207.82
6	<b>Pit Groundwater Volume (AC-FT) (line 1 minus Line 5)</b>	<b>518.71</b>	<b>426.11</b>
<b>DEFINED ELEMENTS OF CONSUMPTIVE USE</b>			
7	Vol. of pit groundwater that is driven off (by drying) the mined material transp. off of the mine site (AC-FT)	0.00	0.00
8	Vol. of pit groundwater that is carried away with the the mined material transp. off of the mine site (AC-FT)	3.20	4.37
9	Vol. of pit groundwater that evaporates from producing mine pits, process ponds and lined ponds (excluding structures used for augmentation) (AC-FT)	0.00	0.00
10	Volume of pit groundwater that is used for other beneficial uses off of the mine site (AC-FT) (includes on-site dust control)	13.71	12.51
11	<b>DEFINED ELEMENTS OF CONSUMPTIVE USE of Pit groundwater (AC-FT) (add lines 7 through 10)</b>	<b>16.90</b>	<b>16.88</b>
<b>PIT GROUNDWATER BALANCE</b>			
12	Lines 6 minus 11	501.81	409.23
13	<b>Groundwater Augmentation</b> Volume of pit water returned to GW Basin or subbasin. (Troy Recharge AC-FT)	<b>Credits</b>	334.00
14	<b>Stream Augmentation</b> volume of pit water discharged to a definite Stream, during flow conditions that are less than or equal to the accepted exceedance level (AC-FT)		42.79
15	<b>PPT and Runoff</b> Volume of Precipitation and surface runoff into a recharge pit or holding pond (AC-FT)		19.72
16	<b>Recycled Pit Groundwater</b> - Volume of ground water returned to the mine pit or holding basin (AC-FT)		333.90
17	<b>Other Non-Consumptive GW Losses</b> Including pit GW returned to the land surface from which surface runoff flows into a mine pit and other losses (AC-FT)		32.6
18	add lines 13 through 17	762.97	855.43
19	<b>OTHER CONSUMPTIVE USE</b> Line 12 minus Line 18	-261.17	-446.19
<b>TOTAL REPORTED CONSUMPTIVE USE (AC-FT)</b>			
<b>TOTAL NET CONSUMPTIVE USE (AC-FT) Line 11 plus line 19</b>		<b>-244.26</b>	<b>-429.31</b>

## RESULTS FROM RUNOFF MODELLING

2021	PPT.	Quarry Monthly Totals				FW Pond Monthly Totals		Re-cycle Recharge (Troy) Monthly Totals		TXI-Mill Creek Totals	
		Sump Direct ppt	In-Quarry Runoff	Runoff from beyond Quarry	Quarry Totals	Direct ppt	Runoff	Direct ppt	Runoff	Direct ppt	Runoff
	Inches	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
January	1.25	2.958	6.382	0.799	10.14	1.95	0.01	3.65	0.28	8.55	7.47
February	0.81	1.917	1.668	0.037	3.62	1.26	0.00	2.36	0.01	5.54	1.72
March	2.81	6.650	31.492	11.616	49.76	4.38	6.93	8.20	5.22	19.23	55.25
<b>Q1 Subtotal</b>	<b>4.87</b>	<b>11.53</b>	<b>39.54</b>	<b>12.45</b>	<b>63.52</b>	<b>7.59</b>	<b>6.93</b>	<b>14.20</b>	<b>5.51</b>	<b>33.32</b>	<b>64.44</b>
April	5.36	12.685	47.746	14.610	75.04	8.35	7.43	15.63	6.41	36.67	76.19
May	6.11	14.460	47.774	14.906	77.14	9.52	10.01	17.82	6.74	41.80	79.43
June	2.32	5.491	10.849	7.721	24.06	3.62	0.03	6.77	0.41	15.87	19.01
<b>Q2 Subtotal</b>	<b>13.79</b>	<b>32.64</b>	<b>106.37</b>	<b>37.24</b>	<b>176.24</b>	<b>21.49</b>	<b>17.47</b>	<b>40.22</b>	<b>13.55</b>	<b>94.35</b>	<b>174.64</b>

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Water Volume Movements	January	February	March	April	May	June
Pumped from Pit	180.4	271.6	221.8	238.1	202.2	193.6
Groundwater Component of Pitwater	120.2	290.5	90.5	122.2	153.5	184.8
Quarry dust suppression	2.1	7.7	5.9	6.8	2.8	7.3
Q- freshwater pond	162.0	249.6	203.8	169.1	199.4	186.3
To Secondary FM7	336.0	293.0	430.5	541.0	513.3	511.8
To sand Plant FM8	104.6	77.0	138.1	182.0	161.7	163.9
to loadout FM6	267.9	187.2	369.4	456.3	400.4	437.9
to dust control FM9	2.265	0.000	0.000	0.000	0.000	0.000
to Plant FM7+FM8+FM6	708.5	557.2	938.0	1179.2	1075.5	1113.5
to stream Augmentation	16.25	14.31	12.23	62.24	0.00	0.00
bypass discharge	0.378851	0.378851	0.649776	0	0.378851	0.762633
To Troy FM3	721.6	529.8	939.5	1212.3	1117.8	1147.7
To Booster FM2	729.0	524.3	966.5	1248.5	1136.8	1215.3
From Troy to Freshwater Pond FM4	550.2	432.6	726.9	910.1	766.2	865.0

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Quarter Summary	2nd Qtr
Total Tons Shipped	1,500,000
Total Acre Feet	31.93
Average Moisture %	2.90%

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Date	Daily Rainfall Total	Total Daily Evaporation
4/1/2021	0	1.015
4/2/2021	0	1.714
4/3/2021	0	1.72
4/4/2021	0	1.489
4/5/2021	0	1.271
4/6/2021	0	2.149
4/7/2021	0	1.461
4/8/2021	0	1.774
4/9/2021	0.33	0.889
4/10/2021	0	0.189
4/11/2021	0	1.339
4/12/2021	0	2.11
4/13/2021	0	1.834
4/14/2021	0.5	0.313
4/15/2021	0.1	0.528
4/16/2021	0.18	0.176
4/17/2021	0	0
4/18/2021	0	0
4/19/2021	0	0.354
4/20/2021	0	0.64
4/21/2021	0	0.446
4/22/2021	0	0.051
4/23/2021	1.04	0.16
4/24/2021	0.2	0.053
4/25/2021	0	0.11
4/26/2021	0	0.139
4/27/2021	0	0.011
4/28/2021	1.86	1.008
4/29/2021	1.15	0.336
4/30/2021	0	0.227
5/1/2021	0	0.075
5/2/2021	0	0.098
5/3/2021	1.07	0.405
5/4/2021	0.04	0.226
5/5/2021	0	0.179
5/6/2021	0	0.2
5/7/2021	0	0.249
5/8/2021	0	0.225
5/9/2021	0	0.247
5/10/2021	0	0.053
5/11/2021	0.53	0.369
5/12/2021	0	0.011
5/13/2021	0	0.067
5/14/2021	0	0.172
5/15/2021	0	0.125
5/16/2021	1.04	0.267

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5/17/2021	0	0.141
5/18/2021	0.13	0.136
5/19/2021	0.01	0.044
5/20/2021	0.09	0.115
5/21/2021	0.4	0.219
5/22/2021	0.12	0.181
5/23/2021	0.05	0.051
5/24/2021	0.15	0.142
5/25/2021	0.25	0.254
5/26/2021	0	0.128
5/27/2021	0.8	0.219
5/28/2021	0.04	0.346
5/29/2021	0	0.239
5/30/2021	0	0.126
5/31/2021	1.39	0.654
6/1/2021	0	0.096
6/2/2021	0	0.067
6/3/2021	0	0.158
6/4/2021	0	0.203
6/5/2021	0.51	0.34
6/6/2021	0.08	0.083
6/7/2021	0	0.028
6/8/2021	0	0.169
6/9/2021	0	0.13
6/10/2021	0	0.15
6/11/2021	0	0.167
6/12/2021	0.87	0.591
6/13/2021	0	0.203
6/14/2021	0	0.255
6/15/2021	0	0.235
6/16/2021	0	0.249
6/17/2021	0	0.232
6/18/2021	0	0.215
6/19/2021	0	0.218
6/20/2021	0	0.225
6/21/2021	0.44	0.339
6/22/2021	0	0.177
6/23/2021	0	0.135
6/24/2021	0	0.21
6/25/2021	0	0.227
6/26/2021	0	0.078
6/27/2021	0	0.15
6/28/2021	0.25	0.15
6/29/2021	0.17	0.051
6/30/2021	0	0.108

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```
# ----- WARNING -----
# Some of the data that you have obtained from this U.S. Geological Survey database
# may not have received Director's approval. Any such data values are qualified
# as provisional and are subject to revision. Provisional data are released on the
# condition that neither the USGS nor the United States Government may be held liable
# for any damages resulting from its use.
#
# Additional info: https://help.waterdata.usgs.gov/policies/provisional-data-statement
#
# File-format description: https://help.waterdata.usgs.gov/faq/about-tab-delimited-output
# Automated-retrieval info: https://help.waterdata.usgs.gov/faq/automated-retrievals
#
# Contact: gs-w_support_nwisweb@usgs.gov
# retrieved: 2021-07-09 14:57:20 EDT (caww01)
#
```

```
# Data for the following 1 site(s) are contained in this file
# USGS 07331200 Mill Creek near Mill Creek, OK
# -----
```

```
# Data provided for site 07331200
#      TS      parameter      statistic      Description
#      111780      00060      00003      Discharge, cubic feet per second (Mean)
#
```

```
# Data-value qualification codes included in this output:
#      A Approved for publication -- Processing and review completed.
#      P Provisional data subject to revision.
#
```

agency_cd	site_no	datetime	111780_00060_00003	111780_00060_00003_cd
5s	15s	20d	14n	10s
USGS	07331200	2021-04-01	4.14	A
USGS	07331200	2021-04-02	4.49	A
USGS	07331200	2021-04-03	4.64	A
USGS	07331200	2021-04-04	4.80	A
USGS	07331200	2021-04-05	4.87	A
USGS	07331200	2021-04-06	4.67	A
USGS	07331200	2021-04-07	4.69	P
USGS	07331200	2021-04-08	3.85	P
USGS	07331200	2021-04-09	4.28	P
USGS	07331200	2021-04-10	4.42	P
USGS	07331200	2021-04-11	4.94	P
USGS	07331200	2021-04-12	5.07	P
USGS	07331200	2021-04-13	4.98	P
USGS	07331200	2021-04-14	9.65	P
USGS	07331200	2021-04-15	7.26	P
USGS	07331200	2021-04-16	7.23	P
USGS	07331200	2021-04-17	5.77	P
USGS	07331200	2021-04-18	4.55	P
USGS	07331200	2021-04-19	3.81	P
USGS	07331200	2021-04-20	3.40	P
USGS	07331200	2021-04-21	2.94	P
USGS	07331200	2021-04-22	3.42	P
USGS	07331200	2021-04-23	10.2	P
USGS	07331200	2021-04-24	42.6	P
USGS	07331200	2021-04-25	22.8	P
USGS	07331200	2021-04-26	12.6	P
USGS	07331200	2021-04-27	9.25	P
USGS	07331200	2021-04-28	360	P
USGS	07331200	2021-04-29	393	P
USGS	07331200	2021-04-30	78.1	P

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```
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#
# Additional info: https://help.waterdata.usgs.gov/policies/provisional-data-statement
#
# File-format description: https://help.waterdata.usgs.gov/faq/about-tab-delimited-output
# Automated-retrieval info: https://help.waterdata.usgs.gov/faq/automated-retrievals
#
# Contact: gs-w_support_nwisweb@usgs.gov
# retrieved: 2021-07-09 14:58:06 EDT (caww01)
#
```

```
# Data for the following 1 site(s) are contained in this file
# USGS 07331200 Mill Creek near Mill Creek, OK
# -----
```

```
# Data provided for site 07331200
# TS parameter statistic Description
# 111780 00060 00003 Discharge, cubic feet per second (Mean)
#
```

```
# Data-value qualification codes included in this output:
# P Provisional data subject to revision.
#
```

agency_cd	site_no	datetime	111780_00060_00003	111780_00060_00003_cd
5s	15s	20d	14n	10s
USGS	07331200	2021-05-01	62.6	P
USGS	07331200	2021-05-02	51.3	P
USGS	07331200	2021-05-03	185	P
USGS	07331200	2021-05-04	231	P
USGS	07331200	2021-05-05	73.8	P
USGS	07331200	2021-05-06	56.2	P
USGS	07331200	2021-05-07	48.2	P
USGS	07331200	2021-05-08	41.6	P
USGS	07331200	2021-05-09	38.0	P
USGS	07331200	2021-05-10	36.3	P
USGS	07331200	2021-05-11	38.6	P
USGS	07331200	2021-05-12	36.0	P
USGS	07331200	2021-05-13	31.7	P
USGS	07331200	2021-05-14	29.9	P
USGS	07331200	2021-05-15	29.6	P
USGS	07331200	2021-05-16	43.7	P
USGS	07331200	2021-05-17	35.2	P
USGS	07331200	2021-05-18	27.0	P
USGS	07331200	2021-05-19	22.6	P
USGS	07331200	2021-05-20	20.2	P
USGS	07331200	2021-05-21	21.0	P
USGS	07331200	2021-05-22	25.9	P
USGS	07331200	2021-05-23	26.1	P
USGS	07331200	2021-05-24	26.7	P
USGS	07331200	2021-05-25	42.4	P
USGS	07331200	2021-05-26	36.7	P
USGS	07331200	2021-05-27	40.6	P
USGS	07331200	2021-05-28	84.6	P
USGS	07331200	2021-05-29	37.8	P
USGS	07331200	2021-05-30	27.2	P
USGS	07331200	2021-05-31	73.8	P

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```
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#
# Contact: gs-w_support_nwisweb@usgs.gov
# retrieved: 2021-07-09 14:58:29 EDT (caww01)
#
```

```
# Data for the following 1 site(s) are contained in this file
# USGS 07331200 Mill Creek near Mill Creek, OK
# -----
```

```
# Data provided for site 07331200
# TS parameter statistic Description
# 111780 00060 00003 Discharge, cubic feet per second (Mean)
#
```

```
# Data-value qualification codes included in this output:
# P Provisional data subject to revision.
#
```

agency_cd	site_no	datetime	111780_00060_00003	111780_00060_00003_cd
5s	15s	20d	14n	10s
USGS	07331200	2021-06-01	73.8	P
USGS	07331200	2021-06-02	46.2	P
USGS	07331200	2021-06-03	37.4	P
USGS	07331200	2021-06-04	32.0	P
USGS	07331200	2021-06-05	32.3	P
USGS	07331200	2021-06-06	78.8	P
USGS	07331200	2021-06-07	57.2	P
USGS	07331200	2021-06-08	37.7	P
USGS	07331200	2021-06-09	30.9	P
USGS	07331200	2021-06-10	28.6	P
USGS	07331200	2021-06-11	27.0	P
USGS	07331200	2021-06-12	102	P
USGS	07331200	2021-06-13	44.8	P
USGS	07331200	2021-06-14	31.7	P
USGS	07331200	2021-06-15	27.0	P
USGS	07331200	2021-06-16	25.3	P
USGS	07331200	2021-06-17	23.7	P
USGS	07331200	2021-06-18	22.7	P
USGS	07331200	2021-06-19	22.7	P
USGS	07331200	2021-06-20	21.4	P
USGS	07331200	2021-06-21	22.6	P
USGS	07331200	2021-06-22	21.8	P
USGS	07331200	2021-06-23	19.9	P
USGS	07331200	2021-06-24	17.9	P
USGS	07331200	2021-06-25	15.4	P
USGS	07331200	2021-06-26	14.1	P
USGS	07331200	2021-06-27	15.3	P
USGS	07331200	2021-06-28	16.5	P
USGS	07331200	2021-06-29	15.6	P
USGS	07331200	2021-06-30	15.3	P

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MESONET CLIMATOLOGICAL DATA SUMMARY										April 2021		Time Zone: Midnight-Midnight CST									
(TISH) Tishomingo										Nearest City: 6.0 N Tishomingo		County: Johnson									
Latitude: 34-19-57										Longitude: 96-40-44		Elevation: 879 feet									
DAY	TEMPERATURE ( F )				DEG DAYS		HUMIDITY (%)			RAIN (in)	PRESSURE (in)		WIND SPEED (mph)			SOLAR (MJ/m2)	4" SOIL TEMPERATURES				
	MAX	MIN	AVG	DEWPT	HDD	CDD	MAX	MIN	AVG		STN	MSL	DIR	AVG	MAX		SOD	BARE	MAX	MIN	
1	65	34	50.8	26.6	16	0	83	21	43	0.00	29.51	30.47	ENE	5.8	16.5	25.49	56.6	53.3	65	43	
2	67	35	53.2	31.4	14	0	82	28	45	0.00	29.39	30.34	SSE	9.1	25.9	22.60	56.2	53.7	63	45	
3	70	51	59.9	40.4	4	0	88	30	50	0.00	29.31	30.26	SSE	10.0	25.3	24.67	58.4	59.6	70	52	
4	69	48	59.9	52.3	7	0	97	61	77	0.00	29.24	30.19	SE	6.3	18.5	8.68	58.7	59.1	65	54	
5	77	54	65.9	53.3	0	1	87	41	65	0.00	29.04	29.98	S	12.1	29.1	24.42	61.3	64.9	76	56	
6	78	60	69.0	59.9	0	4	88	57	74	0.00	28.84	29.77	SSE	17.3	37.9	12.29	62.0	65.5	71	60	
7	72	45	64.0	47.4	7	0	84	28	58	0.00	28.82	29.76	WNW	14.3	35.6	25.36	63.3	68.7	78	61	
8	80	43	61.8	40.5	4	0	84	24	50	0.00	28.84	29.77	WSW	7.5	23.4	26.55	61.3	65.8	79	54	
9	78	54	66.1	55.3	0	1	93	49	69	0.43	28.70	29.63	SSE	11.5	37.5	12.32	62.2	65.9	74	60	
10	68	42	54.2	38.9	10	0	92	31	59	0.00	28.91	29.84	NW	9.8	26.4	27.12	60.6	59.4	67	52	
11	81	36	60.6	42.5	7	0	96	26	58	0.00	28.77	29.71	SSW	7.9	26.0	27.03	60.4	61.6	75	49	
12	75	55	63.9	45.5	0	0	70	41	52	0.00	28.90	29.84	NNE	9.5	24.5	20.15	61.9	65.0	75	57	
13	73	53	62.5	42.8	2	0	70	42	49	0.00	29.08	30.02	NNE	13.6	29.2	22.44	62.5	66.5	77	57	
14	57	49	53.2	50.6	12	0	97	66	91	1.06	29.13	30.08	NNE	12.1	31.0	4.62	59.6	59.4	65	57	
15	61	51	54.4	48.3	9	0	97	53	81	0.13	29.08	30.03	NE	7.5	19.4	8.50	58.9	57.2	60	55	
16	54	47	51.7	50.2	14	0	97	85	95	0.26	28.96	29.90	E	7.7	27.5	3.31	58.3	56.1	57	54	
17	58	41	49.4	39.2	15	0	87	49	69	0.00	29.15	30.09	NNW	10.4	26.1	22.54	57.7	54.4	61	48	
18	65	39	51.5	37.1	13	0	94	29	64	0.00	29.15	30.09	NW	6.8	23.0	25.05	58.3	55.3	64	48	
19	74	36	56.1	38.6	10	0	94	22	58	0.00	29.05	29.99	SW	6.8	21.7	28.36	59.2	57.2	68	47	
20	53	29	43.6	34.0	24	0	95	54	70	0.00	29.19	30.14	N	11.8	32.4	20.94	58.3	53.1	58	47	
21	61	28	46.2	29.4	20	0	95	26	58	0.00	29.31	30.26	NW	5.2	18.2	27.59	56.8	52.6	64	42	
22	58	47	52.5	36.5	12	0	65	41	55	0.00	29.16	30.10	SE	6.4	19.4	7.64	57.3	53.3	57	51	
23	68	52	58.9	53.5	5	0	98	63	83	1.11	28.86	29.80	SE	7.5	50.3	5.52	58.2	56.7	61	53	
24	66	45	56.3	51.8	9	0	99	59	86	0.00	28.95	29.89	NNW	7.0	22.6	11.93	58.7	58.3	64	54	
25	76	41	62.1	52.9	6	0	100	50	74	0.01	29.01	29.95	SSE	10.9	28.0	28.45	60.0	60.0	69	51	
26	78*	58*	68.9*	58.2*	0*	3*	95*	53*	70*	0.00*	28.88*	29.82*	SSE*	13.5*	29.6*	NA	62.9*	63.7*	70*	58*	
27	73	63	68.5	64.2	0	3	96	77	86	0.16	28.86	29.80	SSE	10.7	24.4	5.09	63.4	64.2	67	61	
28	70	66	68.8	67.9	0	3	99	92	97	2.28	28.85	29.78	SE	7.3	23.5	2.20	64.9	66.4	68	66	
29	73	61	65.0	59.3	0	2	98	58	83	0.11	29.05	30.00	NNE	10.3	26.9	10.97	64.8	66.2	70	64	
30	78	59	67.0	52.6	0	3	95	30	62	0.00	29.21	30.16	NE	8.3	24.7	25.75	65.2	66.1	73	59	
	69* 47* 58.9* 46.7*				<- Monthly Averages ->						29.04* 29.98*		SSE* 9.5* 50.3*			17.85*	60.3*	60.3*	68*	54*	
Temperature - Highest: 81*							Degree Days - Total HDD: 223*					Number of Days With:									
Lowest: 28*							Total CDD: 20*					Tmax ≥ 90: 0* Rainfall ≥ 0.01 inch: 9*									
Rainfall: Monthly Total: 5.55* in.							Humidity - Highest: 100*					Tmax ≤ 32: 0* Rainfall ≥ 0.10 inch: 8*									
Greatest 24 Hr: 2.28* in.							Lowest: 21*					Tmin ≤ 32: 2* Avg Wind Speed ≥ 10 mph: 13*									
												Tmin ≤ 0: 0* Max Wind Speed ≥ 30 mph: 6*									



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MESONET CLIMATOLOGICAL DATA SUMMARY										May 2021			Time Zone: Midnight-Midnight, CST			Oklahoma Water Resources Board					
(TISH) Tishomingo										Nearest City: 6.0 N Tishomingo			County: Johnston								
Latitude: 34-19-57										Longitude: 96-40-44			Elevation: 879 feet								
DAY	TEMPERATURE ( F )				DEG DAYS		HUMIDITY (%)			RAIN	PRESSURE (in)		WIND SPEED (mph)			SOLAR	4" SOIL TEMPERATURES				
	MAX	MIN	AVG	DEWPT	HDD	CDD	MAX	MIN	AVG	(in)	STN	MSL	DIR	AVG	MAX	(MJ/m2)	SOD	BARE	MAX	MIN	
1	68	58	63.5	58.7	2	0	97	76	85	0.00	29.04	29.98	SE	5.1	15.6	7.12	65.1	64.6	67	62	
2	77	61	67.6	61.9	0	4	99	57	83	0.12	28.67	29.60	SE	6.7	19.3	17.47	66.3	67.4	74	63	
3	86	64	72.0	66.0	0	10	97	56	83	0.55	28.62	29.55	ESE	7.6	22.8	21.22	69.2	70.6	79	64	
4	64	47	59.6	53.7	10	0	97	61	82	0.00	28.99	29.92	NNW	11.0	27.3	18.01	68.3	66.8	71	60	
5	73	42	58.2	44.5	7	0	98	30	66	0.00	29.20	30.14	ENE	3.8	14.7	29.70	66.3	64.6	76	54	
6	80	54	66.4	50.4	0	2	84	34	59	0.00	29.25	30.19	NNE	6.0	18.8	27.31	68.6	67.2	76	59	
7	79	52	67.0	52.0	0	0	88	42	60	0.00	29.14	30.09	SSE	9.1	26.0	28.71	68.8	66.4	74	58	
8	83	60	72.9	62.1	0	7	89	55	70	0.00	28.85	29.79	S	15.6	36.2	26.67	70.4	68.9	76	62	
9	75	55	67.1	57.5	0	0	84	59	72	0.00	28.89	29.83	NNE	14.5	32.4	24.62	71.9	70.4	77	64	
10	59	52	55.3	50.7	9	0	94	78	85	0.08	29.10	30.04	NE	11.0	24.4	5.32	66.7	61.0	64	59	
11	58	53	55.4	53.0	9	0	97	85	92	0.61	29.12	30.07	NNE	10.4	23.2	4.23	64.0	59.7	62	58	
12	64	49	56.1	51.7	8	0	96	67	86	0.01	29.30	30.25	NNE	8.4	18.0	10.81	63.5	60.0	66	57	
13	71	48	60.0	49.6	5	0	97	45	72	0.00	29.34	30.29	N	3.4	10.4	25.91	65.0	64.4	75	54	
14	73	47	62.0	51.3	5	0	98	48	70	0.00	29.24	30.18	SSE	7.8	26.2	23.03	66.0	64.4	71	57	
15	80	58	69.3	58.2	0	4	85	57	68	0.00	29.12	30.06	SSE	8.7	28.5	23.43	68.4	67.6	75	60	
16	72	62	66.4	64.1	0	2	98	84	92	1.36	29.02	29.96	SSE	8.1	26.2	6.90	68.2	67.4	71	64	
17	81	62	71.0	63.0	0	7	98	51	78	0.00	28.92	29.86	SE	4.5	15.9	25.94	70.4	72.9	83	65	
18	72	63	67.0	64.3	0	3	97	79	91	0.27	28.93	29.87	ESE	6.3	26.3	9.96	70.5	71.3	75	69	
19	77	64	69.6	65.1	0	5	98	66	86	0.02	28.95	29.88	ESE	5.8	17.3	17.08	70.7	72.8	80	68	
20	73	64	68.3	65.2	0	3	96	79	90	0.14	29.02	29.96	ESE	4.8	13.8	11.70	71.2	72.5	77	69	
21	76	68	70.5	68.3	0	7	97	76	93	0.13	29.15	30.10	SE	7.4	20.8	9.45	71.5	72.9	77	70	
22	72	67	69.5	67.5	0	5	97	86	93	0.05	29.26	30.21	SE	7.1	23.1	5.00	71.1	71.9	74	70	
23	75	65	69.5	66.0	0	5	98	73	89	0.15	29.21	30.16	SSE	4.4	15.9	10.13	71.1	72.0	77	68	
24	73	65	68.1	65.6	0	4	98	82	92	0.17	29.14	30.08	SE	6.2	25.0	8.84	70.7	71.6	76	69	
25	76	65	69.9	67.2	0	5	99	72	91	1.02	29.07	30.01	SSE	5.6	16.8	10.67	70.8	72.3	77	69	
26	85	67	75.2	70.5	0	11	99	67	86	0.00	29.12	30.07	SE	6.2	17.2	17.47	72.7	76.5	85	71	
27	84	65	75.3	70.0	0	10	98	68	85	0.88	29.00	29.94	S	10.0	31.6	15.51	74.5	76.4	81	73	
28	77	65	69.5	62.7	0	6	99	51	80	0.01	29.06	30.00	NNE	6.3	16.2	19.82	74.2	75.4	83	70	
29	76	56	65.9	55.6	0	1	89	46	71	0.00	29.11	30.05	NE	9.3	20.2	30.09	74.2	74.7	83	67	
30	74	56	64.3	57.0	0	0	91	62	78	0.00	29.19	30.14	ESE	6.9	20.2	20.09	73.3	72.7	81	67	
31	68	59	63.2	61.6	2	0	98	84	94	0.98	29.15	30.10	ESE	6.0	17.8	3.02	70.7	68.1	71	66	
	74	58	66.3	59.8	<- Monthly Averages ->						29.07	30.01	SSE	7.5	36.2	16.62	69.5	69.2	75	64	
Temperature - Highest: 86 Lowest: 42							Degree Days - Total HDD: 58 Total CDD: 100					Number of Days With: Tmax ≥ 90: 0 Rainfall ≥ 0.01 inch: 17 Tmax ≤ 32: 0 Rainfall ≥ 0.10 inch: 12 Tmin ≤ 32: 0 Avg Wind Speed ≥ 10 mph: 6 Tmin ≤ 0: 0 Max Wind Speed ≥ 30 mph: 3									
Rainfall: Monthly Total: 6.55 in. Greatest 24 Hr: 1.36 in.							Humidity - Highest: 99 Lowest: 30														

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\* Denotes incomplete record

Monthly data generated on Thursday, July 08, 2021 at 18:55 UTC

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MESONET CLIMATOLOGICAL DATA SUMMARY  
(TISH) Tishomingo  
Latitude: 34-19-57

June 2021  
Nearest City: 6.0 N Tishomingo  
Longitude: 96-40-44

Time Zone: Midnight-Midnight CST  
County: Johnston  
Elevation: 899 feet

Oklahoma Water Resources Board

DAY	TEMPERATURE ( F )				DEG DAYS		HUMIDITY (%)			RAIN (in)	PRESSURE (in)		WIND SPEED (mph)			SOLAR (MJ/m2)	4" SOIL TEMPERATURES			
	MAX	MIN	AVG	DEWPT	HDD	CDD	MAX	MIN	AVG		STN	MSL	DIR	AVG	MAX		SOD	BARE	MAX	MIN
1	67	60	63.8	61.2	2	0	99	81	91	0.00	29.10	30.04	NW	5.3	15.9	8.88	70.7	69.1	72	67
2	76	56	65.4	59.4	0	1	99	56	83	0.00	29.05	29.99	NW	3.6	13.7	17.91	70.6	69.8	77	63
3	83	54	69.7	59.4	0	3	98	44	74	0.00	29.06	30.00	SE	3.0	11.8	29.77	72.3	74.1	85	63
4	84	60	71.8	61.9	0	7	98	42	74	0.00	29.07	30.01	SE	3.8	16.5	26.14	74.3	76.3	86	68
5	80	64	68.8	66.0	0	7	98	63	91	0.28	28.97	29.90	E	4.1	15.7	11.60	74.3	74.7	83	71
6	83	64	70.7	66.7	0	9	99	62	88	0.07	28.88	29.82	E	6.3	21.6	18.33	74.7	75.6	85	69
7	82	66	73.0	68.0	0	9	99	63	85	0.00	28.88	29.81	ESE	3.9	11.8	16.41	75.3	76.3	82	71
8	88	69	77.9	71.3	0	14	99	55	82	0.00	28.95	29.89	SE	6.1	19.6	25.33	77.4	80.5	89	73
9	87	74	79.6	74.8	0	16	98	69	86	0.00	29.01	29.95	SSE	6.9	20.1	17.89	78.9	81.3	88	76
10	90	73	80.6	75.0	0	16	98	65	84	0.00	28.96	29.90	SSE	7.0	19.9	24.36	80.1	82.7	91	75
11	89	72	80.3	74.2	0	15	98	65	83	0.00	28.89	29.83	S	8.0	22.6	18.16	80.0	81.6	88	76
12	92	67	79.5	71.5	0	14	98	49	78	0.66	28.99	29.93	NNW	5.6	49.6	25.99	80.5	82.3	90	75
13	93	72	82.6	74.7	0	17	98	57	79	0.00	29.03	29.97	NE	5.4	17.5	25.12	81.7	85.1	95	77
14	91	72	81.2	70.3	0	17	94	46	72	0.00	29.06	30.01	NE	4.6	14.4	30.30	82.6	86.1	95	77
15	93	66	80.0	68.7	0	14	97	42	72	0.00	29.09	30.04	NNW	2.5	9.7	30.12	82.0	85.5	96	75
16	94	66	80.5	69.2	0	15	98	38	72	0.00	29.08	30.03	SSE	3.2	11.5	29.92	82.0	86.7	99	76
17	93	68	81.9	71.2	0	16	97	45	73	0.00	29.05	29.99	SSE	4.2	13.3	28.43	82.4	88.3	100	78
18	92	72	81.6	72.5	0	17	98	50	76	0.00	29.00	29.94	SSE	5.9	18.0	27.96	83.0	90.3	102	80
19	90	64	77.8	66.9	0	12	99	46	72	0.00	28.92	29.86	SSE	5.1	15.9	30.18	82.0	90.2	103	79
20	92	66	80.0	69.1	0	14	97	42	72	0.00	28.83	29.76	SSE	8.6	23.3	29.31	81.3	90.3	103	79
21	81	61	70.8	66.3	0	6	98	66	86	0.81	28.97	29.91	N	8.6	33.8	11.80	78.8	81.9	88	75
22	82	57	70.8	56.3	0	4	97	36	64	0.00	29.07	30.02	ESE	6.5	19.5	30.76	76.9	79.2	90	69
23	90	67	78.5	69.1	0	13	84	62	73	0.00	29.01	29.95	SSE	9.9	22.7	21.74	78.2	81.0	90	74
24	92	75	83.1	73.7	0	19	97	51	75	0.00	28.98	29.92	S	10.7	24.2	27.46	81.0	86.1	97	77
25	91	78	83.7	73.2	0	19	90	54	72	0.00	28.93	29.87	SSE	12.6	27.3	26.83	82.0	89.0	101	80
26	89	76	80.9	72.3	0	17	93	56	76	0.07	28.92	29.86	SSE	9.3	27.0	17.55	81.3	87.3	94	81
27	90	73	79.1	71.8	0	16	95	53	80	0.11	28.99	29.92	S	6.8	37.0	24.88	81.7	86.6	98	80
28	86	72	76.2	71.5	0	14	97	62	86	0.06	29.06	30.00	ESE	6.0	22.8	18.73	81.0	85.0	95	79
29	88	72	76.9	71.7	0	15	96	60	85	0.00	29.14	30.08	ESE	7.0	20.4	20.54	80.6	86.0	96	79
30	89	70	79.3	72.0	0	15	99	55	80	0.00	29.13	30.07	SSW	4.4	17.0	24.82	81.4	88.8	100	79
	87	67	76.9	69.0	<- Monthly Averages ->						29.00	29.94	SSE	6.2	49.6	23.24	79.0	82.6	92	75
Temperature - Highest: 94 Lowest: 54							Degree Days - Total HDD: 2 Total CDD: 372					Number of Days With: Tmax ≥ 90: 14      Rainfall ≥ 0.01 inch: 7 Tmax ≤ 32: 0      Rainfall ≥ 0.10 inch: 4 Tmin ≤ 32: 0      Avg Wind Speed ≥ 10 mph: 2 Tmin ≤ 0: 0      Max Wind Speed ≥ 30 mph: 3								
Rainfall: Monthly Total: 2.06 in. Greatest 24 Hr: 0.81 in.							Humidity - Highest: 99 Lowest: 36													

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\* Denotes incomplete record

Monthly data generated on Thursday, July 01, 2021 at 14:51 UTC



Date	Reference ET, Short [in]	Reference ET, Tall [in]	Cool Season Grass ET [in]	Warm Season Grass ET [in]	Pan Evaporation [in]
2021-07-08	0.17	0.19	0.16	0.11	0.21
2021-07-07	0.18	0.20	0.17	0.11	0.22
2021-07-06	0.20	0.22	0.18	0.12	0.24
2021-07-05	0.18	0.20	0.16	0.11	0.21
2021-07-04	0.21	0.24	0.20	0.13	0.26
2021-07-03	0.21	0.25	0.20	0.13	0.26
2021-07-02	0.11	0.12	0.10	0.07	0.13
2021-07-01	0.19	0.22	0.17	0.12	0.23
2021-06-30	0.21	0.23	0.19	0.13	0.25
2021-06-29	0.19	0.23	0.18	0.12	0.23
2021-06-28	0.17	0.20	0.16	0.10	0.21
2021-06-27	0.22	0.26	0.21	0.14	0.28
2021-06-26	0.19	0.25	0.18	0.12	0.25
2021-06-25	0.27	0.35	0.25	0.17	0.37
2021-06-24	0.26	0.32	0.24	0.16	0.34
2021-06-23	0.22	0.28	0.20	0.14	0.28
2021-06-22	0.23	0.28	0.22	0.14	0.29
2021-06-21	0.11	0.14	0.10	0.07	0.14
2021-06-20	0.26	0.31	0.24	0.16	0.33
2021-06-19	0.24	0.28	0.23	0.15	0.30
2021-06-18	0.24	0.28	0.22	0.15	0.30
2021-06-17	0.24	0.26	0.22	0.15	0.29
2021-06-16	0.24	0.26	0.22	0.15	0.29
2021-06-15	0.24	0.25	0.22	0.15	0.29
2021-06-14	0.25	0.28	0.24	0.16	0.31
2021-06-13	0.22	0.25	0.20	0.14	0.27
2021-06-12	0.22	0.26	0.21	0.14	0.27
2021-06-11	0.17	0.20	0.16	0.11	0.21
2021-06-10	0.21	0.24	0.19	0.13	0.26
2021-06-09	0.16	0.19	0.15	0.10	0.20
2021-06-08	0.21	0.24	0.20	0.13	0.26
2021-06-07	0.14	0.15	0.13	0.08	0.16
2021-06-06	0.16	0.19	0.15	0.10	0.19
2021-06-05	0.11	0.12	0.10	0.07	0.12
2021-06-04	0.20	0.22	0.18	0.12	0.23
2021-06-03	0.20	0.22	0.19	0.13	0.25
2021-06-02	0.13	0.15	0.12	0.08	0.16
2021-06-01	0.07	0.07	0.06	0.04	0.08
2021-05-31	0.04	0.05	0.04	0.03	0.05
2021-05-30	0.15	0.18	0.14	0.09	0.19
2021-05-29	0.21	0.26	0.20	0.13	0.28
2021-05-28	0.16	0.18	0.15	0.10	0.19
2021-05-27	0.14	0.16	0.13	0.08	0.17
2021-05-26	0.15	0.17	0.14	0.09	0.18
2021-05-25	0.09	0.10	0.08	0.06	0.11
2021-05-24	0.08	0.09	0.07	0.05	0.09
2021-05-23	0.09	0.10	0.08	0.05	0.10
2021-05-22	0.05	0.06	0.05	0.03	0.06
2021-05-21	0.09	0.10	0.08	0.05	0.11
2021-05-20	0.09	0.10	0.09	0.06	0.11
2021-05-19	0.13	0.15	0.12	0.08	0.16



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2021-05-18	0.08	0.10	0.08	0.05	0.10
2021-05-17	0.19	0.21	0.18		0.23
2021-05-16	0.07	0.08	0.06	0.04	0.09
2021-05-15	0.20	0.25	0.18		0.26
2021-05-14	0.16	0.20	0.15	0.10	0.20
2021-05-13	0.16	0.18	0.15	0.10	0.19
2021-05-12	0.09	0.11	0.08	0.06	0.11
2021-05-11	0.05	0.06	0.04	0.03	0.06
2021-05-10	0.06	0.09	0.06	0.04	0.08
2021-05-09	0.19	0.24	0.17	0.12	0.26
2021-05-08	0.23	0.31	0.22	0.14	0.33
2021-05-07	0.22	0.29	0.21	0.14	0.30
2021-05-06	0.21	0.26	0.19	0.13	0.27
2021-05-05	0.17	0.20	0.16	0.11	0.21
2021-05-04	0.09	0.11	0.09	0.06	0.12
2021-05-03	0.19	0.24	0.18	0.12	0.24
2021-05-02	0.14	0.17	0.13	0.09	0.18
2021-05-01	0.07	0.08	0.06	0.04	0.08
2021-04-30	0.22	0.28	0.20	0.13	0.29
2021-04-29	0.11	0.14	0.10	0.07	0.14
2021-04-28	0.03	0.03	0.03	0.02	0.04
2021-04-27	0.07	0.10	0.07	0.05	0.10
2021-04-26	0.19	0.25	0.17	0.12	0.26
2021-04-25	0.18	0.23	0.17	0.11	0.24
2021-04-24	0.08	0.10	0.08	0.05	0.11
2021-04-23	0.08	0.10	0.07	0.05	0.10
2021-04-22	0.10	0.14	0.09	0.06	0.13
2021-04-21	0.14	0.17	0.13	0.09	0.18
2021-04-20	0.10	0.13	0.09	0.06	0.14
2021-04-19	0.18	0.23	0.17	0.11	0.23
2021-04-18	0.15	0.20	0.14	0.10	0.20
2021-04-17	0.13	0.17	0.12	0.08	0.18
2021-04-16	0.03	0.03	0.03	0.02	0.03
2021-04-15	0.08	0.11	0.08	0.05	0.10
2021-04-14	0.05	0.06	0.04	0.03	0.06
2021-04-13	0.23	0.33	0.21	0.14	0.34
2021-04-12	0.19	0.27	0.18	0.12	0.27
2021-04-11	0.21	0.29	0.20	0.13	0.28
2021-04-10	0.19	0.26	0.17	0.12	0.26
2021-04-09	0.15	0.22	0.14	0.10	0.21
2021-04-08	0.21	0.28	0.19	0.13	0.28
2021-04-07	0.18	0.24	0.17	0.11	0.26
2021-04-06	0.16	0.23	0.15	0.10	0.23
2021-04-05	0.20	0.26	0.18	0.12	0.27
2021-04-04	0.08	0.10	0.07	0.05	0.10
2021-04-03	0.20	0.29	0.19	0.13	0.29
2021-04-02	0.17	0.24	0.16	0.10	0.24
2021-04-01	0.15	0.20	0.14	0.09	0.20
2021-03-31	0.22	0.34	0.21	0.14	0.38
2021-03-30	0.18	0.26	0.17	0.11	0.25
2021-03-29	0.20	0.29	0.19	0.13	0.29



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# Mill Creek Water Levels 2nd Quarter 2021

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