



Robin Simmons
Regional Land Manager

December 29, 2016

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

Re: Martin Marietta/TXI Mill Creek Limestone Quarry Monitoring Report Q3 2016

Dear Mr. Wilkins:

Attached please find the Q3 2016 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 call if you have any questions or comments.

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Sincerely,

Robin L. Simmons

Robin L. Simmons, EIT
Regional Land Manager

North Texas/Oklahoma District
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ATTACHMENT 1 (Appendix C)
Martin Marietta (TXI) Mill Creek 2016

Appendix C . Consumptive use of Pitwater

Q1 2016 Q2 2016 Q3 2016

PIT GROUNDWATER VOLUME					
1	Total volume pumped from producing mine pit(s) (AC-FT)		1413.17	792.76	524.70
2	Volume of precipitation that falls onto the surface of producing Mine Pits (AC-FT)		48.48	107.38	29.01
3	Portion of total precipitation that flows over the land surface that drains into the mine pit water (AC-FT)		15.03	31.51	4.88
4	(WATER HELD IN PIT FROM PREVIOUS MONTHS) other non pit waters pumped from the producing mining pit (AC-FT)		682.00	68.00	
5	add lines 2 through 4		745.51	206.89	33.89
6	Pit Groundwater Volume (AC-FT) (line 1 minus Line 5)		667.66	585.87	490.81
DEFINED ELEMENTS OF CONSUMPTIVE USE					
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	0.00
8	Vol. of pit groundwater that is carried away with the the mined material transp. off of the mine site (AC-FT)		7.19	5.21	5.14
9	Vol. of pit groundwater that evaporates from producing mine pits, process ponds and lined ponds (excluding structures used for augmentation) (AC-FT)		6.18	10.68	3.39
10	Volume of pit groundwater that is used for other beneficial uses off of the mine site (AC-FT) (includes on-site dust control)		7.83	6.13	18.51
11	DEFINED ELEMENTS OF CONSUMPTIVE USE of Pit groundwater (AC-FT) (add lines 7 through 10)		21.20	22.02	27.04
PIT GROUNDWATER BALANCE					
12	Lines 6 minus 11		646.46	563.85	463.77
13	Groundwater Augmentation Volume of pit groundwater returned to GW Basin or subbasin. (Troy Recharge AC-FT)	Credits	191.80	145.41	82.64
14	Stream Augmentation 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)		0.00	0.00	0.00
15	PPT and Runoff Volume of Precipitation and surface runoff into a recharge pit or holding pond (AC-FT)		39.50	90.30	27.52
16	Recycled Pit Groundwater - Volume of ground water returned to the mine pit or holding basin (AC-FT)		528.40	365.81	386.42
17	Other Non-Consumptive GW Losses including pit GW returned to the land surface from which surface runoff flows into a mine pit and other losses (AC-FT)		0.00	0.00	0.00
18	add lines 13 through 17		759.70	601.51	496.58
19	OTHER CONSUMPTIVE USE Line 12 minus Line 18		-113.23	-37.66	-32.81
TOTAL REPORTED CONSUMPTIVE USE (AC-FT)					
TOTAL NET CONSUMPTIVE USE (AC-FT) Line 11 plus line 19			-92.04	-15.64	-5.77

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RESULTS FROM RUNOFF MODELLING

2016	PPT. Inches	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	ac-ft	Direct ppt	Runoff	ac-ft	Direct ppt	Runoff	ac-ft
		ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
January	0.62	1,671	0,244	0,000	1,91	1,13	0,00	2,10	0,00	0,00	4,90	0,24		
February	1.11	2,991	7,027	1,678	11,70	2,02	0,48	3,76	2,00	8,77	11,18			
March	3.88	10,457	26,093	13,348	49,90	7,06	10,87	13,15	18,49	30,66	68,80			
Q1 Subtotal	5.61	15,12	33,36	15,03	63,51	10,20	11,35	19,01	20,49	44,33	80,23			
April	6.12	16,493	41,611	15,570	73,67	11,13	8,64	20,74	20,35	48,36	86,17			
May	4.55	0,379	18,483	2,806	21,67	8,27	0,48	15,42	3,10	24,07	24,87			
June	3.86	0,322	30,094	13,135	43,55	7,02	8,99	13,08	17,60	20,42	69,82			
Q2 Subtotal	14.53	17,19	90,19	31,51	138,89	26,42	18,10	49,24	41,06	92,86	180,86			
July	2.22	0,19	9,57	1,51	11,27	4,04	0,27	7,52	1,68	11,75	13,03			
August	1.63	0,14	5,58	0,32	6,04	2,96	0,00	5,52	0,31	8,62	6,21			
September	2.62	0,22	13,31	3,05	16,57	4,76	0,87	8,88	3,61	13,86	20,84			
Q3 Subtotal	6.47	0,54	28,46	4,88	33,88	11,76	1,14	21,93	5,60	34,23	40,08			

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Water Volume Movements

	January	February	March	April	May	June	July	August	September
Pumped from Pit	259.3	495.8	658.1	299.1	251.6	242.1	208.0	166.9	149.7
Groundwater Component of Pitwater	207.4	334.1	458.2	225.4	229.9	130.5	196.8	160.9	133.2
Quarry dust suppression	1.5	4.4	3.3	2.3	1.0	3.3	9.2	7.5	0.5
Q- freshwater pond	257.8	491.4	654.8	296.8	250.6	238.8	198.8	159.5	149.2
To Secondary FM7	474.7	507.8	535.1	522.2	532.7	460.3	444.9	517.0	522.9
To sand Plant FM8	73.3	214.2	138.7	145.4	140.5	111.1	103.7	114.8	109.8
to loadout FM6	363.8	338.1	385.4	435.1	395.8	359.3	331.4	386.3	368.2
to dust control FM9	0.7	3.4	1.6	2.3	3.0	5.8	7.7	2.8	1.2
to Plant FM7+FM8+FM6	911.8	1060.1	1059.2	1102.8	1069.0	930.7	880.0	1018.1	1000.9
to stream Augmentation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
To Troy FM3	971.8	985.3	1085.3	1135.9	1100.3	951.2	909.8	1066.0	1025.8
From Troy to Freshwater Pond FM4	709.1	749.6	817.7	837.4	813.7	660.9	715.6	893.8	911.9

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Quarter Summary	2nd QTR
Total Tons Shipped	1,450,000
Total Acre Feet	32.61
Average Moisture %	3.06%

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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: 2016-12-28 17:41:34 EST (nadww02)
 #
 # 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	2016-07-01	8.0	P
USGS	07331200	2016-07-02	7.8	P
USGS	07331200	2016-07-03	7.4	P
USGS	07331200	2016-07-04	7.7	P
USGS	07331200	2016-07-05	7.4	P
USGS	07331200	2016-07-06	7.1	P
USGS	07331200	2016-07-07	7.3	P
USGS	07331200	2016-07-08	6.8	P
USGS	07331200	2016-07-09	6.8	P
USGS	07331200	2016-07-10	7.0	P
USGS	07331200	2016-07-11	6.8	P
USGS	07331200	2016-07-12	6.5	P
USGS	07331200	2016-07-13	6.3	P
USGS	07331200	2016-07-14	3.3	P
USGS	07331200	2016-07-15	10	P
USGS	07331200	2016-07-16	4.8	P
USGS	07331200	2016-07-17	3.8	P
USGS	07331200	2016-07-18	3.5	P
USGS	07331200	2016-07-19	3.3	P
USGS	07331200	2016-07-20	4.4	P
USGS	07331200	2016-07-21	6.7	P
USGS	07331200	2016-07-22	6.7	P
USGS	07331200	2016-07-23	6.8	P
USGS	07331200	2016-07-24	7.0	P
USGS	07331200	2016-07-25	8.9	P
USGS	07331200	2016-07-26	8.1	P
USGS	07331200	2016-07-27	9.3	P
USGS	07331200	2016-07-28	11	P
USGS	07331200	2016-07-29	9.9	P
USGS	07331200	2016-07-30	10	P
USGS	07331200	2016-07-31	9.7	P

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# 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: 2016-12-28 17:42:17 EST (nadww02)
#
# 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	2016-08-01	6.9	P
USGS	07331200	2016-08-02	4.1	P
USGS	07331200	2016-08-03	4.2	P
USGS	07331200	2016-08-04	4.3	P
USGS	07331200	2016-08-05	4.1	P
USGS	07331200	2016-08-06	4.1	P
USGS	07331200	2016-08-07	4.0	P
USGS	07331200	2016-08-08	4.2	P
USGS	07331200	2016-08-09	4.5	P
USGS	07331200	2016-08-10	4.4	P
USGS	07331200	2016-08-11	4.3	P
USGS	07331200	2016-08-12	4.2	P
USGS	07331200	2016-08-13	4.2	P
USGS	07331200	2016-08-14	4.2	P
USGS	07331200	2016-08-15	4.0	P
USGS	07331200	2016-08-16	4.0	P
USGS	07331200	2016-08-17	3.9	P
USGS	07331200	2016-08-18	4.0	P
USGS	07331200	2016-08-19	4.6	P
USGS	07331200	2016-08-20	5.1	P
USGS	07331200	2016-08-21	4.3	P
USGS	07331200	2016-08-22	4.3	P
USGS	07331200	2016-08-23	4.2	P
USGS	07331200	2016-08-24	4.0	P
USGS	07331200	2016-08-25	3.4	P
USGS	07331200	2016-08-26	3.2	P
USGS	07331200	2016-08-27	3.4	P
USGS	07331200	2016-08-28	3.4	P
USGS	07331200	2016-08-29	3.4	P
USGS	07331200	2016-08-30	3.6	P
USGS	07331200	2016-08-31	4.4	P

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agency_cd	site_no	datetime	111780_00060_00003	111780_00060_00003_cd
5s	15s	20d	14n	10s
USGS	07331200		2016-09-01	5.6 P
USGS	07331200		2016-09-02	6.4 P
USGS	07331200		2016-09-03	6.1 P
USGS	07331200		2016-09-04	6.5 P
USGS	07331200		2016-09-05	7.3 P
USGS	07331200		2016-09-06	7.3 P
USGS	07331200		2016-09-07	7.4 P
USGS	07331200		2016-09-08	7.4 P
USGS	07331200		2016-09-09	7.1 P
USGS	07331200		2016-09-10	8.2 P
USGS	07331200		2016-09-11	6.9 P
USGS	07331200		2016-09-12	7.1 P
USGS	07331200		2016-09-13	7.3 P
USGS	07331200		2016-09-14	4.9 P
USGS	07331200		2016-09-15	5.0 P
USGS	07331200		2016-09-16	5.3 P
USGS	07331200		2016-09-17	5.8 P
USGS	07331200		2016-09-18	7.1 P
USGS	07331200		2016-09-19	5.1 P
USGS	07331200		2016-09-20	4.5 P
USGS	07331200		2016-09-21	4.1 P
USGS	07331200		2016-09-22	3.6 P
USGS	07331200		2016-09-23	3.2 P
USGS	07331200		2016-09-24	3.3 P
USGS	07331200		2016-09-25	4.9 P
USGS	07331200		2016-09-26	4.3 P
USGS	07331200		2016-09-27	3.9 P
USGS	07331200		2016-09-28	4.0 P
USGS	07331200		2016-09-29	4.6 P
USGS	07331200		2016-09-30	4.9 P

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Date	Daily Rainfall Total	Total Daily Evaporation
7/1/2016	0.05 "	0.063 "
7/2/2016	0.00 "	0.009 "
7/3/2016	0.00 "	0.016 "
7/4/2016	0.00 "	0.011 "
7/5/2016	0.00 "	0.012 "
7/6/2016	0.00 "	0.012 "
7/7/2016	0.00 "	0.012 "
7/8/2016	0.00 "	0.027 "
7/9/2016	0.18 "	0.196 "
7/10/2016	0.00 "	0.138 "
7/11/2016	0.00 "	0.348 "
7/12/2016	0.00 "	0.355 "
7/13/2016	0.00 "	0.382 "
7/14/2016	0.00 "	0.340 "
7/15/2016	0.98 "	0.099 "
7/16/2016	0.00 "	0.223 "
7/17/2016	0.00 "	0.372 "
7/18/2016	0.00 "	0.277 "
7/19/2016	0.00 "	0.248 "
7/20/2016	0.00 "	0.323 "
7/21/2016	0.00 "	0.217 "
7/22/2016	0.00 "	0.348 "
7/23/2016	0.00 "	0.395 "
7/24/2016	0.00 "	0.353 "
7/25/2016	0.69 "	0.252 "
7/26/2016	0.32 "	0.203 "
7/27/2016	0.00 "	0.083 "
7/28/2016	0.00 "	0.210 "
7/29/2016	0.00 "	0.267 "
7/30/2016	0.00 "	0.356 "
7/31/2016	0.00 "	0.362 "
8/1/2016	0.00 "	0.367 "
8/2/2016	0.00 "	0.404 "
8/3/2016	0.00 "	0.328 "
8/4/2016	0.00 "	0.342 "
8/5/2016	0.00 "	0.293 "
8/6/2016	0.00 "	0.288 "
8/7/2016	0.00 "	0.358 "
8/8/2016	0.05 "	0.289 "
8/9/2016	0.00 "	0.081 "
8/10/2016	0.00 "	0.003 "
8/11/2016	0.00 "	0.004 "
8/12/2016	0.00 "	0.006 "
8/13/2016	0.00 "	0.003 "
8/14/2016	0.00 "	0.002 "
8/15/2016	0.00 "	0.003 "

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8/16/2016	0.00 "	0.002 "
8/17/2016	0.00 "	0.003 "
8/18/2016	0.00 "	0.003 "
8/19/2016	0.43 "	0.140 "
8/20/2016	0.55 "	0.036 "
8/21/2016	0.00 "	0.003 "
8/22/2016	0.60 "	0.381 "
8/23/2016	0.00 "	0.002 "
8/24/2016	0.00 "	0.004 "
8/25/2016	0.00 "	0.004 "
8/26/2016	0.00 "	0.003 "
8/27/2016	0.00 "	0.002 "
8/28/2016	0.00 "	0.002 "
8/29/2016	0.00 "	0.002 "
8/30/2016	0.00 "	0.003 "
8/31/2016	0.00 "	0.002 "
9/1/2016	0.13 "	0.132 "
9/2/2016	0.01 "	0.012 "
9/3/2016	0.00 "	0.002 "
9/4/2016	0.00 "	0.002 "
9/5/2016	0.00 "	0.003 "
9/6/2016	0.00 "	0.003 "
9/7/2016	0.00 "	0.003 "
9/8/2016	0.00 "	0.003 "
9/9/2016	0.00 "	0.003 "
9/10/2016	0.20 "	0.202 "
9/11/2016	0.00 "	0.003 "
9/12/2016	0.00 "	0.003 "
9/13/2016	0.00 "	0.002 "
9/14/2016	0.00 "	0.005 "
9/15/2016	0.00 "	0.089 "
9/16/2016	0.17 "	0.163 "
9/17/2016	0.00 "	0.183 "
9/18/2016	1.18 "	0.096 "
9/19/2016	0.00 "	0.150 "
9/20/2016	0.00 "	0.047 "
9/21/2016	0.00 "	0.013 "
9/22/2016	0.00 "	0.009 "
9/23/2016	0.00 "	0.015 "
9/24/2016	0.00 "	0.010 "
9/25/2016	0.93 "	0.492 "
9/26/2016	0.00 "	0.082 "
9/27/2016	0.00 "	0.171 "
9/28/2016	0.00 "	0.243 "
9/29/2016	0.00 "	0.208 "
9/30/2016	0.00 "	0.146 "
10/1/2016	0.00 "	0.042 "

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

July
 Nearest City: 6.0 N Tishomingo
 Longitude: 96-40-44

Time Zone: Midnight-Midnight CST
 County: Johnston
 Elevation: 879 feet

DAY	TEMPERATURE (F)		DEWPT	DEG DAYS HDD CDD	HUMIDITY (%)		RAIN (in)	PRESSURE (in) STN MSL	WIND DIR	WIND SPEED AVG MAX	SOLAR (MJ/m2)	4" SOIL TEMPERATURES				
	MAX	MIN			MAX	MIN						SOD	BARE			
1	95	69	82.3	70.0	0	17	0.00	29.07	30.01	E	3.9	14.8	86.1	89.5	98	81
2	95	71	83.8	70.7	0	18	0.00	29.01	29.95	SSE	9.0	24.5	86.7	90.2	98	83
3	95	74	84.7	73.0	0	19	0.06	28.91	29.85	S	11.9	25.7	86.6	89.3	96	84
4	90	72	80.3	73.4	0	16	0.00	28.95	29.89	SW	7.0	24.1	85.9	88.4	94	83
5	94	72	83.4	72.9	0	18	0.00	28.96	29.89	SSE	9.3	24.3	86.8	89.1	97	83
6	96	77	85.9	72.8	0	22	0.00	28.94	29.88	S	13.0	31.1	88.2	90.6	99	84
7	97	78	85.9	71.7	0	22	0.00	28.92	29.85	S	13.6	32.9	89.0	91.1	99	85
8	95	75	84.1	71.9	0	20	0.00	29.02	29.96	S	9.1	32.3	89.7	91.8	101	84
9	85	68	74.8	70.0	0	12	0.18	29.06	30.00	E	4.8	28.4	84.4	85.1	90	79
10	93	66	79.9	70.5	0	14	0.00	28.99	29.93	SSE	6.7	21.3	84.1	84.6	95	76
11	94	74	83.9	72.4	0	19	0.00	28.92	29.85	SSE	13.5	29.2	86.9	88.7	97	81
12	94	76	84.2	70.2	0	20	0.00	28.94	29.88	S	15.3	36.5	87.8	89.4	96	83
13	95	76	85.3	72.0	0	21	0.00	28.98	29.92	S	12.7	31.4	88.8	90.2	98	83
14	93	71	80.6	70.5	0	17	0.00	29.04	29.98	ENE	9.7	42.4	89.0	90.5	97	85
15	87	69	77.2	70.7	0	13	0.86	29.06	30.00	E	6.0	30.0	84.7	85.3	90	80
16	93	71	82.2	72.5	0	17	0.00	29.04	29.98	SSE	6.1	19.4	86.0	87.3	96	79
17	94	74	83.7	68.9	0	19	0.00	29.09	30.03	SSE	9.3	24.6	87.0	89.4	98	81
18	95	70	83.1	71.1	0	17	0.00	29.18	30.13	SSE	5.4	18.3	88.1	90.9	101	82
19	96	71	83.9	72.5	0	19	0.00	29.20	30.15	SSE	4.9	15.7	89.7	92.7	102	84
20	97	74	84.7	71.4	0	20	0.00	29.14	30.09	SSE	6.5	21.3	90.7	93.3	102	85
21	98	70	84.8	70.7	0	19	0.00	29.09	30.03	S	6.1	21.2	90.8	93.2	102	85
22	99	70	85.4	69.1	0	20	0.00	29.00	29.94	S	5.3	19.0	91.4	93.6	103	85
23	100	71	86.4	69.6	0	20	0.00	29.00	29.94	SSW	6.4	29.8	92.0	93.9	103	86
24	99	73	86.7	70.7	0	21	0.00	29.00	29.94	E	5.8	17.6	92.9	94.8	104	86
25	97	74	83.0	72.3	0	20	0.00	29.02	29.96	ESE	4.2	28.3	91.6	93.2	100	88
26	91	72	78.4	72.6	0	16	0.01	29.02	29.96	ENE	4.8	19.9	88.7	89.7	96	85
27	89	71	78.2	73.9	0	15	0.08	29.00	29.94	ESE	3.8	24.9	85.8	86.2	91	83
28	95	71	82.7	72.5	0	18	0.00	29.00	29.94	SE	4.2	13.1	87.6	89.2	99	80
29	95	71	82.7	68.9	0	18	0.00	29.02	29.96	SW	6.1	22.4	89.0	90.9	99	84
30	99	73	85.3	70.3	0	21	0.00	29.01	29.95	S	7.5	21.3	91.3	92.6	101	85
31	98	72	84.9	70.2	0	20	0.00	29.01	29.95	SSE	8.9	24.1	91.5	92.3	99	85
	95	72	83.0	71.3	<	<	Monthly Averages ->	29.02	29.97	SSE	7.8	42.4	88.3	90.2	98	83

Temperature - Highest: 100 Lowest: 66	Degree Days - Total HDD: 0 Total CDD: 570	Number of Days With: Tmax ≥ 90: 28 Tmax ≤ 32: 0 Tmin ≤ 32: 0 Tmin ≥ 0: 0	Rainfall ≥ 0.01 inch: 5 Rainfall ≥ 0.10 inch: 2 Avg Wind Speed ≥ 10 mph: 6 Max Wind Speed ≥ 30 mph: 7
Rainfall: Monthly Total: 1.19 in. Greatest 24 Hr: 0.86 in.	Humidity - Highest: 100 Lowest: 32		

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 Monthly data updated on Friday, September 12, 2015 at 13:14 UTC
 * Denotes incomplete record

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DEC 29 2016
 OKLAHOMA WATER BOARD

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

August 2016
 Nearest City: 6.0 N
 Longitude: 96-40-44

Tishomingo

Time Zone: Midnight-Midnight CST
 County: Johnston
 Elevation: 879 feet

DAY	TEMPERATURE (F)		DEWPT		DEG DAYS	HUMIDITY (%)		RAIN	STN	MSL	DIR	AVG	MAX	SOLAR	4" SOIL TEMPERATURES			
	MAX	MIN	MAX	MIN	HDD	MAX	MIN	(in)						(MJ/m2)	SOD	MIN		
1	99	75	85.9	69.9	0	91	32	0.00	29.04	29.98	S	9.0	22.8	27.22	92.3	93.0	102	86
2	99	71	84.2	64.3	0	89	27	0.00	29.08	30.02	SSE	6.7	18.6	28.10	92.1	92.8	102	85
3	100	68	84.9	68.1	0	97	32	0.00	29.04	29.98	SSE	6.3	21.7	27.30	92.1	93.0	102	85
4	101	72	86.6	69.6	0	94	33	0.00	28.99	29.93	SSE	6.3	21.3	26.01	93.1	93.8	102	86
5	99	75	86.8	69.8	0	87	30	0.00	29.00	29.94	SSE	4.6	21.9	24.24	93.9	94.7	103	87
6	99	77	87.1	70.3	0	85	31	0.00	29.00	29.94	E	4.6	18.0	21.09	93.5	94.7	101	89
7	101	74	87.0	69.2	0	95	29	0.00	28.96	29.90	SE	6.9	20.0	25.32	93.8	94.6	103	87
8	102*	72*	80.1*	70.6*	0*	95*	33*	0.13*	28.95*	29.89*	E*	6.4*	27.8*	NA	92.3*	91.8*	101*	86*
9	97	72	84.0	71.5	0	98	37	0.00	28.98	29.92	ESE	6.4	22.2	24.64	89.3	89.4	98	82
10	100	75	87.1	71.8	0	94	31	0.00	29.02	29.96	ESE	6.6	21.7	25.26	91.8	92.3	100	85
11	102	76	87.8	69.9	0	91	31	0.00	28.97	29.91	SSE	6.4	25.9	25.73	93.6	93.5	102	86
12	98	72	83.8	71.5	0	94	44	0.00	28.88	29.82	ENE	5.3	26.0	19.11	92.0	91.8	98	86
13	93	75	82.9	67.2	0	90	36	0.00	28.95	29.89	NNE	11.9	29.0	24.74	92.1	90.9	97	86
14	92	70	79.6	61.6	0	81	28	0.00	29.00	29.94	NNE	12.0	30.4	23.74	89.8	88.3	94	83
15	83	65	74.1	63.4	0	97	49	0.00	29.08	30.02	ESE	4.7	14.0	14.48	86.8	85.5	91	82
16	90	57	74.9	62.9	0	100	35	0.00	29.13	30.08	SE	4.7	17.5	25.91	87.3	85.9	95	77
17	89	73	78.3	71.5	0	97	52	0.00	29.14	30.09	SE	6.7	22.2	19.69	89.6	87.6	94	83
18	84	72	76.6	71.8	0	99	65	0.00	29.08	30.03	SW	6.0	20.0	9.96	87.0	85.2	88	83
19	79	68	73.4	72.1	0	100	83	0.23	28.99	29.93	S	6.1	16.4	3.49	82.5	80.8	83	77
20	83	66	73.0	69.1	0	100	60	0.31	28.95	29.89	NW	5.9	21.3	12.78	79.6	77.7	81	75
21	85	62	73.1	57.1	0	100	27	0.00	29.10	30.04	NNE	7.6	19.8	27.31	80.3	79.9	90	71
22	81	62	72.0	69.2	0	100	71	0.03	29.13	30.08	E	5.4	18.1	10.05	78.5	78.2	83	74
23	93	73	81.7	72.6	0	100	50	0.00	29.12	30.06	S	12.5	28.5	16.44	82.4	82.3	89	77
24	95	72	83.3	69.4	0	93	38	0.00	29.11	30.05	S	10.7	27.6	25.07	85.6	85.8	94	78
25	93	69	81.8	68.6	0	100	37	0.00	29.10	30.05	S	6.6	19.6	22.15	86.4	86.4	94	79
26	88	69	74.7	70.3	0	100	60	0.23	29.09	30.04	SE	4.8	17.5	14.55	83.4	82.9	89	78
27	91	67	77.7	69.6	0	100	46	0.01	29.07	30.01	SE	4.7	16.3	22.63	82.8	82.5	92	75
28	92	70	80.0	69.6	0	100	41	0.00	29.11	30.05	E	5.0	21.3	24.60	85.9	86.4	96	78
29	93	70	80.0	69.1	0	97	40	0.00	29.12	30.07	NNE	4.6	18.6	20.21	86.6	87.1	95	80
30	93	69	79.7	70.4	0	99	42	0.03	29.11	30.05	NE	5.7	22.4	20.80	85.6	86.2	92	80
31	92	70	78.4	71.1	0	98	45	0.99	29.07	30.01	NNE	4.8	33.6	17.28	84.0	83.9	91	80
	93*	70*	80.7*	68.8*	<-	Monthly Averages	->		29.04*	29.99*	NNE*	6.6*	33.6*	21.00*	87.9*	87.7*	95*	82*

Temperature - Highest: 102*	Degree Days - Total HDD: 0*	Number of Days With: Tmax >= 90: 23*	Rainfall >= 0.01 inch: 8*
Lowest: 57*	Total CDD: 518*	Tmax <= 32: 0*	Rainfall > 0.10 inch: 5*
Rainfall: Monthly Total: 1.96* in.	Humidity - Highest: 100*	Tmin <= 32: 0*	Avg Wind Speed >= 10 mph: 4*
Greatest 24 Hr: 0.99* in.	Lowest: 27*	Tmin <= 0: 0*	Max Wind Speed >= 30 mph: 2*

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 Monthly data generated on Tuesday, December 21, 2016 at 14:18 JST
 * Denotes incomplete record

DEC 29 2016
 OKLAHOMA WATER
 SURVEILLANCE BOARD



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

September 2016
 Nearest City: 6.0 N Tishomingo
 Longitude: 96-40-44

Time Zone: Midnight-Midnight CST
 County: Johnston
 Elevation: 879 feet

DAY	TEMPERATURE (F)		DEWPT	DEG DAYS HDD CDD	HUMIDITY (%)		RAIN (in)	PRESSURE STN MSL	WIND SPEED (mph)		SOLAR (MJ/m2)	4" SOIL TEMPERATURES				
	MAX	MIN			AVG	DEWPT			MAX	MIN		DIR	AVG	MAX	SOD	BARE
1	86	70	75.2	71.6	0	13	0.06	29.07	30.01	NNE	6.1	11.12	80.6	79.5	84	77
2	86	68	75.2	65.8	0	12	0.01	29.10	30.05	NE	5.5	16.50	80.0	79.6	86	75
3	86	63	73.7	62.6	0	9	0.00	29.09	30.03	SE	5.4	21.81	79.6	80.7	90	72
4	88	64	76.5	66.1	0	11	0.00	29.06	30.00	SSE	7.0	22.41	81.2	82.4	91	74
5	93	70	81.3	69.8	0	17	0.00	29.07	30.01	SSE	9.8	21.95	83.9	84.8	93	78
6	91	73	81.5	71.0	0	17	0.00	29.13	30.07	S	10.2	17.65	84.7	85.2	91	80
7	95	72	82.6	71.3	0	18	0.00	29.11	30.05	SSE	10.1	20.53	85.5	86.0	93	80
8	96	75	84.4	71.2	0	21	0.00	29.00	29.94	S	10.6	21.28	87.1	87.5	95	81
9	95	71	82.2	69.6	0	18	0.00	28.96	29.90	S	10.2	15.81	86.0	85.9	91	81
10	82	55	70.9	59.6	0	4	0.21	29.21	30.15	N	9.6	20.33	81.7	80.6	86	75
11	85	53	69.7	54.4	0	4	0.00	29.18	30.13	SE	5.3	24.42	78.4	78.1	89	68
12	90	60	74.7	62.5	0	10	0.00	29.04	29.98	ESE	7.3	23.06	80.9	80.5	90	72
13	93	65	78.8	67.0	0	14	0.00	29.08	30.02	E	5.7	21.97	83.7	83.4	93	75
14	90	69	76.6	69.3	0	14	0.00	29.15	30.09	ENE	4.0	12.88	83.5	83.3	89	78
15	88	69	75.5	69.8	0	13	0.01	29.09	30.03	ENE	4.6	13.94	82.9	82.3	89	78
16	90	69	76.7	69.3	0	15	0.27	29.01	29.95	E	6.1	17.07	81.7	80.6	87	76
17	91	66	75.5	67.7	0	14	0.54	29.05	29.99	NNE	5.1	18.31	80.6	80.3	89	74
18	90	67	76.8	69.2	0	14	0.58	29.02	29.96	SSW	5.7	22.03	80.8	79.7	87	73
19	96	70	81.0	73.2	0	18	0.00	29.06	30.00	ESE	4.5	20.88	83.1	83.2	93	75
20	94	73	82.1	73.0	0	19	0.00	29.12	30.07	SE	4.5	19.95	84.5	85.7	95	79
21	90	69	78.4	68.0	0	15	0.00	29.11	30.05	ESE	4.6	20.14	83.4	84.6	93	78
22	90	64	77.1	64.5	0	12	0.00	29.06	30.00	ESE	4.9	20.02	82.0	83.1	92	76
23	90	66	78.4	67.9	0	13	0.00	29.04	29.98	SSE	7.3	19.94	82.3	83.3	91	76
24	90	73	80.0	70.6	0	16	0.00	29.03	29.97	SSE	9.3	16.03	83.0	83.7	90	79
25	76	62	69.1	67.9	0	4	4.95	29.12	30.07	N	9.5	3.23	76.4	76.6	82	72
26	77	54	65.9	54.0	0	0	0.00	29.22	30.17	NNE	12.0	18.70	74.1	71.4	77	67
27	81	49	63.8	49.3	0	0	0.00	29.13	30.07	NW	4.6	20.97	72.5	69.2	78	62
28	91*	51*	70.0*	53.4*	0*	6*	0.00*	29.09*	30.03*	W*	6.7*	NA	72.7*	70.0*	78*	63*
29	73	54	62.2	50.2	2	0	0.00	29.30	30.25	NNE	9.4	21.1	70.7	66.5	73	61
30	77	50	62.7	50.5	2	0	0.00	29.22	30.16	NNW	4.7	21.30	70.3	66.8	76	59
	88*	64*	75.3*	65.0*	<	<	Monthly Averages ->	29.10*	30.04*	SSE*	7.0*	18.83*	80.6*	80.1*	88*	74*

Temperature - Highest: 96*	Degree Days - Total HDD: 3*
Lowest: 49*	Total CDD: 340*
Rainfall: Monthly Total: 6.63* in.	Humidity - Highest: 100*
Greatest 24 Hr: 4.95* in.	Lowest: 26*
	Number of Days With:
	Tmax >= 90: 18*
	Tmax < 32: 0*
	Tmin <= 32: 0*
	Tmin < 0: 0*
	Rainfall >= 0.01 inch: 8*
	Rainfall >= 0.10 inch: 5*
	Avg Wind Speed >= 10 mph: 5*
	Max Wind Speed >= 30 mph: 1*

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12/19/2016

Mesonet | Seasonal Single Site ET Table

2016-10-30	0.11	0.13	0.10	0.07	0.13
2016-10-29	0.13	0.19	0.12	0.08	0.17
2016-10-28	0.13	0.18	0.12	0.08	0.16
2016-10-27	0.11	0.13	0.10	0.07	0.13
2016-10-26	0.11	0.14	0.10	0.07	0.13
2016-10-25	0.09	0.12	0.09	0.06	0.11
2016-10-24	0.12	0.15	0.11	0.07	0.14
2016-10-23	0.11	0.15	0.10	0.07	0.13
2016-10-22	0.12	0.16	0.11	0.07	0.15
2016-10-21	0.10	0.14	0.10	0.07	0.13
2016-10-20	0.12	0.17	0.11	0.08	0.17
2016-10-19	0.13	0.16	0.12	0.08	0.16
2016-10-18	0.14	0.18	0.13	0.08	0.17
2016-10-17	0.19	0.27	0.17	0.12	0.26
2016-10-16	0.16	0.22	0.15	0.10	0.21
2016-10-15	0.14	0.19	0.13	0.09	0.18
2016-10-14	0.09	0.11	0.09	0.06	0.11
2016-10-13	0.06	0.08	0.06	0.04	0.07
2016-10-12	0.15	0.20	0.14	0.09	0.19
2016-10-11	0.16	0.21	0.14	0.10	0.20
2016-10-10	0.13	0.17	0.12	0.08	0.16
2016-10-09	0.10	0.12	0.09	0.06	0.12
2016-10-08	0.14	0.20	0.13	0.09	0.19
2016-10-07	0.11	0.16	0.11	0.07	0.15
2016-10-06	0.14	0.19	0.13	0.09	0.18
2016-10-05	0.18	0.25	0.17	0.11	0.24
2016-10-04	0.15	0.21	0.14	0.09	0.20
2016-10-03	0.16	0.20	0.15	0.10	0.20
2016-10-02	0.14	0.16	0.13	0.08	0.16
2016-10-01	0.11	0.13	0.11	0.07	0.14
2016-09-30	0.14	0.17	0.13	0.09	0.17
2016-09-29	0.16	0.22	0.15	0.10	0.22
2016-09-28	0.19	0.26	0.18	0.12	0.25
2016-09-27	0.15	0.19	0.14	0.09	0.19
2016-09-26	0.17	0.24	0.16	0.11	0.24
2016-09-25	0.04	0.05	0.04	0.02	0.05
2016-09-24	0.18	0.24	0.17	0.11	0.23
2016-09-23	0.18	0.23	0.17	0.11	0.23
2016-09-22	0.17	0.21	0.16	0.11	0.21
2016-09-21	0.17	0.20	0.16	0.10	0.21
2016-09-20	0.18	0.21	0.16	0.11	0.21
2016-09-19	0.18	0.22	0.17	0.11	0.22
2016-09-18	0.18	0.22	0.17	0.11	0.22
2016-09-17	0.17	0.21	0.16	0.10	0.20
2016-09-16	0.16	0.20	0.15	0.10	0.20
2016-09-15	0.13	0.15	0.12	0.08	0.15
2016-09-14	0.13	0.16	0.12	0.08	0.15
2016-09-13	0.20	0.25	0.19	0.12	0.25
2016-09-12	0.21	0.27	0.19	0.13	0.27

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OKLAHOMA WATER

12/19/2016

Mesonet | Seasonal Single Site ET Table

2016-09-11	0.19	0.24	0.18	0.12	0.24
2016-09-10	0.18	0.23	0.16	0.11	0.23
2016-09-09	0.21	0.30	0.20	0.13	0.29
2016-09-08	0.25	0.34	0.24	0.16	0.34
2016-09-07	0.23	0.30	0.21	0.14	0.30
2016-09-06	0.20	0.27	0.19	0.13	0.27
2016-09-05	0.23	0.31	0.22	0.14	0.31
2016-09-04	0.20	0.24	0.18	0.12	0.25
2016-09-03	0.18	0.22	0.17	0.11	0.23
2016-09-02	0.16	0.20	0.15	0.10	0.19
2016-09-01	0.12	0.15	0.11	0.07	0.14
2016-08-31	0.16	0.20	0.15	0.10	0.20
2016-08-30	0.20	0.24	0.18	0.12	0.24
2016-08-29	0.19	0.23	0.18	0.12	0.23
2016-08-28	0.21	0.26	0.20	0.13	0.26
2016-08-27	0.19	0.22	0.18	0.12	0.23
2016-08-26	0.14	0.17	0.13	0.09	0.17
2016-08-25	0.22	0.27	0.20	0.14	0.28
2016-08-24	0.27	0.36	0.25	0.17	0.37
2016-08-23	0.21	0.28	0.19	0.13	0.28
2016-08-22	0.09	0.10	0.08	0.06	0.11
2016-08-21	0.24	0.31	0.22	0.15	0.31
2016-08-20	0.12	0.15	0.11	0.08	0.15
2016-08-19	0.04	0.05	0.04	0.03	0.05
2016-08-18	0.11	0.13	0.10	0.07	0.13
2016-08-17	0.19	0.23	0.18	0.12	0.24
2016-08-16	0.21	0.25	0.20	0.13	0.26
2016-08-15	0.14	0.17	0.13	0.09	0.17
2016-08-14	0.30	0.43	0.28	0.19	0.43
2016-08-13	0.29	0.40	0.27	0.18	0.41
2016-08-12	0.21	0.26	0.19	0.13	0.26
2016-08-11	0.28	0.36	0.26	0.17	0.36
2016-08-10	0.28	0.35	0.26	0.17	0.36
2016-08-09	0.25	0.30	0.23	0.15	0.31
2016-08-08	0.25	0.33	0.23	0.16	0.32
2016-08-07	0.29	0.37	0.27	0.18	0.37
2016-08-06	0.22	0.27	0.21	0.14	0.28
2016-08-05	0.24	0.29	0.23	0.15	0.31
2016-08-04	0.27	0.33	0.25	0.16	0.34
2016-08-03	0.27	0.34	0.25	0.17	0.35
2016-08-02	0.29	0.38	0.27	0.18	0.38
2016-08-01	0.30	0.40	0.28	0.19	0.40
2016-07-31	0.28	0.37	0.26	0.17	0.37
2016-07-30	0.28	0.36	0.26	0.17	0.36
2016-07-29	0.25	0.30	0.23	0.15	0.31
2016-07-28	0.22	0.25	0.21	0.14	0.27
2016-07-27	0.13	0.15	0.12	0.08	0.15
2016-07-26	0.16	0.19	0.14	0.10	0.19
2016-07-25	0.19	0.23	0.18	0.12	0.23
2016-07-24	0.27	0.33	0.25	0.17	0.35

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Mesonet | Seasonal Single Site ET Table

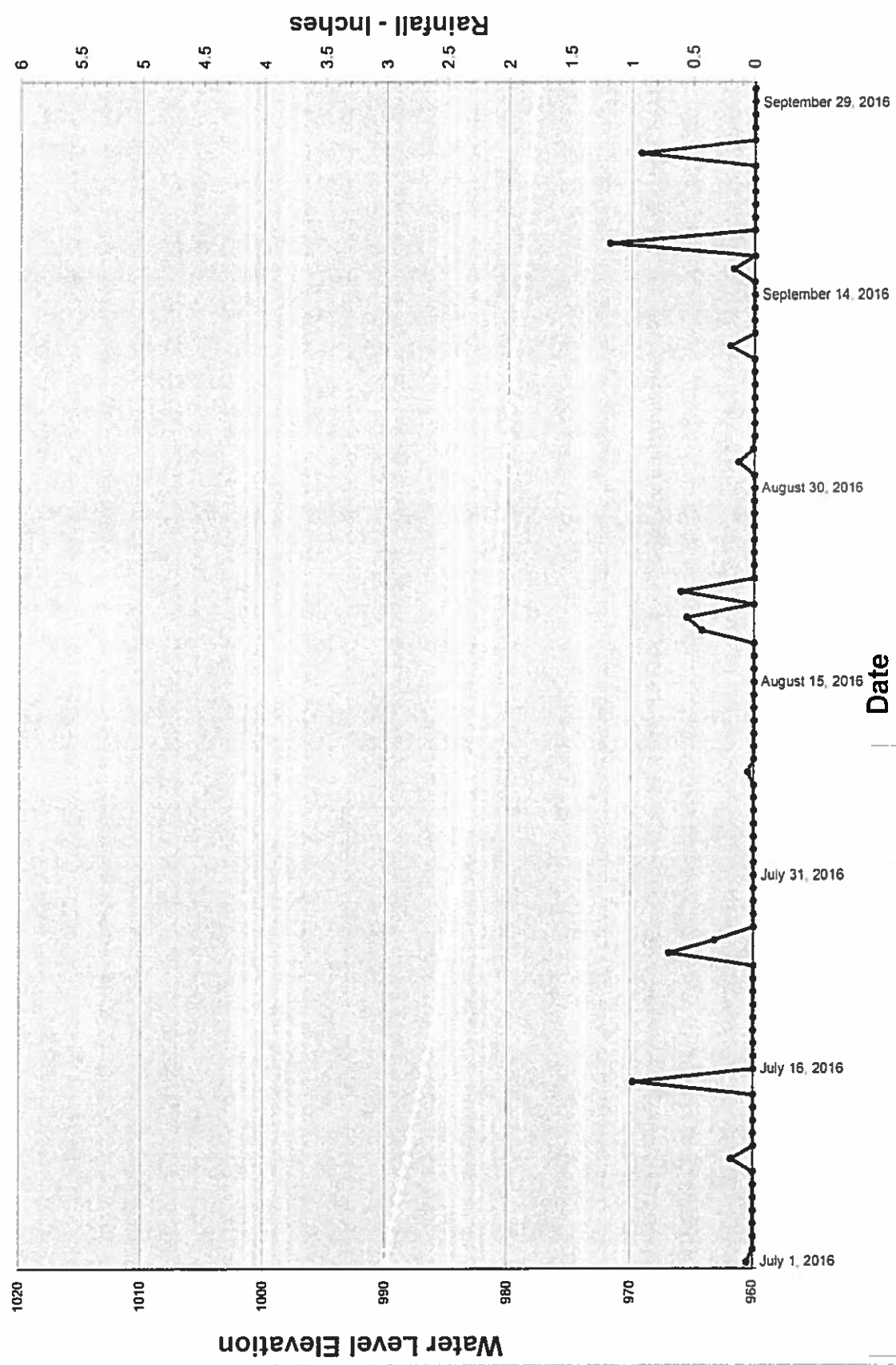
2016-07-23	0.28	0.35	0.26	0.17	0.36
2016-07-22	0.27	0.33	0.25	0.17	0.34
2016-07-21	0.27	0.33	0.25	0.17	0.34
2016-07-20	0.27	0.32	0.25	0.17	0.34
2016-07-19	0.25	0.29	0.23	0.15	0.31
2016-07-18	0.25	0.29	0.23	0.16	0.31
2016-07-17	0.29	0.37	0.27	0.18	0.38
2016-07-16	0.22	0.26	0.21	0.14	0.27
2016-07-15	0.19	0.21	0.17	0.12	0.23
2016-07-14	0.25	0.32	0.23	0.15	0.33
2016-07-13	0.31	0.40	0.29	0.19	0.42
2016-07-12	0.32	0.43	0.29	0.20	0.46
2016-07-11	0.28	0.37	0.26	0.18	0.39
2016-07-10	0.23	0.28	0.22	0.14	0.29
2016-07-09	0.09	0.11	0.08	0.06	0.11
2016-07-08	0.28	0.35	0.26	0.17	0.36
2016-07-07	0.33	0.44	0.30	0.20	0.46
2016-07-06	0.31	0.41	0.29	0.20	0.43
2016-07-05	0.24	0.30	0.22	0.15	0.31
2016-07-04	0.19	0.22	0.17	0.12	0.23
2016-07-03	0.26	0.34	0.24	0.16	0.35
2016-07-02	0.26	0.32	0.24	0.16	0.33
2016-07-01	0.22	0.25	0.20	0.14	0.26
2016-06-30	0.23	0.27	0.22	0.14	0.28
2016-06-29	0.24	0.27	0.22	0.15	0.29
2016-06-28	0.24	0.28	0.22	0.15	0.29
2016-06-27	0.15	0.17	0.14	0.09	0.18
2016-06-26	0.25	0.31	0.23	0.16	0.32
2016-06-25	0.26	0.32	0.24	0.16	0.33
2016-06-24	0.27	0.32	0.25	0.16	0.34
2016-06-23	0.27	0.33	0.25	0.17	0.35
2016-06-22	0.28	0.35	0.26	0.17	0.36
2016-06-21	0.24	0.28	0.23	0.15	0.30
2016-06-20	0.21	0.23	0.19	0.13	0.25
2016-06-19	0.20	0.23	0.18	0.12	0.24
2016-06-18	0.22	0.25	0.20	0.14	0.27
2016-06-17	0.25	0.29	0.23	0.16	0.31
2016-06-16	0.21	0.24	0.19	0.13	0.25
2016-06-15	0.24	0.28	0.22	0.15	0.30
2016-06-14	0.20	0.23	0.19	0.12	0.25
2016-06-13	0.09	0.10	0.09	0.06	0.11
2016-06-12	0.10	0.11	0.09	0.06	0.11
2016-06-11	0.20	0.23	0.18	0.12	0.24
2016-06-10	0.24	0.29	0.23	0.15	0.31
2016-06-09	0.23	0.28	0.22	0.14	0.29
2016-06-08	0.24	0.27	0.22	0.15	0.29
2016-06-07	0.21	0.23	0.20	0.13	0.26
2016-06-06	0.23	0.26	0.21	0.14	0.28
2016-06-05	0.23	0.28	0.21	0.14	0.29
2016-06-04	0.17	0.19	0.16	0.11	0.21

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