

Wicker, Rick

From: Robin Simmons [Robin.Simmons@martinmarietta.com]
Sent: Thursday, February 13, 2014 9:22 AM
To: Wicker, Rick; Wilkins, Kent
Cc: Ron Kopplin; Johnny Parker
Subject: MMM North Troy Q4 Monitoring Report
Attachments: MMM North Troy Q4 2013 Monitoring Data.zip; North Troy Q4 2013 Monitoring Report .pdf

Attached please find the 2013 Q4 Monitoring Report for Martin Marietta's North Troy Quarry.

OR Meridian Aggregates

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Martin Marietta Materials



MMM North Troy 2013 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-13	127.55	4.90	4.90	130.26	47.05	48.41	42.20	4.39	0.00	0.00	594.72
February-13	111.70	16.71	16.71	110.55	32.13	48.51	51.62	4.66	0.00	0.00	594.72
March-13	136.29	7.32	7.32	143.14	0.00	152.64	0.00	7.01	0.00	0.12	594.72
1st QTR Totals	375.54	28.93	28.93	383.96	79.18	249.55	93.82	16.06	0.00	0.12	N/A
April-13	134.72	9.39	9.39	128.77	0.00	138.16	0.00	7.15	0.00	0.00	594.72
May-13	130.37	58.76	58.76	129.41	46.80	146.85	0.00	6.65	0.00	0.00	594.72
June-13	150.01	22.82	22.82	149.80	0.00	197.27	0.00	10.30	0.00	0.17	594.72
2nd QTR Totals	415.10	90.97	90.97	407.98	46.80	482.28	0.00	24.11	0.00	0.17	N/A
July-13	149.96	30.98	30.98	158.64	35.02	154.61	0.00	10.45	0.00	0.00	594.72
August-13	155.18	7.46	7.46	156.43	0.00	161.82	0.00	9.19	0.00	0.00	594.72
September-13	153.87	5.53	5.53	152.46	0.00	157.99	0.00	9.96	0.00	0.09	594.72
3rd QTR Totals	459.00	43.97	43.97	467.54	35.02	474.42	0.00	29.81	0.00	0.09	N/A
October-13	151.62	18.83	18.83	148.74	0.00	166.18	0.00	6.05	0.00	0.00	594.72
November-13	183.05	12.94	12.94	158.37	0.00	171.31	0.00	4.29	0.00	0.00	594.72
December-13	154.07	17.26	17.26	167.30	0.00	184.56	0.00	3.33	0.00	0.00	594.72
4th QTR Totals	468.74	49.03	49.03	474.41	0.00	522.05	0.00	13.67	0.00	0.00	N/A
2013 Totals	1718.38	212.90	212.90	1733.88	160.99	1728.29	93.82	83.44	0.00	0.38	594.72

Mill Creek 2013 Augmentation and Gage Data

Start Date	Start Time	Stop Date	Stop Time	Begin Reading	End Reading	Ac-R Pumped	Mill Creek Stream Gage Reading	Time Read	Stream Height	Stream Flow	
1/1/2013	12:30pm	1/2/2013	4:30pm	2,142,370,000	2,146,620,000	13.04	USGS 7331200	1:30 PM CST	5.82 P	1.4 P	
1/3/2013	7:30am	1/3/2013	3:00pm	2,146,620,000	2,148,020,000	4.30	USGS 7331200	7:30 AM CST	5.96 P	3.5 P	
1/5/2013	8:05am	1/5/2013	4:37pm	2,148,020,000	2,149,390,000	4.20	USGS 7331200	8:00 AM CST	5.83 P	1.6 P	
1/7/2013	6:10am	1/8/2013	2:00pm	2,149,390,000	2,154,160,000	14.64	USGS 7331200	6:00 AM CST	5.81 P	1.4 P	
1/28/2013	11:45am	1/28/2013	3:40pm	2,182,970,000	2,183,370,000	1.23	USGS 7331200	1/27/13 12:30 AM CST	5.75 P	0.86 P	
Note: Data was not recorded for 1/28/13. Data shown is for 1/27/13 and 1/29/13							USGS	7331200	1/29/13 7:00 PM CST	5.87 P	2 P
1/29/2013	7:30am	1/29/2013	2:15pm	2,183,370,000	2,184,070,000	2.15	USGS 7331200	7:00 PM CST	5.87 P	2 P	
1/30/2013	7:05am	1/30/2013	3:35pm	2,184,070,000	2,184,930,000	2.64	USGS 7331200	1/30/2013 1:30 CST	5.87 P	2 P	
Note: Data was not recorded for 1/30/13 @ 7:00am. Data shown is for 1:30am and 11:00pm.							USGS	7331200	1/30/2013 23:00 CST	5.78 P	1.1 P
2/3/2013	Start time not logged, app. 7:30am	2/5/2013	3:40pm	2,187,890,000	2,193,610,000	17.55	USGS 7331200	8:30 AM CST	5.73 P	0.73 P	
							USGS 7331200	8:30 AM CST	5.74 P	0.79 P	
							USGS 7331200	8:30 AM CST	5.73 P	0.73 P	
2/6/2013	8:40am	2/6/2013	3:40pm	2,193,610,000	2,194,560,000	2.92	USGS 7331200	8:30 AM CST	5.88 P	2.2 P	
2/7/2013	8:00am	2/7/2013	3:40pm	2,194,560,000	2,195,690,000	3.47	USGS 7331200	8:00 AM CST	5.93 P	2.9 P	
2/8/2013	6:20am	2/8/2013	Stop time not logged, app. 3:40pm	2,195,690,000	2,197,230,000	4.73	USGS 7331200	6:00 AM CST	5.89 P	2.3 P	
2/9/2013	10:37am	2/9/2013	3:26pm	2,197,230,000	2,198,050,000	2.52	USGS 7331200	10:30 AM CST	5.85 P	1.6 P	
2/11/2013	Start time not logged, app. 7:30am	2/12/2013	4:37pm	2,198,050,000	2,203,180,000	15.74	USGS 7331200	2/11/2013 7:30 CST	5.79 P	1.2 P	
							USGS 7331200	2/12/2013 7:30 CST	6 P	4.4 P	
2/13/2013	6:45am	2/13/2013	4:40pm	2,203,180,000	2,204,710,000	4.70	USGS 7331200	6:30 AM CST	5.98 P	3.9 P	
4/1/2013	NO AUGMENTATION THIS MONTH										
5/1/2013	NO AUGMENTATION THIS MONTH										
6/1/2013	NO AUGMENTATION THIS MONTH										
7/1/2013	NO AUGMENTATION THIS MONTH										
8/1/2013	NO AUGMENTATION THIS MONTH										
9/1/2013	NO AUGMENTATION THIS MONTH										
10/1/2013	NO AUGMENTATION THIS MONTH										
11/1/2013	NO AUGMENTATION THIS MONTH										
12/1/2013	NO AUGMENTATION THIS MONTH										

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 2002-402	North Well Permit 20060601A
January-13	135.15	4.90	-2.71	47.05	45.91	42.20	1.45	2.95	0.00	0.00	0.00	0.00	0.00
February-13	127.27	16.71	1.15	32.13	43.52	51.62	1.89	2.77	0.00	0.00	0.00	0.00	0.00
March-13	150.47	7.32	-6.98	0.00	150.47	0.00	2.90	3.58	0.55	0.00	0.00	0.12	0.00
April-13	138.16	9.39	5.95	0.00	138.16	0.00	3.52	3.63	0.00	0.00	0.00	0.00	0.00
May-13	193.65	64.24	0.67	46.80	146.85	0.00	4.18	2.26	0.22	0.00	0.00	0.00	0.00
June-13	197.27	47.47	0.71	0.00	197.27	0.00	6.68	3.32	0.11	0.00	0.00	0.17	0.00
July-13	189.63	30.98	-8.83	35.02	154.61	0.00	7.11	2.63	0.72	0.00	0.00	0.00	0.00
August-13	161.82	5.39	-1.25	0.00	161.82	0.00	5.49	3.35	0.36	0.00	0.00	0.00	0.00
September-13	157.99	5.53	1.40	0.00	157.99	0.00	4.47	4.95	0.55	0.00	0.00	0.09	0.00
October-13	166.18	17.44	2.15	0.00	166.18	0.00	2.59	3.40	0.06	0.00	0.00	0.00	0.00
November-13	171.31	12.94	4.63	0.00	171.31	0.00	1.96	2.33	0.00	0.00	0.00	0.00	0.00
December-13	184.56	17.26	-13.23	0.00	184.56	0.00	1.30	1.98	0.08	0.00	0.00	0.00	0.00

Pit Sump Volumes

	West Sump						905 Sump						New Freshwater Pond						Total 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	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				
January-13	5.518	125	325	-2.71	0.16	4	50	50	0.00	0.61	4.702	475	750	39.72	1.45	1.82			
February-13	4.289	125	325	1.15	0.22	4	50	50	0.00	0.61	3.609	475	750	8.94	1.89	2.73			
March-13	11.641	125	325	-6.98	0.33	4	50	50	0.00	0.62	5.817	475	750	-13.26	2.90	3.23			
April-13	5.263	125	325	5.95	0.36	4	50	50	0.00	0.62	7.444	475	750	-13.31	3.14	3.53			
May-13	4.227	125	325	0.67	0.43	4	50	50	0.00	0.63	2.924	475	750	36.97	3.73	4.18			
June-13	4.005	125	325	0.71	0.73	4	50	50	0.00	0.64	4.61	475	750	-13.19	6.13	6.88			
July-13	13.32	125	325	-8.83	0.72	4	50	50	0.00	0.64	2.571	475	750	18.65	6.34	7.11			
August-13	14.664	125	325	-1.25	0.66	4	50	50	0.00	0.63	2.12	475	750	3.60	4.89	5.48			
September-13	13.158	125	325	1.40	0.45	4	50	50	0.00	0.63	3.762	475	750	-13.43	3.60	4.43			
October-13	10.063	125	325	2.89	0.28	4	50	50	0.00	0.62	3	475	750	8.23	2.31	2.59			
November-13	5.045	125	325	4.88	0.29	4	50	50	0.00	0.61	3	475	750	0.00	1.79	1.96			
December-13	19.235	125	325	-13.23	0.13	4	50	50	0.00	0.61	3	475	750	0.00	1.48	1.30			

transducer being replaced

October Shipments			November Shipments			December Shipments		
	Tons Shipped	Ac-ft of water shipped		Tons Shipped	Ac-ft of water shipped		Tons Shipped	Ac-ft of water shipped
Base Products	44,233	1.083	Base Products	40,895	1.001	Base Products	16,295	0.399
Coarse Aggregates	143,114	1.720	Coarse Aggregates	97,335	1.170	Coarse Aggregates	94,613	1.137
Fine Aggregates	18,910	0.601	Fine Aggregates	4,938	0.157	Fine Aggregates	13,982	0.444
	206,257	3.404		143,168	2.328		124,890	1.980