



Robin Simmons
Regional Land Manager

June 24, 2016

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

Re: Martin Marietta/Material Producers Davis Quarry Q1 2016 Monitoring Report

Dear Mr. Wilkins:

Attached please find the Q1 2016 monitoring report and associated data and calculations for Martin Marietta/Material Producers' Davis Quarry.

Sincerely,

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

Robin L. Simmons, EIT
Land Manager

MMM Davis Quarry 2016 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-16	-2.71	2.26	2.26	-0.44	N/A	-2.71	0.00	2.76	0.00	0.00
February-16	-5.50	6.43	6.43	0.93	N/A	-5.50	0.00	3.77	0.00	0.00
March-16	-7.84	11.82	11.82	3.98	N/A	-7.84	0.00	3.44	0.00	0.00
1st QTR Totals	-16.05	20.52	20.52	4.47	0.00	-16.05	0.00	9.98	0.00	0.00

Note: Negative entries for Total Groundwater Entering Pit indicate that stormwater is entering the rock formation via the pit.

Consumptive Use

	January	February	March
Water Truck Usage	0.46	0.52	0.71
Moisture Content of Product Shipped	2.30	3.25	2.74
Misc on site use	-	-	-
Misc off site	-	-	-
Total	2.76	3.77	3.44

Shipped Tons	January	February	March
Base	35,366	27,088	29,170
Coarse Aggregate	57,982	74,390	65,711
Fine Aggregate	16,218	43,194	30,304
Total	109,566	144,673	125,185
Moisture Shipped	2.30	3.25	2.74

Davis Water Balance

	Dec-15	Jan-16 31	Feb-16 29	Mar-16 31
Monitoring Period, Days				
Monthly Production, tons		113,229	107,164	120,892
Product Moisture Content		3.5%	3.5%	3.5%
Water Truck Loads		15	17	23
Month End Water Elevs.				
1) Freshwater pond, depth to water	2.619	7.269	9.277	9.937
2) Pit Sump, depth to water	10.409	9.321	11.648	10.347
Pond Surface Acres				
1) Freshwater pond	0.937	0.937	0.937	0.937
2) Pit Sump	0.322	0.322	0.322	0.322
Total surface acres	1.259	1.259	1.259	1.259
Pond Water Volume Change				
1) Freshwater pond	-4.357	-1.881	-0.618	-0.618
2) Pit Sump	0.350	-0.749	0.419	0.419
3) Change in settling pond storage	0.000	0.000	0.000	0.000
Net Volume Change	-4.007	-2.631		-0.199
Water Inputs, ac-ft				
Rural Water		0.018	0.033	0.043
Lake Water		0.000	0.000	0.000
Well Water		0.000	0.000	0.000
Precipitation		2.265	6.432	11.823
Total Water Input		2.283	6.466	11.866
Water Usage, ac-ft				
Product moisture content		2.916	2.760	3.113
Haul road dust control		0.460	0.522	0.706
Evaporation losses		0.207	0.316	0.407
Misc usage		-	-	-
Total Water Usage, Ac-ft		3.583	3.597	4.226
Net Water Input		-1.300	2.868	7.640
emergency storage of precipitation and runoff, ac-ft				
Groundwater Inflow		-2.707	-5.499	-7.840
Groundwater Inflow, Avg Ac-ft/Day		-0.087	-0.190	-0.253
Groundwater Inflow, Avg Gallons/Day		-28,450	-61,791	-82,407

January 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-Jan	0.00	0.00	0.00	0.05
2-Jan	0.00	0.00	0.00	0.05
3-Jan	0.00	0.00	0.00	0.06
4-Jan	0.00	0.00	0.00	0.05
5-Jan	0.00	0.00	0.00	0.04
6-Jan	0.00	0.00	0.00	0.02
7-Jan	0.07	0.07	0.00	0.06
8-Jan	0.14	0.14	0.00	0.03
9-Jan	0.06	0.06	0.00	0.02
10-Jan	0.00	0.00	0.00	0.04
11-Jan	0.00	0.00	0.00	0.06
12-Jan	0.00	0.00	0.00	0.08
13-Jan	0.00	0.00	0.00	0.10
14-Jan	0.00	0.00	0.00	0.08
15-Jan	0.00	0.00	0.00	0.07
16-Jan	0.22	0.22	0.00	0.04
17-Jan	0.00	0.00	0.00	0.06
18-Jan	0.00	0.00	0.00	0.04
19-Jan	0.00	0.00	0.00	0.03
20-Jan	0.00	0.00	0.00	0.03
21-Jan	0.01	0.01	0.00	0.01
22-Jan	0.00	0.00	0.00	0.05
23-Jan	0.00	0.00	0.00	0.06
24-Jan	0.00	0.00	0.00	0.08
25-Jan	0.00	0.00	0.00	0.10
26-Jan	0.00	0.00	0.00	0.06
27-Jan	0.00	0.00	0.00	0.09
28-Jan	0.00	0.00	0.00	0.11
29-Jan	0.00	0.00	0.00	0.18
30-Jan	0.00	0.00	0.00	0.12
31-Jan	0.00	0.00	0.00	0.11
		0.50	0.00	
Volume, ac-ft		2.26	0.00	1.969
Total Vol, ac-ft		2.26		

February 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-Feb	0.01	0.01	0.00	0.08
2-Feb	0.01	0.01	0.00	0.15
3-Feb	0.00	0.00	0.00	0.08
4-Feb	0.00	0.00	0.00	0.09
5-Feb	0.00	0.00	0.00	0.09
6-Feb	0.00	0.00	0.00	0.07
7-Feb	0.00	0.00	0.00	0.10
8-Feb	0.00	0.00	0.00	0.14
9-Feb	0.00	0.00	0.00	0.10
10-Feb	0.00	0.00	0.00	0.17
11-Feb	0.00	0.00	0.00	0.12
12-Feb	0.00	0.00	0.00	0.10
13-Feb	0.00	0.00	0.00	0.08
14-Feb	0.00	0.00	0.00	0.05
15-Feb	0.00	0.00	0.00	0.11
16-Feb	0.00	0.00	0.00	0.15
17-Feb	0.00	0.00	0.00	0.11
18-Feb	0.00	0.00	0.00	0.13
19-Feb	0.00	0.00	0.00	0.10
20-Feb	0.00	0.00	0.00	0.13
21-Feb	0.00	0.00	0.00	0.05
22-Feb	0.01	0.01	0.00	0.10
23-Feb	0.72	0.72	0.00	0.01
24-Feb	0.66	0.66	0.00	0.14
25-Feb	0.01	0.01	0.00	0.10
26-Feb	0.00	0.00	0.00	0.14
27-Feb	0.00	0.00	0.00	0.17
28-Feb	0.00	0.00	0.00	0.15
		0.00	0.00	
		0.00	0.00	
		0.00	0.00	
		1.42	0.00	
Volume, ac-ft		6.43	0.00	3.009
Total Vol, ac-ft		6.43		

March 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-Mar	0.41	0.41	0.00	0.11
2-Mar	0.01	0.01	0.00	0.14
3-Mar	0.00	0.00	0.00	0.14
4-Mar	0.00	0.00	0.00	0.14
5-Mar	0.00	0.00	0.00	0.14
6-Mar	0.00	0.00	0.00	0.10
7-Mar	0.38	0.38	0.00	0.03
8-Mar	0.72	0.72	0.00	0.02
9-Mar	0.31	0.31	0.00	0.03
10-Mar	0.00	0.00	0.00	0.03
11-Mar	0.22	0.22	0.00	0.04
12-Mar	0.04	0.04	0.00	0.04
13-Mar	0.00	0.00	0.00	0.15
14-Mar	0.00	0.00	0.00	0.19
15-Mar	0.00	0.00	0.00	0.22
16-Mar	0.00	0.00	0.00	0.16
17-Mar	0.00	0.00	0.00	0.10
18-Mar	0.36	0.36	0.00	0.14
19-Mar	0.04	0.04	0.00	0.13
20-Mar	0.00	0.00	0.00	0.13
21-Mar	0.00	0.00	0.00	0.17
22-Mar	0.00	0.00	0.00	0.17
23-Mar	0.00	0.00	0.00	0.23
24-Mar	0.00	0.00	0.00	0.17
25-Mar	0.00	0.00	0.00	0.15
26-Mar	0.00	0.00	0.00	0.16
27-Mar	0.02	0.02	0.00	0.11
28-Mar	0.00	0.00	0.00	0.16
29-Mar	0.00	0.00	0.00	0.12
30-Mar	0.10	0.10	0.00	0.10
31-Mar	0.00	0.00	0.00	0.18
		2.61	0.00	
Volume, ac-ft		11.82	0.00	3.878
Total Vol, ac-ft		11.82		