Jesse Martindale
Sr. Environmental Engineer

March 24, 2025

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OKLAHOMA WATER RESOURCES BOARD

Jason Tutkowski
Oklahoma Water Resources Board
3800 N. Classen
Oklahoma City, OK 73118

Re: Martin Marietta Davis Quarry 2024 Q4 and Final Report

Dear Mr. Tutkowski:

Attached please find the Q4 monitoring report and associated data and calculations for the Martin Marietta Davis Quarry with the requested updated information.

Regards,

Jesse Martindale

Jesse Martindale
Sr. Environmental Engineer

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MM Davis Quarry 2024 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-24	24.35	13.23	13.23	37.58	N/A	24.35	0.00	5.48	0.00	0.00
February-24	5.55	7.55	7.55	13.11	N/A	5.55	0.00	3.80	0.00	0.00
March-24	2.11	7.93	7.93	10.03	N/A	2.11	0.00	3.06	0.00	0.00
1st QTR Totals	32.01	28.72	28.72	60.72	0.00	32.01	0.00	12.35	0.00	0.00
April-24	-61.56	92.98	92.98	31.42	N/A	-61.56	0.00	4.02	0.00	0.00
May-24	-20.91	34.15	34.15	13.24	N/A	-20.91	0.00	37.44	0.00	0.00
June-24	17.27	28.85	28.85	46.12	N/A	17.27	0.00	5.01	0.00	0.00
2nd QTR Totals	-65.20	155.98	155.98	90.78	0.00	-65.20	0.00	46.47	0.00	0.00
July-24	-7.25	12.89	12.89	5.64	N/A	-7.25	0.00	5.73	0.00	0.00
August-24	-2.28	3.42	3.42	1.14	N/A	-2.28	0.00	7.56	0.00	0.00
September-24	-7.63	7.39	7.39	-0.24	N/A	-7.63	0.00	6.57	0.00	0.00
3rd QTR Totals	-17.16	23.71	23.71	6.55	0.00	-17.16	0.00	19.86	0.00	0.00
October-24	2.58	1.41	1.41	3.99	N/A	2.58	0.00	8.14	0.00	0.00
November-24	13.06	40.60	40.60	53.66	N/A	13.06	0.00	2.89	0.00	0.00
December-24	-7.84	7.88	7.88	0.04	N/A	-7.84	0.00	8.44	0.00	0.00
4th QTR Totals	7.80	49.89	49.89	57.69	0.00	7.80	0.00	19.47	0.00	0.00
2024 Totals	-42.55	258.29	258.29	215.74	0.00	-42.55	0.00	98.14	0.00	0.00

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

Total groundwater entering the pit = total stormwater entering the pit - total water diverted

Groundwater Right Value (MEPS): 68 acre-feet

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Consumptive Use

	January	February	March	April	May	June	July	August	September	October	November	December
Water Truck Usage	-	0.77	0.36	0.91	0.77	2.04	2.38	4.36	3.01	4.20	0.39	0.39
Moisture Content of Product Shipped	1.64	3.03	2.71	3.11	2.85	2.96	3.35	3.20	3.56	3.94	2.50	2.40
Misc on site use	-	-	-	-	-	-	-	-	-	-	-	-
Misc off site	3.84	-	-	-	33.82	-	-	-	-	-	-	5.66
Total	5.48	3.80	3.06	4.02	37.44	5.01	5.73	7.56	6.57	8.14	2.89	8.44

Shipped Tons	January	February	March	April	May	June	July	August	September	October	November	December
Base	24,368	43,442	37,707	42,608	28,408	21,143	19,526	18,669	27,569	21,334	18,571	29,134
Coarse Aggregate	40,165	71,882	80,801	84,289	81,519	98,929	90,340	87,594	106,025	132,135	78,076	112,923
Fine Aggregate	12,687	25,500	16,713	23,296	27,389	28,853	44,971	42,248	38,464	43,287	26,063	550
Total	77,220	140,824	135,222	150,193	137,316	148,925	154,838	148,510	172,058	196,756	122,711	142,606
Moisture Shipped	1.64	3.03	2.71	3.11	2.85	2.96	3.35	3.20	3.56	3.94	2.50	2.40

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Davis Water Balance

	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Monitoring Period, Days		31	28	31	30	31	30	31	31	30	31	30	31
Monthly Production, tons	136,592	94,734	127,943	173,248	179,019	115,635	135,437	121,052	129,951	143,726	148,850	124,625	133,509
Product Moisture Content		3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Water Truck Loads		0	28	13	33	28	74	86	158	109	152	14	14
***Month End* Water Elevs.**													
1) Freshwater pond, depth to water	15.16725	13.74254	17.05114	15.769906	21.440468	15.306578	15.845394	15.43204	16.861792	16.166412	15.769052	15.83957	19.374323
2) Pit Sump, depth to water	46.13844	51.65115	52.3859	53.20305	56.280075	52.802555	59.25419	58.88673	57.051174	55.60832	54.62602	63.05426	60.673737
Pond Surface Acres													
1) Freshwater pond		1.0	1.0	1.0	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
2) Pit Sump		5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79
Total surface acres		6.794314	6.794314	6.794313535	6.85431354	6.8543135	6.854313535	6.794314	6.7943135	6.7943135	6.79431354	6.794314	6.79431354
Pond Water Volume Change													
1) Freshwater pond		-1.425	3.309	-1.281	6.011	-6.502	0.571	-0.413	1.430	-0.695	-0.397	0.071	3.535
2) Pit Sump		31.942	4.257	4.735	17.829	-20.150	37.383	-2.129	-10.636	-8.360	-5.692	48.836	-13.793
3) Change in settling pond storage		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Net Volume Change		**30.518**	**7.566**	**3.454**	**23.840**	**-26.652**	**37.954**	**-2.543**	**-9.206**	**-9.056**	**-6.089**	**48.906**	**-10.259**
Water Inputs, ac-ft													
Rural Water		0.044	0.037	0.028	0.024	0.074	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lake Water		0.000	0.000	0.000	0.000	0.000	0.000	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	0.000	0.000	0.000	0.000	0.000	0.000
Precipitation		13.234	7.553	7.928	92.981	34.146	28.853	12.892	3.422	7.393	1.405	40.601	7.882
Total Water Input		**13.279**	**7.590**	**7.956**	**93.005**	**34.221**	**28.853**	**12.892**	**3.422**	**7.393**	**1.405**	**40.601**	**7.882**
Water Usage, ac-ft													
Product moisture content		2.440	3.295	4.462	4.610	2.978	3.488	3.117	3.347	3.701	3.833	3.209	3.438
Haul road dust control		0.000	0.773	0.359	0.911	0.773	2.044	2.375	4.364	3.011	4.198	0.387	0.387
Evaporation losses		0.828	1.508	1.788	2.082	2.392	2.634	2.692	2.638	2.106	2.046	1.157	0.819
Misc usage		3.84	-	-	-	33.82	-	-	-	-	-	-	5.66
Total Water Usage, Ac-ft		**7.111**	**5.576**	**6.609**	**7.604**	**39.967**	**8.166**	**8.185**	**10.348**	**8.818**	**10.078**	**4.753**	**10.302**
Net Water Input		**6.168**	**2.014**	**1.347**	**85.401**	**-5.746**	**20.687**	**4.707**	**-6.927**	**-1.425**	**-8.672**	**35.848**	**-2.420**
emergency storage of precipitation and runoff, ac-ft													
Groundwater Inflow		24.350	5.552	2.106	-61.561	-20.906	17.267	-7.250	-2.279	-7.631	2.583	13.058	-7.839
Groundwater Inflow, Avg Ac-ft/Day		0.785	0.198	0.068	-2.052	-0.674	0.576	-0.234	-0.074	-0.254	0.083	0.435	-0.253
Groundwater Inflow, Avg Gallons/Day		255,951	64,608	22,138	-668,658	-219,747	187,547	-76,206	-23,958	-82,884	27,154	141,832	-82,400

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October 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)	73.32	subject to refinement
Pit fringe (area drains to pit)	91.38	subject to refinement
Drainage to Pit (total area)	164.70	subject to refinement

		Quarry are	Fringe area	
Date	**Precip, in.**	**Runoff, in.**	**Runoff, in.**	**Evapor, in/day**
1-Oct	0.00	0.00	0.00	0.12
2-Oct	0.00	0.00	0.00	0.14
3-Oct	0.00	0.00	0.00	0.13
4-Oct	0.00	0.00	0.00	0.12
5-Oct	0.00	0.00	0.00	0.13
6-Oct	0.00	0.00	0.00	0.11
7-Oct	0.00	0.00	0.00	0.12
8-Oct	0.00	0.00	0.00	0.12
9-Oct	0.00	0.00	0.00	0.13
10-Oct	0.00	0.00	0.00	0.12
11-Oct	0.00	0.00	0.00	0.14
12-Oct	0.00	0.00	0.00	0.17
13-Oct	0.00	0.00	0.00	0.13
14-Oct	0.00	0.00	0.00	0.12
15-Oct	0.00	0.00	0.00	0.11
16-Oct	0.00	0.00	0.00	0.11
17-Oct	0.00	0.00	0.00	0.12
18-Oct	0.00	0.00	0.00	0.11
19-Oct	0.00	0.00	0.00	0.12
20-Oct	0.00	0.00	0.00	0.12
21-Oct	0.00	0.00	0.00	0.12
22-Oct	0.00	0.00	0.00	0.13
23-Oct	0.00	0.00	0.00	0.10
24-Oct	0.00	0.00	0.00	0.13
25-Oct	0.00	0.00	0.00	0.11
26-Oct	0.00	0.00	0.00	0.10
27-Oct	0.00	0.00	0.00	0.10
28-Oct	0.00	0.00	0.00	0.12
29-Oct	0.00	0.00	0.00	0.08
30-Oct	0.00	0.00	0.00	0.07
31-Oct	0.23	0.23	0.00	0.08
		0.23	0.00	
Volume, ac-ft		**1.41**	**0.00**	**3.614**
Total Vol, ac-ft		**1.41**		

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November 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)	73.32	subject to refinement
Pit fringe (area drains to pit)	91.38	subject to refinement
Drainage to Pit (total area)	164.70	subject to refinement

		Quarry area	Fringe area	
Date	**Precip, in.**	**Runoff, in.**	**Runoff, in.**	**Evapor, in/day**
1-Nov	0.00	0.00	0.00	0.05
2-Nov	0.96	0.96	0.00	0.02
3-Nov	2.14	2.14	1.08	0.03
4-Nov	0.30	0.30	0.00	0.03
5-Nov	0.00	0.00	0.00	0.07
6-Nov	0.00	0.00	0.00	0.08
7-Nov	0.00	0.00	0.00	0.04
8-Nov	0.51	0.51	0.00	0.01
9-Nov	0.01	0.01	0.00	0.10
10-Nov	0.00	0.00	0.00	0.10
11-Nov	0.00	0.00	0.00	0.08
12-Nov	0.00	0.00	0.00	0.08
13-Nov	0.02	0.02	0.00	0.10
14-Nov	0.00	0.00	0.00	0.09
15-Nov	0.00	0.00	0.00	0.09
16-Nov	0.00	0.00	0.00	0.07
17-Nov	0.01	0.01	0.00	0.04
18-Nov	1.35	1.35	0.00	0.05
19-Nov	0.00	0.00	0.00	0.08
20-Nov	0.00	0.00	0.00	0.09
21-Nov	0.00	0.00	0.00	0.10
22-Nov	0.00	0.00	0.00	0.08
23-Nov	0.00	0.00	0.00	0.09
24-Nov	0.00	0.00	0.00	0.09
25-Nov	0.00	0.00	0.00	0.04
26-Nov	0.00	0.00	0.00	0.06
27-Nov	0.00	0.00	0.00	0.08
28-Nov	0.00	0.00	0.00	0.05
29-Nov	0.00	0.00	0.00	0.06
30-Nov	0.00	0.00	0.00	0.08
		0.00	0.00	
		5.30	1.08	
Volume, ac-ft		**32.38**	**8.22**	**2.04**
Total Vol, ac-ft		**40.60**		

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December 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
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Pit fringe (area drains to pit)	91.38	subject to refinement
Drainage to Pit (total area)	164.70	subject to refinement

		Quarry area	Fringe area	
Date	**Precip, in.**	**Runoff, in.**	**Runoff, in.**	**Evapor, in/day**
1-Dec	0.00	0.00	0.00	0.06
2-Dec	0.00	0.00	0.00	0.06
3-Dec	0.00	0.00	0.00	0.06
4-Dec	0.00	0.00	0.00	0.04
5-Dec	0.00	0.00	0.00	0.05
6-Dec	0.00	0.00	0.00	0.06
7-Dec	0.02	0.02	0.00	0.03
8-Dec	0.03	0.03	0.00	0.01
9-Dec	0.01	0.01	0.00	0.01
10-Dec	0.00	0.00	0.00	0.04
11-Dec	0.00	0.00	0.00	0.08
12-Dec	0.00	0.00	0.00	0.09
13-Dec	0.00	0.00	0.00	0.03
14-Dec	0.03	0.03	0.00	0.07
15-Dec	0.00	0.00	0.00	0.04
16-Dec	0.03	0.03	0.00	0.06
17-Dec	0.00	0.00	0.00	0.06
18-Dec	0.03	0.03	0.00	0.06
19-Dec	0.00	0.00	0.00	0.05
20-Dec	0.00	0.00	0.00	0.06
21-Dec	0.00	0.00	0.00	0.06
22-Dec	0.00	0.00	0.00	0.06
23-Dec	0.00	0.00	0.00	0.03
24-Dec	0.11	0.11	0.00	0.01
25-Dec	0.01	0.01	0.00	0.01
26-Dec	1.00	1.00	0.00	0.00
27-Dec	0.01	0.01	0.00	0.04
28-Dec	0.00	0.00	0.00	0.02
29-Dec	0.00	0.00	0.00	0.06
30-Dec	0.01	0.01	0.00	0.09
31-Dec	0.00	0.00	0.00	0.06
		1.29	0.00	
Volume, ac-ft		**7.88**	**0.00**	**1.447**
Total Vol, ac-ft		**7.88**		

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