

MMM Davis Quarry 2014 Monitoring Report

All volumes are in acre-feet.

	Total Groundwater Entering Pit	Total Stormwater Entering Pit	Total Pit Stormwater Diverted	Total Pit Water Diverted	Pit Water Sent To Holding Basin	Groundwater Augmentation	Streamwater Augmentation	Consumptive Use of Pit Water	Consumptive Use of Groundwater	Groundwater Pumped From Well
January-14	-7.95	0.72	0.72	-7.22	N/A	-7.95	0.00	3.36	0.00	0.00
February-14	2.98	1.38	1.38	4.36	N/A	2.98	0.00	3.12	0.00	0.00
March-14	-6.05	18.93	18.93	12.88	N/A	-6.05	0.00	3.63	0.00	0.00
1st QTR Totals	-11.02	21.03	21.03	10.01	0.00	-11.02	0.00	10.10	0.00	0.00

Davis Water Balance

	Dec-13	Jan-14	Feb-14	Mar-14
Monitoring Period, Days		31	28	31
Monthly Production, tons		112,239	129,160	155,305
Product Moisture Content		3.5%	3.5%	3.5%
Water Truck Loads		16	11	13
Month End Water Elevs.				
1) Freshwater pond, depth to water	11.171	18.392	18.152	9.338
2) Pit Sump, depth to water	14.964	15.111	14.273	14.249
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		-6.766	0.225	8.259
2) Pit Sump		-0.047	0.270	0.008
3) Change in settling pond storage		0.000	0.000	0.000
Net Volume Change		-6.813	0.495	8.266
Water Inputs, ac-ft				
Rural Water		4.103	0.017	0.247
Lake Water		0.000	0.000	0.000
Well Water		0.000	0.000	0.000
Precipitation		0.725	1.377	18.929
Total Water Input		4.828	1.394	19.175
Water Usage, ac-ft				
Product moisture content		2.890	3.326	4.000
Haul road dust control		0.491	0.338	0.399
Evaporation losses		0.311	0.219	0.457
Misc usage		0	0	0
Total Water Usage, Ac-ft		3.693	3.882	4.856
Net Water Input		1.135	-2.489	14.320
Groundwater Inflow		-7.948	2.984	-6.053
Groundwater Inflow, Avg Ac-ft/Day		-0.256	0.107	-0.195
Groundwater Inflow, Avg Gallons/Day		-83,548	34,721	-63,627

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	0.10
2-Jan	0.00	0.00	0.00	0.05
3-Jan	0.00	0.00	0.00	0.09
4-Jan	0.00	0.00	0.00	0.12
5-Jan	0.00	0.00	0.00	0.05
6-Jan	0.00	0.00	0.00	0.05
7-Jan	0.00	0.00	0.00	0.11
8-Jan	0.02	0.02	0.00	0.03
9-Jan	0.03	0.03	0.00	0.01
10-Jan	0.07	0.07	0.00	0.06
11-Jan	0.04	0.04	0.00	0.14
12-Jan	0.00	0.00	0.00	0.19
13-Jan	0.00	0.00	0.00	0.14
14-Jan	0.00	0.00	0.00	0.11
15-Jan	0.00	0.00	0.00	0.11
16-Jan	0.00	0.00	0.00	0.15
17-Jan	0.00	0.00	0.00	0.11
18-Jan	0.00	0.00	0.00	0.17
19-Jan	0.00	0.00	0.00	0.14
20-Jan	0.00	0.00	0.00	0.14
21-Jan	0.00	0.00	0.00	0.07
22-Jan	0.00	0.00	0.00	0.07
23-Jan	0.00	0.00	0.00	0.04
24-Jan	0.00	0.00	0.00	0.11
25-Jan	0.00	0.00	0.00	0.14
26-Jan	0.00	0.00	0.00	0.11
27-Jan	0.00	0.00	0.00	0.06
28-Jan	0.00	0.00	0.00	0.06
29-Jan	0.00	0.00	0.00	0.10
30-Jan	0.00	0.00	0.00	0.09
31-Jan	0.00	0.00	0.00	0.06
		0.16	0.00	
Volume, ac-ft		0.72	0.00	2.965
Total Vol, ac-ft		0.72		

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	0.00	0.00	0.00	0.05
2-Feb	0.00	0.00	0.00	0.01
3-Feb	0.02	0.02	0.00	0.03
4-Feb	0.08	0.08	0.00	0.01
5-Feb	0.00	0.00	0.00	0.03
6-Feb	0.00	0.00	0.00	0.02
7-Feb	0.01	0.01	0.00	0.02
8-Feb	0.04	0.04	0.00	0.02
9-Feb	0.03	0.03	0.00	0.01
10-Feb	0.00	0.00	0.00	0.01
11-Feb	0.01	0.01	0.00	0.02
12-Feb	0.00	0.00	0.00	0.09
13-Feb	0.05	0.05	0.00	0.11
14-Feb	0.03	0.03	0.00	0.13
15-Feb	0.02	0.02	0.00	0.12
16-Feb	0.01	0.01	0.00	0.10
17-Feb	0.00	0.00	0.00	0.13
18-Feb	0.00	0.00	0.00	0.17
19-Feb	0.00	0.00	0.00	0.04
20-Feb	0.00	0.00	0.00	0.15
21-Feb	0.00	0.00	0.00	0.17
22-Feb	0.00	0.00	0.00	0.18
23-Feb	0.00	0.00	0.00	0.09
24-Feb	0.00	0.00	0.00	0.04
25-Feb	0.00	0.00	0.00	0.04
26-Feb	0.00	0.00	0.00	0.08
27-Feb	0.00	0.00	0.00	0.12
28-Feb	0.00	0.00	0.00	0.13
		0.00	0.00	
		0.00	0.00	
		0.00	0.00	
		0.30	0.00	
Volume, ac-ft		1.38	0.00	2.084
Total Vol, ac-ft		1.38		

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
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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	0.01	0.01	0.00	0.02
2-Mar	0.00	0.00	0.00	0.01
3-Mar	0.01	0.01	0.00	0.05
4-Mar	0.06	0.06	0.00	0.08
5-Mar	0.03	0.03	0.00	0.07
6-Mar	0.03	0.03	0.00	0.07
7-Mar	0.02	0.02	0.00	0.12
8-Mar	0.02	0.02	0.00	0.02
9-Mar	0.02	0.02	0.00	0.11
10-Mar	0.00	0.00	0.00	0.21
11-Mar	0.01	0.01	0.00	0.22
12-Mar	0.00	0.00	0.00	0.15
13-Mar	0.00	0.00	0.00	0.21
14-Mar	0.00	0.00	0.00	0.17
15-Mar	2.19	2.19	1.12	0.02
16-Mar	0.07	0.07	0.00	0.02
17-Mar	0.00	0.00	0.00	0.13
18-Mar	0.00	0.00	0.00	0.28
19-Mar	0.00	0.00	0.00	0.15
20-Mar	0.00	0.00	0.00	0.20
21-Mar	0.00	0.00	0.00	0.19
22-Mar	0.00	0.00	0.00	0.56
23-Mar	0.00	0.00	0.00	0.14
24-Mar	0.00	0.00	0.00	0.17
25-Mar	0.00	0.00	0.00	0.14
26-Mar	0.27	0.27	0.00	0.04
27-Mar	0.00	0.00	0.00	0.22
28-Mar	0.00	0.00	0.00	0.08
29-Mar	0.00	0.00	0.00	0.16
30-Mar	0.00	0.00	0.00	0.22
31-Mar	0.03	0.03	0.00	0.17
		2.77	1.12	
Volume, ac-ft		12.55	6.38	4.357
Total Vol, ac-ft		18.93		