MMM North Troy 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	Streamwater Pumped From Mill Creek	Groundwater Pumped From Wells	Total Annual Groundwater Allocation, Ac-ft
January-14	175.70	1.98	1.98	174.21	26.91	151.66	0.00	3.80	0.00	0.09	594.72
February-14	147.76	1.21	1.21	148.70	0.00	154.41	0.00	3.96	0.00	0.00	594.72
March-14	203.20	3.05	3.05	198.27	0.00	204.25	0.00	7.17	0.00	0.07	594.72
1st QTR Totals	526.66	6.24	6.24	521.18	26.91	510.32	0.00	14.92	0.00	0.16	N/A
April-14	182.17	8.00	8.00	180.05	49.37	138.68	0.00	7.84	0.00	0.00	594.72
May-14	161.61	9.88	9.88	172.87	23.14	159.61	0.00	8.69	0.00	0.00	594.72
June-14	156.78	51.30	51.30	149.62	0.00	200.92	0.00	7.78	0.00	0.17	594.72
2nd QTR Totals	500.56	69.18	69.18	502.54	72.51	499.21	0.00	24.32	0.00	0.17	N/A

Mill Creek 2014 Augmentation and Gage Data

Start Date	Start Time	Stop Date	Stop Time	Begin Reading	End Reading		Ac-ft Pumped	Mill Creek Stream Gage Reading		Time Read		Stream Height		Stream Flow	
1/1/2013	NO AUGMENTATION THIS MONTH														
2/1/2013	NO AUGMENTATION THIS MONTH														
3/1/2013	NO AUGMENTATION THIS MONTH														
4/1/2013	NO AUGMENTATION THIS MONTH														
5/1/2013	NO AUGMENTATION THIS MONTH														
6/1/2013	NO AUGMENTATION THIS MONTH														

April 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)	0	area with direct interception
Pit - Direct Interception (>95 ft deep)	53.91	subject to refinement
Pit fringe (area drains to pit)	122.04	subject to refinement
Drainage to Pit (total area)	175.95	subject to refinement

Date	Precip, in.	Quarry area Runoff, in.	Fringe area Runoff, in.	Daily vaporation, in.	
1-Apr	0.00	0.00	0.00	0.118	Runoff formula
2-Apr	0.00	0.00	0.00	0.116	Pe = (P-0.2S)^2/(P+0.8S)
3-Apr	0.00	0.00	0.00	0.184	S = (1000/CN)-10
4-Apr	0.00	0.00	0.00	0.216	
5-Apr	0.06	0.06	0.00	0.113	Blue cells contain formulas
6-Apr	0.59	0.59	0.00	0.026	
7-Apr	0.03	0.03	0.00	0.119	
8-Apr	0.01	0.01	0.00	0.244	
9-Apr	0.00	0.00	0.00	0.249	
10-Apr	0.00	0.00	0.00	0.266	
11-Apr	0.00	0.00	0.00	0.186	
12-Apr	0.00	0.00	0.00	0.221	
13-Apr	0.11	0.11	0.00	0.172	
14-Apr	0.00	0.00	0.00	0.123	
15-Apr	0.00	0.00	0.00	0.191	
16-Apr	0.00	0.00	0.00	0.235	
17-Apr	0.00	0.00	0.00	0.086	
18-Apr	0.00	0.00	0.00	0.2	
19-Apr	0.00	0.00	0.00	0.191	
20-Apr	0.33	0.33	0.00	0.083	
21-Apr	0.55	0.55	0.00	0.099	
22-Apr	0.01	0.01	0.00	0.207	
23-Apr	0.00	0.00	0.00	0.252	
24-Apr	0.08	0.08	0.00	0.225	
25-Apr	0.00	0.00	0.00	0.262	
26-Apr	0.00	0.00	0.00	0.274	
27-Apr	0.01	0.01	0.00	0.244	
28-Apr	0.00	0.00	0.00	0.24	
29-Apr	0.00	0.00	0.00	0.236	
30-Apr	0.00	0.00	0.00	0.211	
		0.00	0.00		
sum	1.78	1.78	0.00	5.59	5.589
Volume, ac-ft		**8.00**	**0.00**		
Total Vol, ac-ft		**8.00**			

May 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)	1.363636	area draining into pit
S (pit)	0	area with direct interception
Pit - Direct Interception (>95 ft deep)	53.91	subject to refinement
Pit fringe (area drains to pit)	122.04	subject to refinement
Drainage to Pit (total area)	175.95	subject to refinement

Date	Precip, in.	Quarry area Runoff, in.	Fringe area Runoff, in.	Daily aporation, in.	
1-May	0.00	0.00	0.00	0.233	Runoff formula
2-May	0.00	0.00	0.00	0.241	Pe = (P-0.2S)^2/(P+0.8S)
3-May	0.00	0.00	0.00	0.261	S = (1000/CN)-10
4-May	0.00	0.00	0.00	0.346	
5-May	0.00	0.00	0.00	0.334	Blue cells contain form
6-May	0.00	0.00	0.00	0.276	
7-May	0.00	0.00	0.00	0.184	
8-May	0.51	0.51	0.00	0.084	
9-May	0.02	0.02	0.00	0.224	
10-May	0.00	0.00	0.00	0.261	
11-May	0.00	0.00	0.00	0.199	
12-May	0.34	0.34	0.00	0.08	
13-May	0.45	0.45	0.00	0.178	
14-May	0.03	0.03	0.00	0.178	
15-May	0.00	0.00	0.00	0.165	
16-May	0.00	0.00	0.00	0.173	
17-May	0.00	0.00	0.00	0.072	
18-May	0.00	0.00	0.00	0.15	
19-May	0.00	0.00	0.00	0.255	
20-May	0.00	0.00	0.00	0.26	
21-May	0.00	0.00	0.00	0.224	
22-May	0.00	0.00	0.00	0.242	
23-May	0.00	0.00	0.00	0.165	
24-May	0.00	0.00	0.00	0.163	
25-May	0.01	0.01	0.00	0.097	
26-May	0.01	0.01	0.00	0.123	
27-May	0.75	0.75	0.00	0.064	
28-May	0.01	0.01	0.00	0.141	
29-May	0.00	0.00	0.00	0.209	
30-May	0.07	0.07	0.00	0.1	
31-May	0.00	0.00	0.00	0.105	
sum	2.20	2.20	0.00	5.79	5.787
Volume, ac-ft		**9.88**	**0.00**		
Total Vol, ac-ft		**9.88**			

June 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)	1.363636	area draining into pit
S (pit)	0	area with direct interception
Pit - Direct Interception (>95 ft deep)	53.91	subject to refinement
Pit fringe (area drains to pit)	122.04	subject to refinement
Drainage to Pit (total area)	175.95	subject to refinement

		Quarry area	Fringe area	Daily	
Date	**Precip, in.**	**Runoff, in.**	**Runoff, in.**	**Evaporation, in.**	
1-Jun	0.00	0.00	0.00	0.157	Runoff formula
2-Jun	0.00	0.00	0.00	0.171	Pe = (P-0.2S)^2/(P+0.8S)
3-Jun	0.00	0.00	0.00	0.213	S = (1000/CN)-10
4-Jun	0.00	0.00	0.00	0.229	
5-Jun	0.00	0.00	0.00	0.227	Blue cells contain form
6-Jun	1.90	1.90	0.89	0.108	
7-Jun	0.23	0.23	0.00	0.216	Rainfall Data for 6/1-6/9 taken fror
8-Jun	2.13	2.13	1.07	0.098	Mill Creek stream gage due to
9-Jun	0.89	0.89	0.00	0.185	weather station malfunction.
10-Jun	0.00	0.00	0.00	0.207	
11-Jun	0.00	0.00	0.00	0.245	
12-Jun	0.20	0.20	0.00	0.155	
13-Jun	0.00	0.00	0.00	0.237	
14-Jun	0.00	0.00	0.00	0.227	
15-Jun	0.00	0.00	0.00	0.225	
16-Jun	0.00	0.00	0.00	0.265	
17-Jun	0.00	0.00	0.00	0.236	
18-Jun	0.16	0.16	0.00	0.226	
19-Jun	0.24	0.24	0.00	0.101	
20-Jun	0.10	0.10	0.00	0.172	
21-Jun	0.30	0.30	0.00	0.168	
22-Jun	0.00	0.00	0.00	0.209	
23-Jun	0.84	0.84	0.00	0.148	
24-Jun	0.00	0.00	0.00	0.195	
25-Jun	0.00	0.00	0.00	0.18	
26-Jun	0.00	0.00	0.00	0.144	
27-Jun	0.00	0.00	0.00	0.194	
28-Jun	0.00	0.00	0.00	0.144	
29-Jun	0.00	0.00	0.00	0.264	
30-Jun	0.00	0.00	0.00	0.308	
		0.00	0.00		
sum	6.99	6.99	1.96	5.85	5.854
Volume, ac-ft		**31.40**	**19.90**		
Total Vol, ac-ft		**51.30**			

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-14	176.18	1.98	1.49	26.91	149.27	0.00	1.76	2.04	0.00	0.00	0.00	0.09	0.00
February-14	149.92	1.21	-0.94	0.00	149.92	0.00	1.59	1.87	0.50	0.00	0.00	0.00	0.00
March-14	201.32	3.05	4.93	0.00	201.32	0.00	2.79	3.73	0.64	0.00	0.00	0.07	0.00
April-14	188.05	8.00	2.11	49.37	138.68	0.00	4.27	3.17	0.41	0.00	0.00	0.00	0.00
May-14	182.75	9.88	-11.26	23.14	159.61	0.00	4.42	3.87	0.40	0.00	0.00	0.00	0.00
June-14	200.92	51.30	7.16	0.00	200.92	0.00	4.47	3.25	0.06	0.00	0.00	0.17	0.00
July-14		0.00					0.00	0.00		0.00	0.00		0.00
August-14		0.00					0.00	0.00		0.00	0.00		0.00
September-14		0.00					0.00	0.00		0.00	0.00		0.00
October-14		0.00					0.00	0.00		0.00	0.00		0.00
November-14		0.00					0.00	0.00		0.00	0.00		0.00
December-14		0.00					0.00	0.00		0.00	0.00		0.00

Pit Sump Volumes

	West Sump					905 Sump					New Freshwater Pond					
	Month End Depth-to-Water, Ft	Width, Ft	Length, Ft	Sump Volume Change, Ac-ft	Evaporation, ac-ft	Month End Depth-to-Water, Ft	Width, Ft	Length, Ft	Sump Volume Change, Ac-ft	Evaporation, ac-ft	Month End Depth-to-Water, Ft	Width, Ft	Length, Ft	Pond Volume Change, Ac-ft	Evaporation, ac-ft	Total Evaporation, ac-ft
January-14	17.634	125	325	1.49	0.20	4	50	50	0.00	0.01	3	475	750	0.00	1.76	1.97
February-14	18.64	125	325	-0.94	0.18	4	50	50	0.00	0.01	3	475	750	0.00	1.59	1.78
March-14	13.352	125	325	4.93	0.32	4	50	50	0.00	0.02	3	475	750	0.00	2.79	3.13
April-14	11.085	125	325	2.11	0.43	4	50	50	0.00	0.03	3	475	750	0.00	3.81	4.27
May-14	23.158	125	325	-11.26	0.45	4	50	50	0.00	0.03	4.311	475	750	-10.72	3.94	4.42
June-14	15.481	125	325	7.16	0.45	4	50	50	0.00	0.03	5.682	475	750	-11.21	3.99	4.47
July-14		125	325		0.00	4	50	50	0.00	0.00		475	750		0.00	0.00
August-14		125	325		0.00	4	50	50	0.00	0.00		475	750		0.00	0.00
September-14		125	325		0.00	4	50	50	0.00	0.00		475	750		0.00	0.00
October-14		125	325		0.00	4	50	50	0.00	0.00		475	750		0.00	0.00
November-14		125	325		0.00	4	50	50	0.00	0.00		475	750		0.00	0.00
December-14		125	325		0.00	4	50	50	0.00	0.00		475	750		0.00	0.00

transducer being replaced at beginning of year

April Shipments			May Shipments			June Shipments		
	Tons Shipped	Ac-ft of water shipped		Tons Shipped	Ac-ft of water shipped		Tons Shipped	Ac-ft of water shipped
Base Products	12,122	0.297	Base Products	24,712	0.605	Base Products	25,085	0.614
Coarse Aggregates	131,260	1.578	Coarse Aggregates	143,876	1.729	Coarse Aggregates	132,806	1.596
Fine Aggregates	40,757	1.295	Fine Aggregates	48,341	1.536	Fine Aggregates	32,725	1.040
	184,139	3.169		216,929	3.870		190,616	3.250