



# TRANSMITTAL

Mr. Randi Wille  
Regional Manager - Environmental & Land Services  
Aggregate Industries US  
Meyer Material Company  
1819 North Dot Street  
McHenry, IL 60050

January 5, 2015

Re: Chelsea Plant – 2014 Fourth Quarter Water Level Data

Project No. G06088B

- FOR REVIEW
- FOR YOUR USE
- AS REQUESTED

Sent By: Todd C. Campbell, CPG/lkj



COPIES	DATE	DESCRIPTION
1	12/29/2014	Monitoring Well and Surface Water Hydrograph (pdf® format)
1	12/29/2014	Table 1 – Groundwater and Surface Water Elevation Data (pdf® format)

## COMMENTS

As requested, attached is your 2014 Fourth Quarter water level data. If you have any questions or require additional information, please contact me at 269.544.6948 or [tccampbell@ftch.com](mailto:tccampbell@ftch.com).

By email

Monitoring Well & Surface Water Hydrograph  
Aggregate Industries, Inc. - Chelsea Plant  
Part 301 Permit No. 12-38-0010-P

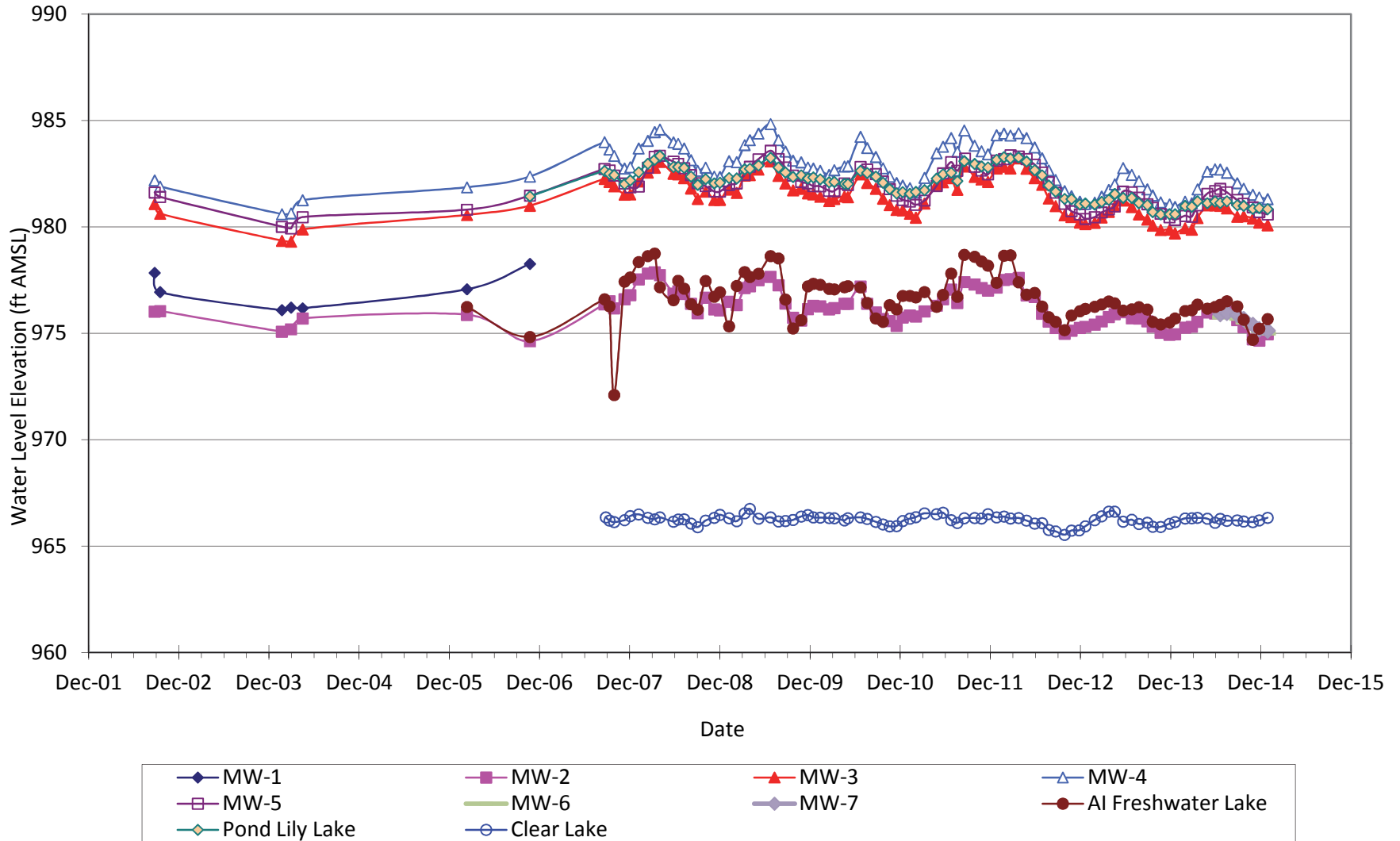


Table 1 - Groundwater and Surface Water Elevation Data - Part 301 Permit No. 12-38-0010-P

Aggregate Industries -- Chelsea Operations  
Waterloo Township, Jackson County, Michigan

Location	Coordinates		Well Depth (ft bgs)	Screen Depth (ft bgs)	Top of Casing (ft amsl)	Date	Surface Water Elevation (ft amsl)	Depth to Water (ft bgs)	Static Water Level Elevation (ft amsl)	Comments
	Northing	Easting								
MW-1	N42.32649	W084.13039	25	15-25	987.90	08/29/02		10.06	977.84	ASTI
						09/20/02		10.96	976.94	ASTI
						01/26/04		11.81	976.09	ASTI
						03/03/04		11.69	976.21	ASTI
						04/19/04		11.72	976.18	ASTI
						02/13/06		10.83	977.07	FTC&H Begins Monitoring
						10/26/06		9.64	978.26	
						11/02/06				Well Abandoned
MW-2	N42.32887	W084.13489	30	20-30	990.10	08/29/02		14.08	976.02	ASTI
						09/20/02		14.06	976.04	ASTI
						01/26/04		15.02	975.08	ASTI
						03/03/04		14.91	975.19	ASTI
						04/19/04		14.40	975.70	ASTI
						02/13/06		14.23	975.87	FTC&H Begins Monitoring
						10/26/06		15.47	974.63	
						08/24/07		13.74	976.36	
						09/13/07		13.59	976.51	
						10/02/07		13.93	976.17	
						11/13/07		13.50	976.60	
						12/06/07		13.30	976.80	
						01/09/08		12.57	977.53	
						02/15/08		12.29	977.81	
						03/14/08		12.23	977.87	
						04/04/08		12.36	977.74	
						05/29/08		13.23	976.87	
						06/17/08		13.13	976.97	
						07/11/08		13.24	976.86	
						08/08/08		13.71	976.39	
						09/04/08		14.15	975.95	
						10/06/08		13.42	976.68	Large/many rain events in September 2008
						11/10/08		13.97	976.13	
						12/03/08		14.02	976.08	
						01/09/09		13.62	976.48	
						02/09/09		13.77	976.33	
						03/13/09		12.97	977.13	
						04/03/09		12.89	977.21	
						05/08/09		12.60	977.50	
						06/26/09		12.45	977.65	
						07/28/09		12.84	977.26	
						08/25/09		13.70	976.40	
						09/25/09		14.37	975.73	
						10/28/09		14.50	975.60	
						11/24/09		13.96	976.14	
						12/16/09		13.81	976.29	
						01/13/10		13.83	976.27	
						02/18/10		13.97	976.13	
						03/11/10		13.91	976.19	
						04/21/10		13.71	976.39	
						05/05/10		13.71	976.39	
06/25/10		12.90	977.20	Large/many rain events in June 2010						
07/22/10		13.71	976.39							
08/26/10		14.12	975.98							
09/24/10		14.42	975.68							
10/21/10		14.52	975.58							
11/18/10		14.75	975.35							
12/13/10		14.35	975.75							
01/11/11		14.26	975.84							
02/04/11		14.31	975.79							
03/11/11		14.07	976.03							
04/29/11		13.80	976.30							
05/25/11		13.50	976.60							
06/27/11		13.04	977.06							
07/22/11		13.67	976.43							
08/19/11		12.69	977.41							
09/30/11		12.80	977.30							
10/28/11		12.97	977.13							
11/23/11		13.09	977.01							
12/28/11		12.95	977.15							
01/27/12		12.59	977.51							
02/22/12		12.55	977.55							
03/26/12		12.49	977.61							
04/27/12		13.32	976.78							
05/30/12		13.39	976.71							
06/29/12		14.18	975.92							
07/26/12		14.55	975.55							
08/23/12		14.85	975.25							
09/28/12		15.12	974.98							
10/26/12		14.98	975.12							
11/29/12		14.84	975.26							
12/21/12		14.79	975.31							
01/28/13		14.69	975.41							
02/25/13		14.54	975.56							
03/26/13		14.33	975.77							

MW-2 (continued)



**Table 1 - Groundwater and Surface Water Elevation Data - Part 301 Permit No. 12-38-0010-P**  
 Aggregate Industries -- Chelsea Operations  
 Waterloo Township, Jackson County, Michigan

Location	Coordinates		Well Depth (ft bgs)	Screen Depth (ft bgs)	Top of Casing (ft amsl)	Date	Surface Water Elevation (ft amsl)	Depth to Water (ft bgs)	Static Water Level Elevation (ft amsl)	Comments
	Northing	Easting								
						04/19/13		14.20	975.90	
						05/23/13		14.11	975.99	
						06/27/13		14.39	975.71	
						07/26/13		14.40	975.70	
						08/29/13		14.53	975.57	
						09/20/13		14.79	975.31	
						10/22/13		15.07	975.03	
						11/27/13		15.17	974.93	
						12/19/13		15.14	974.96	
						01/29/14		14.83	975.27	
						02/25/14		14.79	975.31	
						03/20/14		14.56	975.54	
						04/29/14		14.12	975.98	
						05/30/14		14.16	975.94	
						06/20/14		14.05	976.05	
						07/17/14		14.06	976.04	
						08/28/14		14.48	975.62	
						09/23/14		14.81	975.29	
						10/30/14		15.38	974.72	
						11/25/14		15.44	974.66	
						12/29/14		15.14	974.96	
MW-3	N42.31787	W084.14101	30	20-30	996.80	08/29/02		15.72	981.08	ASTI
						09/20/02		16.18	980.62	ASTI
						01/26/04		17.45	979.35	ASTI
						03/03/04		17.49	979.31	ASTI
						04/19/04		16.92	979.88	ASTI
						02/13/06		16.24	980.56	FTC&H Begins Monitoring
						10/26/06		15.80	981.00	
						08/24/07		14.54	982.26	
						09/13/07		14.68	982.12	
						10/02/07		14.89	981.91	
						11/13/07		15.28	981.52	
						12/06/07		15.27	981.53	
						01/09/08		14.66	982.14	
						02/15/08		14.24	982.56	
						03/14/08		14.01	982.79	
						04/04/08		13.74	983.06	
						05/29/08		14.30	982.50	
						06/17/08		14.33	982.47	
						07/11/08		14.50	982.30	
						08/08/08		14.99	981.81	
						09/04/08		15.48	981.32	
						10/06/08		15.14	981.66	Large/many rain events in September 2008
						11/10/08		15.53	981.27	
						12/03/08		15.53	981.27	
						01/09/09		15.04	981.76	
						02/09/09		15.20	981.60	
						03/13/09		14.39	982.41	
						04/03/09		14.36	982.44	
						05/08/09		14.10	982.70	
						06/26/09		13.72	983.08	
						07/28/09		14.40	982.40	
						08/25/09		14.76	982.04	
						09/25/09		15.08	981.72	
						10/28/09		15.00	981.80	
						11/24/09		15.22	981.58	
						12/16/09		15.27	981.53	
						01/13/10		15.38	981.42	
						02/18/10		15.58	981.22	
						03/11/10		15.48	981.32	
						04/21/10		15.36	981.44	
						05/05/10		15.40	981.40	
						06/25/10		14.33	982.47	Large/many rain events in June 2010
						07/22/10		14.73	982.07	
						08/26/10		15.00	981.80	
						09/24/10		15.47	981.33	
						10/21/10		15.77	981.03	
						11/18/10		16.00	980.80	
						12/13/10		16.02	980.78	
						01/11/11		16.18	980.62	
						02/04/11		16.36	980.44	
MW-3 (continued)										







Table 1 - Groundwater and Surface Water Elevation Data - Part 301 Permit No. 12-38-0010-P

Aggregate Industries -- Chelsea Operations  
Waterloo Township, Jackson County, Michigan

Location	Coordinates		Well Depth (ft bgs)	Screen Depth (ft bgs)	Top of Casing (ft amsl)	Date	Surface Water Elevation (ft amsl)	Depth to Water (ft bgs)	Static Water Level Elevation (ft amsl)	Comments
	Northing	Easting								
MW-5	N42.31192	W084.13466	50	40-50	1017.20	08/29/02	35.58	981.62	ASTI	
						09/20/02	35.79	981.41	ASTI	
						01/26/04	37.19	980.01	ASTI	
						03/03/04	37.27	979.93	ASTI	
						04/19/04	36.74	980.46	ASTI	
						02/13/06	36.39	980.81	FTC&H Begins Monitoring	
						10/26/06	35.73	981.47		
						08/24/07	34.47	982.73		
						09/13/07	34.54	982.66		
						10/02/07	34.78	982.42		
						11/13/07	35.16	982.04		
						12/06/07	35.34	981.86		
						01/09/08	35.30	981.90		
						02/15/08	34.42	982.78		
						03/14/08	33.90	983.30		
						04/04/08	33.85	983.35		
						05/29/08	34.13	983.07		
						06/17/08	34.23	982.97		
						07/11/08	34.44	982.76		
						08/08/08	34.76	982.44		
						09/04/08	35.14	982.06		
						10/06/08	35.28	981.92	Large/many rain events in September 2008	
						11/10/08	35.53	981.67		
						12/03/08	35.54	981.66		
						01/09/09	35.23	981.97		
						02/09/09	35.15	982.05		
						03/13/09	34.75	982.45		
						04/03/09	34.37	982.83		
						05/08/09	34.02	983.18		
						06/26/09	33.62	983.58		
						07/28/09	34.01	983.19		
						08/25/09	34.40	982.80		
						09/25/09	34.78	982.42		
						10/28/09	35.08	982.12		
						11/24/09	35.15	982.05		
						12/16/09	35.28	981.92		
						01/13/10	35.29	981.91		
						02/18/10	35.50	981.70		
						03/11/10	35.51	981.69		
						04/21/10	35.15	982.05		
						05/05/10	35.23	981.97		
						06/25/10	34.38	982.82	Large/many rain events in June 2010	
						07/22/10	34.50	982.70		
						08/26/10	34.71	982.49		
						09/24/10	35.06	982.14		
						10/21/10	35.42	981.78		
						11/18/10	35.73	981.47		
						12/13/10	35.93	981.27		
						01/11/11	36.00	981.20		
						02/04/11	36.16	981.04		
03/11/11	35.96	981.24								
04/29/11	35.27	981.93								
05/25/11	34.68	982.52								
06/27/11	34.15	983.05								
07/22/11	34.56	982.64								
08/22/11	33.98	983.22								
09/30/11	34.37	982.83								
10/28/11	34.55	982.65								
11/23/11	34.73	982.47								
12/28/11	34.08	983.12								
01/27/12	34.01	983.19								
02/22/12	33.83	983.37								
03/26/12	33.89	983.31								
04/27/12	34.01	983.19								
05/30/12	34.27	982.93								
06/29/12	34.64	982.56								
07/26/12	35.10	982.10								
08/23/12	35.59	981.61								
09/28/12	36.11	981.09								
10/26/12	36.46	980.74								
11/29/12	36.61	980.59								
12/21/12	36.82	980.38								
01/28/13	36.74	980.46								
02/25/13	36.52	980.68								
03/26/13	36.37	980.83								
04/19/13	36.23	980.97								
05/23/13	35.54	981.66								
06/27/13	35.57	981.63								
07/26/13	35.82	981.38								
08/29/13	36.13	981.07								
09/20/13	36.30	980.90								
10/22/13	36.58	980.62								
11/27/13	36.74	980.46								

MW-5 (continued)



Table 1 - Groundwater and Surface Water Elevation Data - Part 301 Permit No. 12-38-0010-P

Aggregate Industries -- Chelsea Operations  
 Waterloo Township, Jackson County, Michigan

Location	Coordinates		Well Depth (ft bgs)	Screen Depth (ft bgs)	Top of Casing (ft amsl)	Date	Surface Water Elevation (ft amsl)	Depth to Water (ft bgs)	Static Water Level Elevation (ft amsl)	Comments
	Northing	Easting								
						12/19/13		36.87	980.33	
						01/29/14		36.68	980.52	
						02/25/14		36.72	980.48	
						03/20/14		36.18	981.02	
						04/29/14		35.64	981.56	
						05/30/14		35.51	981.69	
						06/20/14		35.41	981.79	
						07/17/14		35.57	981.63	
						08/28/14		35.93	981.27	
						09/23/14		36.11	981.09	
						10/30/14		36.28	980.92	
						11/25/14		36.50	980.70	
						12/29/14		36.61	980.59	
MW-6	N42.321774	W084.14391	116.85		1079.95	06/20/14		104.19	975.76	Installed May 2014
						07/17/14		104.16	975.79	
						08/28/14		104.25	975.70	
						09/23/14		104.43	975.52	
						10/30/14		104.63	975.32	
						11/25/14		104.85	975.10	
						12/29/14		104.95	975.00	
						MW-7	N42.323694	W084.141108	117.12	
07/17/14		104.44	975.96							
08/28/14		104.53	975.87							
09/23/14		104.73	975.67							
10/30/14		105.00	975.40							
11/25/14		105.21	975.19							
12/29/14		105.27	975.13							
AI Lake-SE	N42.32668	W084.13218								
AI Lake-N	N42.32744	W084.13376				02/13/06	976.24		GPS accuracy 21 feet	
AI Lake-N (cont.)						10/26/06	974.83		Elevation Surveyed from MW-2	
AI Lake-W	N42.32587	W084.13441				08/24/07	976.60		Elevation Surveyed From BM-1	
Freshwater Lake*-W						09/13/07	976.27		AI Lake re-named Freshwater Lake per Part 301 permit	
						10/02/07	972.10			
						11/13/07	977.43			
						12/06/07	977.63			
						01/09/08	978.35			
						02/15/08	978.63			
						03/14/08	978.75			
						04/04/08	977.17			
						05/29/08	976.56			
						06/17/08	977.47			







Table 1 - Groundwater and Surface Water Elevation Data - Part 301 Permit No. 12-38-0010-P

Aggregate Industries -- Chelsea Operations  
 Waterloo Township, Jackson County, Michigan

Location	Coordinates		Well Depth (ft bgs)	Screen Depth (ft bgs)	Top of Casing (ft amsl)	Date	Surface Water Elevation (ft amsl)	Depth to Water (ft bgs)	Static Water Level Elevation (ft amsl)	Comments
	Northing	Easting								
Pond Lily Lake	N42.31729	W084.14114				10/26/06	981.44			Elevation Surveyed from MW-3, GPS accuracy 19 ft
						08/24/07	982.63			Elevation Surveyed from BM-2
						09/13/07	982.50			
						10/02/07	982.44			
						11/13/07	982.02			
						12/06/07	982.19			
						01/09/08	982.57			
						02/15/08	982.97			
						03/14/08	983.16			
						04/04/08	983.34			
						05/29/08	982.82			
						06/17/08	982.82			
						07/11/08	982.78			
						08/08/08	982.37			
Pond Lily Lake (cont.)						09/04/08	981.98			
						10/06/08	982.25			Large/many rain events in September 2008
						11/10/08	982.05			
						12/03/08	982.08			
						01/09/09	982.30			
						02/09/09	982.28			
						03/13/09	982.71			
						04/03/09	982.74			
						05/08/09	982.89			
						06/26/09	983.25			
						07/28/09	982.80			
						08/25/09	982.56			
						09/25/09	982.35			
						10/28/09	982.43			
						11/24/09	982.28			
						12/16/09	982.33			
						01/13/10	982.24			
						02/18/10	982.10			
						03/11/10	982.12			
						04/21/10	982.03			
						05/05/10	982.02			
						06/25/10	982.64			
						07/22/10	982.54			
						08/26/10	982.37			
						09/24/10	982.08			
						10/21/10	981.78			
						11/18/10	981.58			
						12/13/10	981.64			
						01/11/11	981.56			
						02/04/11	981.65			
						03/11/11	981.73			
						04/29/11	982.27			
						05/25/11	982.48			
						06/27/11	982.55			
07/22/11	982.16									
08/19/11	983.09									
09/30/11	982.96									
10/28/11	982.85									
11/23/11	982.80									
12/28/11	983.16									
01/27/12	983.28									
02/22/12	983.22									
03/26/12	983.27									
04/27/12	983.08									
05/30/12	982.67									
06/29/12	982.43									
07/26/12	981.95									
08/23/12	981.66									
09/28/12	981.32									
10/26/12	981.31									
11/29/12	981.06									
12/21/12	981.10									
01/28/13	981.06									
02/25/13	981.18									
03/26/13	981.28									
04/19/13	981.55									
05/23/13	981.37									
06/27/13	981.37									
Pond Lily Lake (cont.)										



Table 1 - Groundwater and Surface Water Elevation Data - Part 301 Permit No. 12-38-0010-P

Aggregate Industries -- Chelsea Operations  
Waterloo Township, Jackson County, Michigan

Location	Coordinates		Well Depth (ft bgs)	Screen Depth (ft bgs)	Top of Casing (ft amsl)	Date	Surface Water Elevation (ft amsl)	Depth to Water (ft bgs)	Static Water Level Elevation (ft amsl)	Comments	
	Northing	Easting									
						07/26/13	981.12				
						08/29/13	981.03				
						09/20/13	980.70				
						10/22/13	980.59				
						11/27/13	980.60				
						12/19/13	980.60				
						01/29/14	980.99				
						02/25/14	980.95				
						03/20/14	981.21				
						04/29/14	981.12				
						05/30/14	981.20				
						06/20/14	981.13				
						07/17/14	981.21				
						08/28/14	981.02				
						09/23/14	980.99				
						10/30/14	980.85				
						11/25/14	980.89				
12/29/14	980.84										
Clear Lake	N42.33242	W084.15166				08/29/07	966.35			Elevation Surveyed from BM-3	
						09/13/07	966.20			Note: USGS Topo shows lake elevation at 968 ft amsl	
						10/02/07	966.13				
						11/13/07	966.22				
						12/06/07	966.41				
						01/09/08	966.49				
						02/15/08	966.33				
						03/14/08	966.26				
						04/04/08	966.35				
						05/29/08	966.15				Elevation Surveyed from BM-4
						06/17/08	966.25				
						07/11/08	966.26				
						08/08/08	966.06				
						09/04/08	965.89				
						10/06/08	966.20				Large/many rain events in September 2008
	11/10/08	966.33									
	12/03/08	966.47									
	01/09/09	966.31									
	02/09/09	966.17									
	03/13/09	966.54									
	04/03/09	966.75									
	05/08/09	966.29									
	06/26/09	966.35									
	07/28/09	966.16									
	08/25/09	966.18									
	09/25/09	966.23									
	10/28/09	966.39									
	11/24/09	966.46									
	12/16/09	966.35									
	01/13/10	966.34									
	02/18/10	966.32									
	03/11/10	966.31									
	04/21/10	966.21									
05/05/10	966.31										
06/25/10	966.35				Large/many rain events in June 2010						
07/22/10	966.28										
08/26/10	966.14										
09/24/10	966.02										
10/21/10	965.93										
11/18/10	965.94										
12/13/10	966.18										
01/11/11	966.29										
02/04/11	966.36										
03/11/11	966.54										
04/29/11	966.50										
05/25/11	966.57										
06/27/11	966.22										
07/22/11	966.09										
08/19/11	966.31										
09/30/11	966.32										
Clear Lake (cont.)											



