



Robin Simmons
Regional Land Manager

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Oklahoma Water Resources Board

August 27, 2021

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

Re: Martin Marietta/Material Producers Davis Quarry Q2 2021 Monitoring Report

Dear Mr. Cogburn:

Attached please find the Q2 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
April-21	-17.16	47.18	47.18	30.03	N/A	-17.16	0.00	3.80	0.00	0.00
May-21	-11.73	25.59	25.59	13.87	N/A	-11.73	0.00	5.99	0.00	0.00
June-21	-10.02	17.66	17.66	7.63	N/A	-10.02	0.00	5.30	0.00	0.00
2nd QTR Totals	-38.91	90.44	90.44	51.53	0.00	-38.91	0.00	15.09	0.00	0.00

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Davis Water Balance

	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
Monitoring Period, Days		31	28	31	30	31	30
Monthly Production, tons	112,548	121,396	76,601	172,367	157,640	141,622	184,051
Product Moisture Content		3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Water Truck Loads		4	0	13	57	31	8
Month End Water Elevs.							
1) Freshwater pond, depth to water	13.575	13.283	14.307	17.891	17.194	17.558	15.229
2) Pit Sump, depth to water	32.469	38.184	38.081	36.267	47.378	50.252	51.46
Pond Surface Acres							
1) Freshwater pond		1.0	1.0	1.0	1.0	1.0	1.0
2) Pit Sump		2.3	2.3	2.3	2.3	2.3	2.3
Total surface acres		3.3	3.3	3.3	3.3	3.3	3.3
Pond Water Volume Change							
1) Freshwater pond		-0.292	1.024	3.584	-0.697	0.364	-2.329
2) Pit Sump		13.145	-0.237	-4.172	25.555	6.610	2.778
3) Change in settling pond storage		0.000	0.000	0.000	0.000	0.000	0.000
Net Volume Change		12.853	0.787	-0.588	24.858	6.974	0.449
Water Inputs, ac-ft							
Rural Water		0.043	0.015	0.007	0.079	0.006	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		7.982	3.694	4.672	47.184	25.594	17.657
Total Water Input		8.024	3.709	4.680	47.264	25.601	17.657
Water Usage, ac-ft							
Product moisture content		3.126	1.973	4.439	4.060	3.647	4.740
Haul road dust control		0.123	0.123	0.203	0.350	0.190	0.196
Evaporation losses		0.413	0.302	0.892	0.837	0.906	1.254
Misc usage		-	-	-	-	2.16	0.99
Total Water Usage, Ac-ft		3.662	2.397	5.533	5.246	6.901	7.184
Net Water Input		4.362	1.312	-0.854	42.018	18.700	10.473
emergency storage of precipitation and runoff, ac-ft							
Groundwater Inflow		8.490	-0.525	0.265	-17.159	-11.726	-10.024
Groundwater Inflow, Avg Ac-ft/Day		0.274	-0.019	0.009	-0.572	-0.378	-0.334
Groundwater Inflow, Avg Gallons/Day		89,244	-6,109	2,790	-186,379	-123,252	-108,875

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Consumptive Use

	January	February	March	April	May	June
Water Truck Usage	0.12	0.12	0.20	0.35	0.19	0.20
Moisture Content of Product Shipped	2.78	1.37	3.79	3.45	3.64	4.11
Misc on site use	-	-	-	-	-	-
Misc off site	-	-	-	-	2.16	0.99
Total	2.91	1.49	4.00	3.80	5.99	5.30

Shipped Tons	January	February	March	April	May	June
Base	28,145	15,853	37,153	40,978	52,599	80,562
Coarse Aggregate	63,545	36,461	106,102	88,218	88,742	69,491
Fine Aggregate	33,301	12,706	38,086	32,901	29,570	30,463
Total	124,991	65,020	181,340	162,096	170,911	180,516
Moisture Shipped	2.78	1.37	3.79	3.45	3.64	4.11

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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)	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-Apr	0.00	0.00	0.00	0.13
2-Apr	0.00	0.00	0.00	0.11
3-Apr	0.00	0.00	0.00	0.14
4-Apr	0.00	0.00	0.00	0.06
5-Apr	0.00	0.00	0.00	0.12
6-Apr	0.00	0.00	0.00	0.10
7-Apr	0.00	0.00	0.00	0.20
8-Apr	0.00	0.00	0.00	0.19
9-Apr	0.20	0.20	0.00	0.09
10-Apr	0.00	0.00	0.00	0.15
11-Apr	0.00	0.00	0.00	0.17
12-Apr	0.00	0.00	0.00	0.10
13-Apr	0.00	0.00	0.00	0.10
14-Apr	0.63	0.63	0.00	0.01
15-Apr	0.12	0.12	0.00	0.03
16-Apr	0.55	0.55	0.00	0.01
17-Apr	0.00	0.00	0.00	0.09
18-Apr	0.00	0.00	0.00	0.13
19-Apr	0.00	0.00	0.00	0.18
20-Apr	0.00	0.00	0.00	0.08
21-Apr	0.00	0.00	0.00	0.13
22-Apr	0.00	0.00	0.00	0.04
23-Apr	1.48	1.48	0.57	0.05
24-Apr	0.00	0.00	0.00	0.07
25-Apr	0.00	0.00	0.00	0.14
26-Apr	0.00	0.00	0.00	0.12
27-Apr	0.51	0.51	0.00	0.05
28-Apr	2.43	2.43	1.32	0.03
29-Apr	0.04	0.04	0.00	0.07
30-Apr	0.00	0.00	0.00	0.16
		0.00	0.00	
		5.96	1.89	
Volume, ac-ft		32.38	14.80	3.042
Total Vol, ac-ft		47.18		

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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)	65.19	subject to refinement
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Quarry area Fringe area

Date	Precip, in.	Runoff, in.	Runoff, in.	Evapor, in/day
1-May	0.00	0.00	0.00	0.06
2-May	0.01	0.01	0.00	0.13
3-May	0.99	0.99	0.00	0.15
4-May	0.11	0.11	0.00	0.12
5-May	0.00	0.00	0.00	0.16
6-May	0.01	0.01	0.00	0.17
7-May	0.00	0.00	0.00	0.16
8-May	0.00	0.00	0.00	0.17
9-May	0.00	0.00	0.00	0.16
10-May	0.04	0.04	0.00	0.05
11-May	0.48	0.48	0.00	0.03
12-May	0.00	0.00	0.00	0.06
13-May	0.00	0.00	0.00	0.10
14-May	0.00	0.00	0.00	0.10
15-May	0.00	0.00	0.00	0.11
16-May	0.58	0.58	0.00	0.04
17-May	0.00	0.00	0.00	0.14
18-May	0.11	0.11	0.00	0.09
19-May	0.05	0.05	0.00	0.11
20-May	0.14	0.14	0.00	0.09
21-May	0.20	0.20	0.00	0.09
22-May	0.06	0.06	0.00	0.04
23-May	0.06	0.06	0.00	0.07
24-May	0.23	0.23	0.00	0.06
25-May	0.09	0.09	0.00	0.10
26-May	0.00	0.00	0.00	0.17
27-May	0.81	0.81	0.00	0.11
28-May	0.00	0.00	0.00	0.13
29-May	0.00	0.00	0.00	0.17
30-May	0.00	0.00	0.00	0.13
31-May	0.74	0.74	0.00	0.04
		4.71	0.00	0.00
Volume, ac-ft		25.59	0.00	3.296
Total Vol, ac-ft		25.59		

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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)	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-Jun	0.00	0.00	0.00	0.04
2-Jun	0.00	0.00	0.00	0.13
3-Jun	0.00	0.00	0.00	0.15
4-Jun	0.00	0.00	0.00	0.18
5-Jun	1.00	1.00	0.00	0.06
6-Jun	0.24	0.24	0.00	0.10
7-Jun	0.00	0.00	0.00	0.13
8-Jun	0.00	0.00	0.00	0.19
9-Jun	0.00	0.00	0.00	0.16
10-Jun	0.00	0.00	0.00	0.17
11-Jun	0.00	0.00	0.00	0.17
12-Jun	0.47	0.47	0.00	0.19
13-Jun	0.00	0.00	0.00	0.14
14-Jun	0.00	0.00	0.00	0.20
15-Jun	0.00	0.00	0.00	0.20
16-Jun	0.00	0.00	0.00	0.20
17-Jun	0.00	0.00	0.00	0.20
18-Jun	0.00	0.00	0.00	0.18
19-Jun	0.00	0.00	0.00	0.19
20-Jun	0.00	0.00	0.00	0.20
21-Jun	0.32	0.32	0.00	0.06
22-Jun	0.01	0.01	0.00	0.18
23-Jun	0.00	0.00	0.00	0.18
24-Jun	0.00	0.00	0.00	0.19
25-Jun	0.00	0.00	0.00	0.19
26-Jun	0.01	0.01	0.00	0.06
27-Jun	1.06	1.06	0.00	0.17
28-Jun	0.03	0.03	0.00	0.10
29-Jun	0.11	0.11	0.00	0.13
30-Jun	0.00	0.00	0.00	0.14
		0.00	0.00	
		3.25	0.00	
Volume, ac-ft		17.66	0.00	4.56
Total Vol, ac-ft		17.66		

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