

**CITY OF SAN DIEGO**  
**PUBLIC UTILITIES DEPARTMENT**  
**ENVIRONMENTAL MONITORING AND TECHNICAL SERVICES**  
**ANNUAL WATER QUALITY REPORT -- 2012**

**TABLE 6 - Additional Physical, Mineral, and Metal Characteristics**

ANALYTE	Alvarado Treatment Plant			Miramar Treatment Plant			Otay Treatment Plant			Units
	MIN	AVG	MAX	MIN	AVG	MAX	MIN	AVG	MAX	
Aggressive Index	11.5	12.1	12.5	11.0	11.9	12.3	11.6	12.2	12.5	---
Alkalinity - Total as CaCO <sub>3</sub>	80.1	94	107	68	85	98	107	119	138	ppm
Ammonia as Nitrogen	0.45	0.69	1.74	ND	0.62	1.01	0.5	0.64	1.00	ppm
Bicarbonate	97	114	130	83	103	120	123	145	168	ppm
Bromide	ND	ND	ND	ND	ND	0.110	ND	ND	0.160	ppm
Calcium	35.6	41.7	50.0	29.6	38.9	49.6	46.0	49.5	54.8	ppm
Calcium Hardness	89	104	125	74	95.4	124	115	125	137	ppm
Carbonate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ppm
Geosmin	ND	ND	6.05	ND	ND	6.12	ND	ND	6.63	ppt
Giardia*	ND	ND	ND	ND	ND	ND	ND	ND	ND	Cysts / L
Langlier Index	-0.32	0.27	0.76	-0.73	0.10	0.49	-0.18	0.36	0.66	---
Magnesium	11.7	16.6	19.6	10.0	15.2	19.4	18.4	24.0	27.1	ppm
MIB	ND	ND	6	ND	ND	ND	ND	ND	15.1	ppt
pH	7.65	8.11	8.64	7.27	8.04	8.38	7.58	8.06	8.32	pH
Total Phosphorus	ND	ND	ND	ND	ND	ND	ND	ND	ND	ppm
Potassium	3.42	3.86	4.26	2.87	3.51	3.80	4.16	4.81	5.84	ppm
Ryzner Aggressive Index	7.12	7.58	8.29	7.36	7.81	8.73	6.98	7.32	7.94	---
Silica	8.9	10.8	13.7	8.3	9.4	11.1	5.3	6.7	8.6	ppm
SUVA*	1.1	1.6	2.1	1.3	1.6	1.9	1.0	1.4	2.1	L/mg-m
Total Nitrogen	0.50	0.72	0.91	0.46	0.72	0.91	0.47	0.65	0.80	ppm

\* Results from untreated water