



**Robin L. Simmons**  
Land Manager

August 31, 2015

Kent Wilkins  
Oklahoma Water Resources Board  
3800 N. Classen  
Oklahoma City, OK 73118

Re: Martin Marietta/Material Producers Davis Quarry Q2 2015 Monitoring Report

Dear Mr. Wilkins:

Attached please find the Q2 2015 monitoring report and associated data and calculations for Martin Marietta/Material Producers' Davis Quarry.

Due to a problem reading the on-site weather station, rainfall data for the quarter is from the Sulphur Mesonet station.

Sincerely,

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

Robin L. Simmons, EIT  
Land Manager

## MMM Davis Quarry 2015 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-15	-3.92	8.43	8.43	4.51	N/A	-3.92	0.00	2.50	0.00	0.00
February-15	-2.03	2.22	2.22	0.19	N/A	-2.03	0.00	2.44	0.00	0.00
March-15	-18.20	13.86	13.86	-4.34	N/A	-18.20	0.00	3.06	0.00	0.00
<b>1st QTR Totals</b>	<b>-24.16</b>	<b>24.51</b>	<b>24.51</b>	<b>0.35</b>	<b>0.00</b>	<b>-24.16</b>	<b>0.00</b>	<b>7.99</b>	<b>0.00</b>	<b>0.00</b>
April-15	-11.16	22.16	22.16	11.00	N/A	-11.16	0.00	3.26	0.00	0.00
May-15	-68.07	118.01	118.01	49.93	N/A	-68.07	0.00	48.88	0.00	0.00
June-15	0.11	73.82	73.82	73.92	N/A	0.11	0.00	70.45	0.00	0.00
<b>2nd QTR Totals</b>	<b>-79.13</b>	<b>213.99</b>	<b>213.99</b>	<b>134.86</b>	<b>0.00</b>	<b>-79.13</b>	<b>0.00</b>	<b>122.58</b>	<b>0.00</b>	<b>0.00</b>

	Consumptive Use					
	January	February	March	April	May	June
Water Truck Usage	0.31	0.47	0.43	0.46	0.28	0.68
Moisture Content of Product Shipped	2.19	1.97	2.63	2.80	2.01	3.33
Misc on site use	-	-	-	-	-	-
Misc off site	-	-	-	-	46.59	66.44
Total	2.50	2.44	3.06	3.26	48.88	70.45

	Shipped Tons					
	January	February	March	April	May	June
Base	29,097	20,414	31,530	25,822	32,366	45,970
Coarse Aggregate	74,067	64,315	80,129	83,096	52,877	89,148
Fine Aggregate	10,897	15,076	19,402	27,186	12,251	25,234
Total	114,060	99,806	131,062	136,104	97,494	160,352
Moisture Shipped	2.19	1.97	2.63	2.80	2.01	3.33

## Davis Water Balance

	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15
<b>Monitoring Period, Days</b>		31	28	31	30	31	30
<b>Monthly Production, tons</b>		141,306	114,360	149,226	131,462	69,546	118,618
<b>Product Moisture Content</b>		3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
<b>Water Truck Loads</b>		10	15	14	15	9	22
<b>Month End Water Elevs.</b>							
1) Freshwater pond, depth to water	4.485	4.247	7.792	17.474	8.316	7.793	4.978
2) Pit Sump, depth to water	12.133	11.346	11.442	11.207	12.064	11.322	10.508
<b>Pond Surface Acres</b>							
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
<b>Pond Water Volume Change</b>							
1) Freshwater pond		0.223	-3.322	-9.072	8.581	0.490	2.638
2) Pit Sump		0.253	-0.031	0.076	-0.276	0.239	0.262
3) Change in settling pond storage		0.000	0.000	0.000	0.000	0.000	0.000
<b>Net Volume Change</b>		<b>0.476</b>	<b>-3.353</b>	<b>-8.996</b>	<b>8.305</b>	<b>0.729</b>	<b>2.900</b>
<b>Water Inputs, ac-ft</b>							
Rural Water		0.136	0.075	0.000	1.728	0.004	0.000
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		8.426	2.220	13.862	22.163	118.009	73.815
<b>Total Water Input</b>		<b>8.562</b>	<b>2.295</b>	<b>13.862</b>	<b>23.891</b>	<b>118.014</b>	<b>73.815</b>
<b>Water Usage, ac-ft</b>							
Product moisture content		3.639	2.945	3.843	3.386	1.791	3.055
Haul road dust control		0.307	0.470	0.430	0.460	0.276	0.675
Evaporation losses		0.221	0.198	0.382	0.580	0.553	0.854
Misc usage		-	-	-	-	46.59	66.44
<b>Total Water Usage, Ac-ft</b>		<b>4.167</b>	<b>3.613</b>	<b>4.654</b>	<b>4.426</b>	<b>49.210</b>	<b>71.024</b>
<b>Net Water Input</b>		<b>4.395</b>	<b>-1.318</b>	<b>9.207</b>	<b>19.465</b>	<b>68.804</b>	<b>2.791</b>
<b>Groundwater Inflow</b>		<b>-3.919</b>	<b>-2.034</b>	<b>-18.203</b>	<b>-11.160</b>	<b>-68.075</b>	<b>0.109</b>
<b>Groundwater Inflow, Avg Ac-ft/Day</b>		<b>-0.126</b>	<b>-0.073</b>	<b>-0.587</b>	<b>-0.372</b>	<b>-2.196</b>	<b>0.004</b>
<b>Groundwater Inflow, Avg Gallons/Day</b>		<b>-41,191</b>	<b>-23,674</b>	<b>-191,343</b>	<b>-121,219</b>	<b>-715,555</b>	<b>1,180</b>

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)	54.36	subject to refinement
Pit fringe (area drains to pit)	68.34	subject to refinement
Drainage to Pit (total area)	122.70	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	0.18
2-Apr	0.00	0.00	0.00	0.28
3-Apr	0.00	0.00	0.00	0.28
4-Apr	0.00	0.00	0.00	0.25
5-Apr	0.12	0.12	0.00	0.07
6-Apr	0.01	0.01	0.00	0.18
7-Apr	0.00	0.00	0.00	0.22
8-Apr	0.00	0.00	0.00	0.17
9-Apr	0.00	0.00	0.00	0.28
10-Apr	0.00	0.00	0.00	0.25
11-Apr	0.00	0.00	0.00	0.27
12-Apr	0.00	0.00	0.00	0.22
13-Apr	1.39	1.39	0.50	0.13
14-Apr	0.59	0.59	0.00	0.07
15-Apr	0.00	0.00	0.00	0.17
16-Apr	0.00	0.00	0.00	0.18
17-Apr	0.37	0.37	0.00	0.14
18-Apr	0.02	0.02	0.00	0.21
19-Apr	0.00	0.00	0.00	0.17
20-Apr	0.00	0.00	0.00	0.21
21-Apr	0.01	0.01	0.00	0.20
22-Apr	0.18	0.18	0.00	0.19
23-Apr	0.04	0.04	0.00	0.05
24-Apr	0.42	0.42	0.00	0.07
25-Apr	0.00	0.00	0.00	0.27
26-Apr	0.35	0.35	0.00	0.23
27-Apr	0.72	0.72	0.00	0.07
28-Apr	0.00	0.00	0.00	0.10
29-Apr	0.00	0.00	0.00	0.21
30-Apr	0.00	0.00	0.00	0.21
		0.00	0.00	
		4.26	0.50	
<b>Volume, ac-ft</b>		<b>19.30</b>	<b>2.87</b>	<b>5.53</b>
<b>Total Vol, ac-ft</b>		<b>22.16</b>		

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)	54.36	subject to refinement
Pit fringe (area drains to pit)	68.34	subject to refinement
Drainage to Pit (total area)	122.70	subject to refinement

Quarry area Fringe area

Date	Precip, in.	Runoff, in.	Runoff, in.	Evapor, in/day
1-May	0.00	0.00	0.00	0.23
2-May	0.00	0.00	0.00	0.25
3-May	0.00	0.00	0.00	0.31
4-May	0.00	0.00	0.00	0.27
5-May	0.68	0.68	0.00	0.17
6-May	0.28	0.28	0.00	0.22
7-May	1.40	1.40	0.51	0.16
8-May	1.59	1.59	0.65	0.14
9-May	3.15	3.15	1.95	0.08
10-May	0.64	0.64	0.00	0.09
11-May	0.00	0.00	0.00	0.26
12-May	0.00	0.00	0.00	0.20
13-May	0.45	0.45	0.00	0.08
14-May	0.01	0.01	0.00	0.21
15-May	0.11	0.11	0.00	0.17
16-May	1.23	1.23	0.00	0.17
17-May	0.07	0.07	0.00	0.24
18-May	0.00	0.00	0.00	0.24
19-May	1.61	1.61	0.66	0.13
20-May	0.55	0.55	0.00	0.11
21-May	0.23	0.23	0.00	0.22
22-May	1.88	1.88	0.87	0.05
23-May	0.30	0.30	0.00	0.07
24-May	1.41	1.41	0.52	0.11
25-May	0.47	0.47	0.00	0.13
26-May	0.00	0.00	0.00	0.22
27-May	0.45	0.45	0.00	0.14
28-May	1.74	1.74	0.76	0.20
29-May	0.36	0.36	0.00	0.11
30-May	0.00	0.00	0.00	0.12
31-May	0.00	0.00	0.00	0.17
		18.61	5.92	0.00
<b>Volume, ac-ft</b>		<b>84.30</b>	<b>33.71</b>	<b>5.27</b>
<b>Total Vol, ac-ft</b>		<b>118.01</b>		

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)	54.36	subject to refinement
Pit fringe (area drains to pit)	68.34	subject to refinement
Drainage to Pit (total area)	122.70	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	0.24
2-Jun	0.00	0.00	0.00	0.29
3-Jun	0.00	0.00	0.00	0.32
4-Jun	0.00	0.00	0.00	0.31
5-Jun	0.00	0.00	0.00	0.27
6-Jun	0.00	0.00	0.00	0.28
7-Jun	0.00	0.00	0.00	0.31
8-Jun	0.00	0.00	0.00	0.24
9-Jun	0.00	0.00	0.00	0.30
10-Jun	0.00	0.00	0.00	0.33
11-Jun	0.00	0.00	0.00	0.39
12-Jun	0.00	0.00	0.00	0.35
13-Jun	0.98	0.98	0.00	0.22
14-Jun	0.21	0.21	0.00	0.22
15-Jun	0.67	0.67	0.00	0.22
16-Jun	0.35	0.35	0.00	0.11
17-Jun	5.20	5.20	3.86	0.04
18-Jun	2.29	2.29	1.20	0.19
19-Jun	0.00	0.00	0.00	0.26
20-Jun	0.00	0.00	0.00	0.32
21-Jun	0.00	0.00	0.00	0.20
22-Jun	0.00	0.00	0.00	0.35
23-Jun	0.00	0.00	0.00	0.32
24-Jun	0.00	0.00	0.00	0.33
25-Jun	0.00	0.00	0.00	0.34
26-Jun	0.21	0.21	0.00	0.27
27-Jun	0.01	0.01	0.00	0.29
28-Jun	0.00	0.00	0.00	0.28
29-Jun	0.01	0.01	0.00	0.26
30-Jun	0.00	0.00	0.00	0.29
		0.00	0.00	
		9.93	5.06	
<b>Volume, ac-ft</b>		<b>44.98</b>	<b>28.83</b>	<b>8.14</b>
<b>Total Vol, ac-ft</b>		<b>73.82</b>		