



Robin Simmons
Regional Land Manager

RECEIVED

September 27, 2018

SEP 27 2018

Matt Cogburn
Oklahoma Water Resources Board
3800 N. Classen
Oklahoma City, OK 73118

Oklahoma Water Resources Board

Re: Martin Marietta/Material Producers Davis Quarry Q2 2018 Monitoring Report

Dear Mr. Cogburn:

Attached please find the Q2 2018 monitoring report and associated data and calculations for Martin Marietta/Material Producers' Davis Quarry. In May the weather station stopped transmitting and was repaired in August. Mesonet weather rainfall and evapotranspiration data from Sulphur were used for the missing data.

In July we discovered that our freshwater pond had significantly silted in. This means that we are storing less water in our circuit than we thought and our recharge to the aquifer and to surface water has been higher than calculated over the past couple years. We will address this change in storage in our Q3 reporting.

As is typical at the Davis Quarry, in Q2 we see more precipitation and runoff entering the pit than the total water we use from the pit. Also typically, we do not see a rise in water levels in the pit that correspond to the additional precipitation and runoff that we know is entering the pit and not being used. Thus we still see a net decrease of water within the pit indicating that we continue to augment groundwater through the pit.

Sincerely,

A handwritten signature in cursive script that reads 'Robin L. Simmons'.

Robin L. Simmons
Regional Land Manager

MMM Davis Quarry 2018 Monitoring Report

All volumes are in acre-feet

	Total Groundwater Entering Pit	Total Stormwater Entering Pit	Total Stormwater Diverted from Pit	Total Water Diverted	Water Sent To Holding Basin	Groundwater Augmentation	Streamwater Augmentation	Consumptive Use of Stormwater	Consumptive Use of Groundwater	Groundwater Pumped From Well
January-18	-6.36	0.75	0.75	-5.61	N/A	-6.36	0.00	2.12	0.00	0.00
February-18	-37.63	52.39	52.39	14.75	N/A	-37.63	0.00	2.30	0.00	0.00
March-18	-21.44	26.01	26.01	4.58	N/A	-21.44	0.00	3.68	0.00	0.00
1st QTR Totals	-65.43	79.15	79.15	13.72	0.00	-65.43	0.00	8.10	0.00	0.00
April-18	-18.17	20.52	20.52	2.34	N/A	-18.17	0.00	4.35	0.00	0.00
May-18	-87.36	92.19	92.19	4.83	N/A	-87.36	0.00	3.93	0.00	0.00
June-18	-12.67	17.53	17.53	4.85	N/A	-12.67	0.00	3.25	0.00	0.00
2nd QTR Totals	-118.21	130.24	130.24	12.03	0.00	-118.21	0.00	11.53	0.00	0.00

Oklahoma Water Resources Board

SEP 27 2018

RECEIVED

Consumptive Use

	January	February	March	April	May	June
Water Truck Usage	0.25	0.43	0.98	1.55	1.01	0.48
Moisture Content of Product Shipped	1.88	1.87	2.69	2.80	2.92	2.77
Misc on site use	-	-	-	-	-	-
Misc off site	-	-	-	-	-	-
Total	2.12	2.30	3.68	4.35	3.93	3.25

Shipped Tons	January	February	March	April	May	June
Base	16,947	16,864	33,565	40,995	40,262	33,362
Coarse Aggregate	53,012	51,726	64,907	64,036	81,022	67,148
Fine Aggregate	19,776	20,011	26,139	24,118	20,921	27,587
Total	89,735	88,602	124,610	129,150	142,206	128,097
Moisture Shipped	1.88	1.87	2.69	2.80	2.92	2.77

RECEIVED

SEP 27 2018

Oklahoma Water Resources Board

Davis Water Balance

	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
Monitoring Period, Days		31	28	31	30	31	30
Monthly Production, tons	87,122	96,625	69,024	120,887	116,442	155,355	105,812
Product Moisture Content		3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Water Truck Loads		8	14	32	50.5	33	46
Month End Water Elevs.							
1) Freshwater pond, depth to water	14.323	5.863	19.865	19.365	17.802	17.438	18.163
2) Pit Sump, depth to water	2.145	2.202	1.919	4.843	2.231	2.46	2.085
Pond Surface Acres							
1) Freshwater pond	0.937	0.937	0.937	0.937	0.937	0.937	0.937
2) Pit Sump	0.322	0.322	0.322	0.322	0.322	0.322	0.322
Total surface acres	1.259	1.259	1.259	1.259	1.259	1.259	1.259
Pond Water Volume Change							
1) Freshwater pond		-7.927	13.120	-0.469	-1.465	-0.341	0.679
2) Pit Sump		0.018	-0.091	0.942	-0.841	0.074	-0.121
3) Change in settling pond storage		0.000	0.000	0.000	0.000	0.000	0.000
Net Volume Change		-7.909	13.029	0.473	-2.306	-0.267	0.559
Water Inputs, ac-ft							
Rural Water		0.649	0.491	0.282	0.323	0.486	0.503
Lake Water		0.000	0.000	0.000	0.000	0.000	0.000
Well Water		0.000	0.000	0.000	0.000	0.000	0.000
Precipitation		0.748	52.386	26.013	20.517	92.193	17.526
Total Water Input		1.397	52.877	26.295	20.840	92.680	18.029
Water Usage, ac-ft							
Product moisture content		2.488	1.778	3.113	2.999	4.001	2.725
Haul road dust control		0.246	0.430	0.982	1.550	1.013	1.412
Evaporation losses		0.212	0.006	0.291	0.424	0.572	0.659
Misc usage		-	-	-	-	-	-
Total Water Usage, Ac-ft		2.946	2.213	4.386	4.973	5.586	4.795
Net Water Input		-1.548	50.663	21.909	15.867	87.094	13.233
emergency storage of precipitation and runoff, ac-ft							
Groundwater Inflow		-6.360	-37.635	-21.436	-18.173	-87.361	-12.675
Groundwater Inflow, Avg Ac-ft/Day		-0.205	-1.344	-0.691	-0.606	-2.818	-0.422
Groundwater Inflow, Avg Gallons/Day		-66,855	-437,976	-225,323	-197,385	-918,284	-137,670

Oklahoma Water Resources Board

SEP 27 2018

RECEIVED

April Precipitation Data

PIT RUNOFF ASSUMPTIONS		
Hydrologic Soil Group	D	
Land Use	gravel road	
AMC Condition	II (ave)	
CN (pit fringe)	88	area draining into pit
CN (pit)	100	area with direct interception
S (pit fringe)	1.364	area draining into pit
S (pit)	0.000	area with direct interception
Pit - Direct Interception (>95 ft deep)	64.12	subject to refinement
Pit fringe (area drains to pit)	161.49	subject to refinement
Drainage to Pit (total area)	225.61	subject to refinement

Quarry area Fringe area

Date	Precip, in.	Runoff, in.	Runoff, in.	Evapor, in/day
1-Apr	0.04	0.04	0.00	0.01
2-Apr	0.01	0.01	0.00	0.03
3-Apr	0.00	0.00	0.00	0.16
4-Apr	0.00	0.00	0.00	0.14
5-Apr	0.00	0.00	0.00	0.13
6-Apr	0.03	0.03	0.00	0.08
7-Apr	0.07	0.07	0.00	0.05
8-Apr	0.00	0.00	0.00	0.05
9-Apr	0.00	0.00	0.00	0.14
10-Apr	0.00	0.00	0.00	0.16
11-Apr	0.00	0.00	0.00	0.22
12-Apr	0.41	0.41	0.00	0.21
13-Apr	0.03	0.03	0.00	0.20
14-Apr	0.00	0.00	0.00	0.18
15-Apr	0.00	0.00	0.00	0.18
16-Apr	0.00	0.00	0.00	0.17
17-Apr	0.00	0.00	0.00	0.23
18-Apr	0.00	0.00	0.00	0.20
19-Apr	0.00	0.00	0.00	0.16
20-Apr	0.00	0.00	0.00	0.16
21-Apr	1.47	1.47	0.56	0.02
22-Apr	0.01	0.01	0.00	0.06
23-Apr	0.00	0.00	0.00	0.14
24-Apr	0.00	0.00	0.00	0.18
25-Apr	0.36	0.36	0.00	0.03
26-Apr	0.00	0.00	0.00	0.15
27-Apr	0.00	0.00	0.00	0.18
28-Apr	0.00	0.00	0.00	0.20
29-Apr	0.00	0.00	0.00	0.21
30-Apr	0.00	0.00	0.00	0.02
		0.00	0.00	
		2.43	0.56	
Volume, ac-ft		12.98	7.53	4.043
Total Vol, ac-ft		20.52		

RECEIVED

SEP 27 2018

Oklahoma Water Resources Board

May Precipitation Data

PIT RUNOFF ASSUMPTIONS		
Hydrologic Soil Group	D	
Land Use	gravel road	
AMC Condition	II (ave)	
CN (pit fringe)	88	area draining into pit
CN (pit)	100	area with direct interception
S (pit fringe)	1.364	area draining into pit
S (pit)	0.000	area with direct interception
Pit - Direct Interception (>95 ft deep)	64.12	subject to refinement
Pit fringe (area drains to pit)	161.49	subject to refinement
Drainage to Pit (total area)	225.61	subject to refinement

Date	Quarry area		Fringe area	
	Precip, in	Runoff, in	Runoff, in	Evapor, in/day
1-May	0.00	0.00	0.00	0.08
2-May	0.12	0.12	0.00	0.10
3-May	3.85	3.85	2.59	0.11
4-May	0.00	0.00	0.00	0.11
5-May	0.00	0.00	0.00	0.19
6-May	0.00	0.00	0.00	0.24
7-May	0.00	0.00	0.00	0.21
8-May	0.00	0.00	0.00	0.21
9-May	0.00	0.00	0.00	0.25
10-May	0.00	0.00	0.00	0.21
11-May	0.00	0.00	0.00	0.20
12-May	0.00	0.00	0.00	0.19
13-May	0.00	0.00	0.00	0.18
14-May	0.00	0.00	0.00	0.19
15-May	2.37	2.37	1.27	0.11
16-May	0.18	0.18	0.00	0.10
17-May	0.01	0.01	0.00	0.18
18-May	0.00	0.00	0.00	0.20
19-May	0.00	0.00	0.00	0.18
20-May	0.51	0.51	0.00	0.08
21-May	0.00	0.00	0.00	0.13
22-May	0.00	0.00	0.00	0.19
23-May	0.00	0.00	0.00	0.20
24-May	0.00	0.00	0.00	0.20
25-May	0.10	0.10	0.00	0.11
26-May	0.00	0.00	0.00	0.20
27-May	0.00	0.00	0.00	0.23
28-May	0.00	0.00	0.00	0.21
29-May	0.00	0.00	0.00	0.21
30-May	0.39	0.39	0.00	0.24
31-May	0.00	0.00	0.00	0.22
		7.53	3.86	0.00
Volume, ac-ft		40.24	51.96	5.454
Total Vol, ac-ft		92.19		

RECEIVED

SEP 27 2018

Oklahoma Water Resources Board

June Precipitation Data

PIT RUNOFF ASSUMPTIONS

Hydrologic Soil Group	D	
Land Use	gravel road	
AMC Condition	II (ave)	
CN (pit fringe)	88	area draining into pit
CN (pit)	100	area with direct interception
S (pit fringe)	1.364	area draining into pit
S (pit)	0.000	area with direct interception
Pit - Direct Interception (>95 ft deep)	64.12	subject to refinement
Pit fringe (area drains to pit)	161.49	subject to refinement
Drainage to Pit (total area)	225.61	subject to refinement

Quarry area Fringe area

Date	Precip, in.	Runoff, in.	Runoff, in.	Evapor, in/day
1-Jun	0.00	0.00	0.00	0.25
2-Jun	0.00	0.00	0.00	0.25
3-Jun	0.00	0.00	0.00	0.25
4-Jun	0.01	0.01	0.00	0.13
5-Jun	1.02	1.02	0.00	0.19
6-Jun	0.00	0.00	0.00	0.22
7-Jun	0.74	0.74	0.00	0.06
8-Jun	0.00	0.00	0.00	0.20
9-Jun	0.00	0.00	0.00	0.25
10-Jun	0.00	0.00	0.00	0.22
11-Jun	0.00	0.00	0.00	0.23
12-Jun	0.22	0.22	0.00	0.09
13-Jun	0.00	0.00	0.00	0.21
14-Jun	0.00	0.00	0.00	0.25
15-Jun	0.00	0.00	0.00	0.25
16-Jun	0.00	0.00	0.00	0.26
17-Jun	0.00	0.00	0.00	0.25
18-Jun	0.01	0.01	0.00	0.21
19-Jun	0.01	0.01	0.00	0.15
20-Jun	0.00	0.00	0.00	0.17
21-Jun	0.00	0.00	0.00	0.18
22-Jun	0.21	0.21	0.00	0.13
23-Jun	0.92	0.92	0.00	0.19
24-Jun	0.10	0.10	0.00	0.18
25-Jun	0.04	0.04	0.00	0.22
26-Jun	0.00	0.00	0.00	0.26
27-Jun	0.00	0.00	0.00	0.27
28-Jun	0.00	0.00	0.00	0.27
29-Jun	0.00	0.00	0.00	0.28
30-Jun	0.00	0.00	0.00	0.22
		0.00	0.00	
		3.28	0.00	
Volume, ac-ft		17.53	0.00	6.279
Total Vol, ac-ft		17.53		

RECEIVED

SEP 27 2018

Oklahoma Water Resources Board