



Robin Simmons
Regional Land Manager

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Oklahoma Water Resources Board

June 29, 2021

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

Re: Martin Marietta/Material Producers Davis Quarry Q1 2021 Monitoring Report

Dear Mr. Cogburn:

Attached please find the Q1 2021 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
Regional Land Manager

MMM Davis Quarry 2021 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-21	8.49	7.98	7.98	16.47	N/A	8.49	0.00	2.91	0.00	0.00
February-21	-0.52	3.69	3.69	3.17	N/A	-0.52	0.00	1.49	0.00	0.00
March-21	0.27	4.67	4.67	4.94	N/A	0.27	0.00	4.00	0.00	0.00
1st QTR Totals	8.23	16.35	16.35	24.58	0.00	8.23	0.00	8.39	0.00	0.00

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Davis Water Balance

	Dec-20	Jan-21	Feb-21	Mar-21
Monitoring Period, Days		31	28	31
Monthly Production, tons	112,548	121,396	76,601	172,367
Product Moisture Content		3.5%	3.5%	3.5%
Water Truck Loads		4	0	13
Month End Water Elev.				
1) Freshwater pond, depth to water	13.575	13.283	14.307	17.891
2) Pit Sump, depth to water	32.469	38.184	38.081	36.267
Pond Surface Acres				
1) Freshwater pond		1.0	1.0	1.0
2) Pit Sump		2.3	2.3	2.3
Total surface acres		3.3	3.3	3.3
Pond Water Volume Change				
1) Freshwater pond		-0.292	1.024	3.584
2) Pit Sump		13.145	-0.237	-4.172
3) Change in settling pond storage		0.000	0.000	0.000
Net Volume Change		12.853	0.787	-0.588
Water Inputs, ac-ft				
Rural Water		0.043	0.015	0.007
Lake Water		0.000	0.000	0.000
Well Water		0.000	0.000	0.000
Precipitation		7.982	3.694	4.672
Total Water Input		8.024	3.709	4.680
Water Usage, ac-ft				
Product moisture content		3.126	1.973	4.439
Haul road dust control		0.123	0.123	0.203
Evaporation losses		0.413	0.302	0.892
Misc usage		-	-	-
Total Water Usage, Ac-ft		3.662	2.397	5.533
Net Water Input		4.362	1.312	-0.854
emergency storage of precipitation and runoff, ac-ft				
Groundwater Inflow		8.490	-0.525	0.265
Groundwater Inflow, Avg Ac-ft/Day		0.274	-0.019	0.009
Groundwater Inflow, Avg Gallons/Day		89,244	-6,109	2,790

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Consumptive Use

	January	February	March
Water Truck Usage	0.12	0.12	0.20
Moisture Content of Product Shipped	2.78	1.37	3.79
Misc on site use	-	-	-
Misc off site	-	-	-
Total	2.91	1.49	4.00

Shipped Tons	January	February	March
Base	28,145	15,853	37,153
Coarse Aggregate	63,545	36,461	106,102
Fine Aggregate	33,301	12,706	38,086
Total	124,991	65,020	181,340
Moisture Shipped	2.78	1.37	3.79

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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)	65.16	subject to refinement
Pit fringe (area drains to pit)	94.10	subject to refinement
Drainage to Pit (total area)	159.26	subject to refinement

Quarry area Fringe area

Date	Precip, in.	Runoff, in.	Runoff, in.	Evapor, in/day
1-Jan	0.13	0.13	0.00	0.02
2-Jan	0.00	0.00	0.00	0.04
3-Jan	0.00	0.00	0.00	0.05
4-Jan	0.01	0.01	0.00	0.06
5-Jan	0.00	0.00	0.00	0.07
6-Jan	0.12	0.12	0.00	0.04
7-Jan	0.13	0.13	0.00	0.03
8-Jan	0.01	0.01	0.00	0.02
9-Jan	0.00	0.00	0.00	0.02
10-Jan	0.00	0.00	0.00	0.03
11-Jan	0.00	0.00	0.00	0.02
12-Jan	0.00	0.00	0.00	0.04
13-Jan	0.00	0.00	0.00	0.06
14-Jan	0.00	0.00	0.00	0.10
15-Jan	0.00	0.00	0.00	0.11
16-Jan	0.00	0.00	0.00	0.06
17-Jan	0.00	0.00	0.00	0.07
18-Jan	0.00	0.00	0.00	0.08
19-Jan	0.00	0.00	0.00	0.10
20-Jan	0.05	0.05	0.00	0.02
21-Jan	0.00	0.00	0.00	0.02
22-Jan	0.00	0.00	0.00	0.07
23-Jan	0.04	0.04	0.00	0.04
24-Jan	0.27	0.27	0.00	0.05
25-Jan	0.53	0.53	0.00	0.06
26-Jan	0.00	0.00	0.00	0.04
27-Jan	0.00	0.00	0.00	0.04
28-Jan	0.00	0.00	0.00	0.04
29-Jan	0.00	0.00	0.00	0.09
30-Jan	0.18	0.18	0.00	0.01
31-Jan	0.00	0.00	0.00	0.01
		1.47	0.00	
Volume, ac-ft		7.98	0.00	1.5017
Total Vol, ac-ft		7.98		

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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)	65.19	subject to refinement
Pit fringe (area drains to pit)	94.06	subject to refinement
Drainage to Pit (total area)	159.26	subject to refinement

Quarry area Fringe area

Date	Precip, in.	Runoff, in.	Runoff, in.	Evapor, in/day
1-Feb	0.00	0.00	0.00	0.06
2-Feb	0.00	0.00	0.00	0.06
3-Feb	0.00	0.00	0.00	0.06
4-Feb	0.00	0.00	0.00	0.07
5-Feb	0.00	0.00	0.00	0.07
6-Feb	0.15	0.15	0.00	0.02
7-Feb	0.00	0.00	0.00	0.02
8-Feb	0.06	0.06	0.00	0.01
9-Feb	0.00	0.00	0.00	0.01
10-Feb	0.00	0.00	0.00	0.00
11-Feb	0.00	0.00	0.00	0.01
12-Feb	0.00	0.00	0.00	0.01
13-Feb	0.00	0.00	0.00	0.03
14-Feb	0.00	0.00	0.00	0.00
15-Feb	0.00	0.00	0.00	0.01
16-Feb	0.00	0.00	0.00	0.01
17-Feb	0.00	0.00	0.00	0.01
18-Feb	0.03	0.03	0.00	0.03
19-Feb	0.06	0.06	0.00	0.04
20-Feb	0.11	0.11	0.00	0.06
21-Feb	0.09	0.09	0.00	0.08
22-Feb	0.02	0.02	0.00	0.11
23-Feb	0.00	0.00	0.00	0.11
24-Feb	0.00	0.00	0.00	0.09
25-Feb	0.05	0.05	0.00	0.03
26-Feb	0.08	0.08	0.00	0.02
27-Feb	0.00	0.00	0.00	0.03
28-Feb	0.03	0.03	0.00	0.03
		0.00	0.00	
		0.00	0.00	
		0.00	0.00	
		0.68	0.00	
Volume, ac-ft		3.69	0.00	1.098
Total Vol, ac-ft		3.69		

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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)	65.19	subject to refinement
Pit fringe (area drains to pit)	94.06	subject to refinement
Drainage to Pit (total area)	159.26	subject to refinement

Quarry area Fringe area

Date	Precip, In.	Runoff, In.	Runoff, In.	Evapor, In/day
1-Mar	0.00	0.00	0.00	0.09
2-Mar	0.00	0.00	0.00	0.10
3-Mar	0.00	0.00	0.00	0.11
4-Mar	0.00	0.00	0.00	0.08
5-Mar	0.06	0.06	0.00	0.03
6-Mar	0.00	0.00	0.00	0.09
7-Mar	0.00	0.00	0.00	0.10
8-Mar	0.00	0.00	0.00	0.11
9-Mar	0.00	0.00	0.00	0.09
10-Mar	0.00	0.00	0.00	0.10
11-Mar	0.00	0.00	0.00	0.06
12-Mar	0.00	0.00	0.00	0.04
13-Mar	0.00	0.00	0.00	0.05
14-Mar	0.08	0.08	0.00	0.14
15-Mar	0.00	0.00	0.00	0.19
16-Mar	0.00	0.00	0.00	0.09
17-Mar	0.00	0.00	0.00	0.15
18-Mar	0.00	0.00	0.00	0.09
19-Mar	0.00	0.00	0.00	0.10
20-Mar	0.00	0.00	0.00	0.11
21-Mar	0.00	0.00	0.00	0.10
22-Mar	0.31	0.31	0.00	0.02
23-Mar	0.15	0.15	0.00	0.15
24-Mar	0.10	0.10	0.00	0.05
25-Mar	0.06	0.06	0.00	0.10
26-Mar	0.05	0.05	0.00	0.14
27-Mar	0.03	0.03	0.00	0.11
28-Mar	0.02	0.02	0.00	0.13
29-Mar	0.00	0.00	0.00	0.15
30-Mar	0.00	0.00	0.00	0.12
31-Mar	0.00	0.00	0.00	0.26
		0.66	0.00	
Volume, ac-ft		4.67	0.00	3.243
Total Vol, ac-ft		4.67		

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