

2024 1st Quarter Report

Report 2024

North Troy Quarry

Mill Creek, OK

Vulcan Materials Company

VMC North Troy 2024 Monitoring Report

All volumes are in acre-feet.

	All Water Pumped	Total Stormwater Entering Pit note(a)	Total Groundwater Diverted	Pit Water Sent To Holding Basin	Groundwater Augmentation	Streamwater Augmentation	Defined Elements of Consumptive Use of Pit Water	Streamwater Pumped From Mill Creek	Groundwater Pumped From Wells	Total Annual Groundwater Allocation, Ac-ft
January-24	528.00	22.04	505.96	34.70	208.58	287.00	6.63	0.00	0.00	219.50
February-24	514.60	12.79	501.81	32.50	281.34	207.00	9.22	0.00	0.00	219.50
March-24	594.30	21.39	572.91	37.30	394.90	164.60	11.93	0.00	0.00	219.50
1st QTR Totals	1636.90	56.22	1580.68	104.50	884.81	658.60	27.78	0.00	0.00	N/A
April-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	219.50
May-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	219.50
June-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	219.50
2nd QTR Totals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
July-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	219.50
August-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	219.50
September-24	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	219.50
3rd QTR Totals	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	N/A
October-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	219.50
November-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	219.50
December-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	219.50
4th QTR Totals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
2024 Totals	1636.90	56.22	1580.68	104.50	884.81	658.60	27.82	0.00	0.00	219.50
2024 Total (adj)	1636.90	56.22	1580.68	104.50	884.81	658.60	27.82	0.00	0.00	219.50

1st Qtr notes Production well electric issue - unable pump / no sample

2nd Qtr notes

3rd Qtr notes

4th Qtr notes

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January Precipitation/Evaporation 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)	1.36363636	area draining into pit	
S (pit)		area with direct interception	
Pit - Direct Interception (>95 ft deep)	129.00		
Pit fringe (area drains to pit)	77.00	subject to refinement	
Drainage to Pit (total area)	206.00	subject to refinement	

Date	Precip. in.	Quarry area Runoff, in.	Fringe area Runoff, in.	Daily Evaporation, in.	
1-Jan	0.00	0.00	0.00	0.05	Runoff formula
2-Jan	0.00	0.00	0.00	0.04	$Pe = (P-0.2S)^2/(P+0.8S)$
3-Jan	0.00	0.00	0.00	0.05	$S = (1000/CN)-10$
4-Jan	0.02	0.02	0.00	0.08	
5-Jan	0.24	0.24	0.00	0.03	Blue cells contain formulas
6-Jan	0.01	0.01	0.00	0.04	
7-Jan	0.00	0.00	0.00	0.1	
8-Jan	0.51	0.51	0.00	0.06	
9-Jan	0.00	0.00	0.00	0.07	
10-Jan	0.00	0.00	0.00	0.13	
11-Jan	0.00	0.00	0.00	0.14	
12-Jan	0.00	0.00	0.00	0.12	
13-Jan	0.00	0.00	0.00	0.05	
14-Jan	0.00	0.00	0.00	0.03	
15-Jan	0.00	0.00	0.00	0.05	
16-Jan	0.00	0.00	0.00	0.04	
17-Jan	0.00	0.00	0.00	0.11	
18-Jan	0.00	0.00	0.00	0.13	
19-Jan	0.00	0.00	0.00	0.08	
20-Jan	0.00	0.00	0.00	0.06	
21-Jan	0.00	0.00	0.00	0.06	
22-Jan	0.44	0.44	0.00	0.02	
23-Jan	0.21	0.21	0.00	0.02	
24-Jan	0.04	0.04	0.00	0.03	
25-Jan	0.00	0.00	0.00	0.04	
26-Jan	0.41	0.41	0.00	0.02	
27-Jan	0.16	0.16	0.00	0.02	
28-Jan	0.01	0.01	0.00	0.06	
29-Jan	0.00	0.00	0.00	0.09	
30-Jan	0.00	0.00	0.00	0.1	
31-Jan	0.00	0.00	0.00	0.12	
sum		2.55	0.00	2.48	
Volume, ac-ft		32.34	0.00		
Total Vol, ac-ft		22.94			Pan Evaporation from Sulphur Mesonet

February Precipitation/Evaporation 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)	1.36363636	area draining into pit	
S (pit)		area with direct interception	
Pit - Direct Interception (>95 ft deep)	129.00	subject to refinement	
Pit fringe (area drains to pit)	77.00	subject to refinement	
Drainage to Pit (total area)	206.00	subject to refinement	

Date	Precip. in.	Quarry area Runoff, in.	Fringe area Runoff, in.	Daily Evaporation, in.	
1-Feb	0.00	0.00	0.00	0.2	Runoff formula
2-Feb	0.00	0.00	0.00	0.05	$Pe = (P-0.2S)^2/(P+0.8S)$
3-Feb	0.35	0.35	0.00	0.04	$S = (1000/CN)-10$
4-Feb	0.02	0.02	0.00	0.05	
5-Feb	0.00	0.00	0.00	0.11	Blue cells contain formulas
6-Feb	0.00	0.00	0.00	0.1	
7-Feb	0.00	0.00	0.00	0.22	
8-Feb	0.00	0.00	0.00	0.26	
9-Feb	0.00	0.00	0.00	0.11	
10-Feb	0.00	0.00	0.00	0.06	
11-Feb	0.70	0.70	0.00	0.03	
12-Feb	0.06	0.06	0.00	0.06	
13-Feb	0.00	0.00	0.00	0.11	
14-Feb	0.00	0.00	0.00	0.2	
15-Feb	0.00	0.00	0.00	0.1	
16-Feb	0.00	0.00	0.00	0.09	
17-Feb	0.00	0.00	0.00	0.09	
18-Feb	0.00	0.00	0.00	0.08	
19-Feb	0.00	0.00	0.00	0.17	
20-Feb	0.00	0.00	0.00	0.22	
21-Feb	0.00	0.00	0.00	0.24	
22-Feb	0.00	0.00	0.00	0.21	
23-Feb	0.00	0.00	0.00	0.15	
24-Feb	0.00	0.00	0.00	0.16	
25-Feb	0.00	0.00	0.00	0.25	
26-Feb	0.00	0.00	0.00	0.25	
27-Feb	0.00	0.00	0.00	0.21	
28-Feb	0.00	0.00	0.00	0.15	
	0.06	0.06	0.00	0.08	
		0.00	0.00		
sum	1.19	1.19	0.00	4.06	
Volume, ac-ft		12.75	0.00		
Total Vol, ac-ft		12.75			Pan Evaporation from Sulphur Mesonet

March Precipitation/Evaporation 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)	1.36363636	area draining into pit	
S (pit)		area with direct interception	
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Pit fringe (area drains to pit)	77.00	subject to refinement	
Drainage to Pit (total area)	206.00	subject to refinement	

Date	Precip. in.	Quarry area Runoff, in.	Fringe area Runoff, in.	Daily Evaporation, in.	
1-Mar	0.00	0.00	0.00	0.11	Runoff formula
2-Mar	0.00	0.00	0.00	0.28	$Pe = (P-0.2S)^2/(P+0.8S)$
3-Mar	0.00	0.00	0.00	0.26	$S = (1000/CN)-10$
4-Mar	0.00	0.00	0.00	0.22	
5-Mar	0.00	0.00	0.00	0.21	Blue cells co
6-Mar	0.00	0.00	0.00	0.15	
7-Mar	0.16	0.16	0.00	0.18	
8-Mar	0.35	0.35	0.00	0.06	
9-Mar	0.00	0.00	0.00	0.16	
10-Mar	0.00	0.00	0.00	0.14	
11-Mar	0.00	0.00	0.00	0.19	
12-Mar	0.00	0.00	0.00	0.22	
13-Mar	0.00	0.00	0.00	0.25	
14-Mar	0.48	0.48	0.00	0.14	
15-Mar	0.00	0.00	0.00	0.11	
16-Mar	0.10	0.10	0.00	0.06	
17-Mar	0.00	0.00	0.00	0.23	
18-Mar	0.00	0.00	0.00	0.17	
19-Mar	0.00	0.00	0.00	0.21	
20-Mar	0.00	0.00	0.00	0.19	
21-Mar	0.44	0.44	0.00	0.07	
22-Mar	0.01	0.01	0.00	0.13	
23-Mar	0.00	0.00	0.00	0.17	
24-Mar	0.45	0.45	0.00	0.11	
25-Mar	0.00	0.00	0.00	0.17	
26-Mar	0.00	0.00	0.00	0.15	
27-Mar	0.00	0.00	0.00	0.11	
28-Mar	0.00	0.00	0.00	0.18	
29-Mar	0.00	0.00	0.00	0.29	
30-Mar	0.00	0.00	0.00	0.2	
31-Mar	0.00	0.00	0.00	0.11	
sum	1.56	1.56	0.00	5.24	
Volume, ac-ft		21.39	0.00		
Total Vol, ac-ft		21.39			Pan Evaporation from Sulphur Mesonet

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MILL CREEK 2024 AUGMENTATION and GAUGE DATA

Start Date	Stop Date		Augmentation Ac - Ft pumped	Stormwater Pumped AF	Mill Creek Stream gauge Reading	
1/1/2024			105.60			
1/11/2024			47.40			
1/16/2024			1.20			
1/17/2024			12.10			
1/19/2024			14.10			
1/21/2024			21.70			
1/24/2024			15.00			
1/25/2024			10.00			
1/30/2024			59.90			
2/26/2024			46.30			
2/17/2024			41.00			
2/21/2024			59.00			
2/27/2024			60.9			
3/6/2024			53.9			
3/12/2024			39.80			
3/16/2024			25.80			
3/20/2024			45.10			
		Total	658.80			

658.80 Pumped to Mill Creek
658.80 Augmented to Mill Creek
Stormwater collected entering pit
0 Stormwater pumped to Mill Creek

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Monthly Water Data, ac-ft

	Water Diverted From Pit	Storm Water Entering Pit	Net Sump Volume Change	Groundwater Sent To Holding Basin	Groundwater Sent To Infiltration Areas	Groundwater Used For Stream Augmentation	Evaporation	Moisture Content of Product Shipped	Water Truck Usage	Misc Pit Water Use On Site	Misc Pit Water Use Off Site	Production Well Permit 2002-602	North Well Permit 20060601A
January-24	528.00	22.04	0.00	34.70	206.30	287.00	0.29	3.30	3.04	0.00	0.00	0.00	0.00
February-24	514.60	12.79	0.00	32.50	275.10	207.00	0.58	3.12	5.52	0.00	0.00	0.00	0.00
March-24	594.30	21.39	0.00	37.30	392.40	164.60	0.74	3.18	8.01	0.00	0.00	0.00	0.00
April-24		0.00			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
May-24		0.00			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
June-24		0.00			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
July-24		0.00				0.00	0.00	0.00		0.00	0.00	0.00	0.00
August-24		0.00				0.00	0.00	0.00		0.00	0.00	0.00	0.00
September-24		0.00				0.00	0.04	0.00		0.00	0.00	0.00	0.00
October-24		0.00				0.00	0.00	0.00		0.00	0.00	0.00	0.00
November-24		0.00				0.00	0.00	0.00		0.00	0.00	0.00	0.00
December-24		0.00				0.00	0.00	0.00		0.00	0.00	0.00	0.00

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Settling Cell Evaporation and Infiltration

	FO2 East						FO2 West						FO3/FO4 South Settling Cell						Total	Total
	Width, Ft	Length, Ft	Evaporation, ac-ft	Number of Production Days	Infiltration Rate, Ac-ft/day	Total Infiltration, Ac-ft	Width, Ft	Length, Ft	Evaporation, ac-ft	Number of Production Days	Infiltration Rate, Ac-ft/day	Total Infiltration, Ac-ft	Width, Ft	Length, Ft	Evaporation, ac-ft	Number of Production Days	Infiltration Rate, Ac-ft/day	Total Infiltration, Ac-ft	Evaporation, ac-ft	Infiltration, ac-ft
January-24	50	330	0.08	21.00	0.08	1.72	50	350	0.00	0.00	0.22	0.00	200	435	0.34	21.00	0.03	0.59	0.40	2.28
February-24	50	330	0.00	0.00	0.08	0.00	50	350	0.14	25.00	0.22	5.57	200	435	0.68	25.00	0.03	0.67	0.82	6.24
March-24	50	330	0.17	23.00	0.08	1.88	50	350	0.00	0.00	0.22	0.00	200	435	0.87	23.00	0.03	0.81	1.04	2.50
April-24	50	330	0.00		0.08	0.00	50	350	0.00		0.22	0.00	200	435	0.00		0.03	0.00	0.00	0.00
May-24	50	330	0.00		0.08	0.00	50	350	0.00		0.22	0.00	200	435	0.00		0.03	0.00	0.00	0.00
June-24	50	330	0.00		0.08	0.00	50	350	0.00		0.22	0.00	200	435	0.00		0.03	0.00	0.00	0.00
July-24	50	330	0.00		0.08	0.00	50	350	0.00		0.22	0.00	200	435	0.00		0.03	0.00	0.00	0.00
August-24	50	330	0.00		0.08	0.00	50	350	0.00		0.22	0.00	200	435	0.00		0.03	0.00	0.00	0.00
September-24	50	330	0.00		0.08	0.00	50	350	0.00		0.22	0.00	200	435	0.00		0.03	0.00	0.00	0.00
October-24	50	330	0.00		0.08	0.00	50	350	0.00		0.22	0.00	200	435	0.00		0.03	0.00	0.00	0.00
November-24	50	330	0.00		0.08	0.00	50	350	0.00		0.22	0.00	200	435	0.00		0.03	0.00	0.00	0.00
December-24	50	330	0.00		0.08	0.00	50	350	0.00		0.22	0.00	200	435	0.00		0.03	0.00	0.00	0.00

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January Shipments			February Shipments			March Shipments		
	Tons Shipped	Ac-ft of water shipped		Tons Shipped	Ac-ft of water shipped		Tons Shipped	Ac-ft of water shipped
Base Products	408	0.010	Base Products	1,157	0.028	Base Products	795	0.019
Coarse Aggregates	239,510	2.879	Coarse Aggregates	245,814	2.954	Coarse Aggregates	252,432	3.034
Fine Aggregates	12,999	0.413	Fine Aggregates	4,355	0.138	Fine Aggregates	3,841	0.122
	252,917	3.302		251,326	3.121		257,068	3.175

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