

March 1, 2011

Mr. Michael Rochette California Regional Water Quality Control Board San Francisco Bay Region 1515 Clay Street, Suite 1400 Oakland, CA 94612

Re:

East Bay Municipal Utility District Bayside Groundwater Project, 2010 Annual Report, Order No. R2-2007-0038

Dear Mr. Rochette:

In accordance with the General Waste Discharge Requirements of Order No. R2-2007-0038, this submittal is the 2010 annual self monitoring report for East Bay Municipal Utility District's (EBMUD's) Bayside Groundwater Project.

EBMUD performed an extraction test at the Bayside facility that lasted from August 4, 2010 to September 29, 2010. No chemicals were added during the process. Raw groundwater was extracted from the Bayside well and then pumped directly into the onsite stormdrain. Discharges of extracted groundwater directly to local receiving waters are under the purview of the Regional Water Quality Control Board's (RWQCB's) Dewatering General Permit (DGP; Order No. R2-2007-0033-0009). The extracted water quality monitoring results were submitted to Mr. Farhad Azimzadeh of your office under a separate cover on November 10, 2010.

In total, approximately 113 million gallons of water were extracted and discharged over 57 days. Tables 1 to 3 summarize the injection and extraction volume data.

The Self Monitoring and Reporting Program (SMP) of Order No. R2-2007-0038 requires EBMUD to schedule and conduct a phased approach for groundwater quality monitoring. The SMP requires EBMUD to begin groundwater level and quality monitoring three months prior to initiating operation and continue for one additional year after operation ceases. Table 3 of the SMP tabulates monitoring well groups for phased monitoring. Monitoring is required to begin with Group 1 wells (Bayside Well, MW-2s, MW-2D¹, and MW-4). The monitoring of Group 1 wells is to be conducted on an annual basis until the expanding injected waterfront reaches MW-4.

In December 2010, annual water quality sampling was conducted and samples were analyzed in accordance with Table 4 of the SMP. EBMUD retained Environmental Sampling Services (ESS) to collect water quality samples at the Bayside Well, MW-2S, MW-2I and MW-4. A peristaltic pump with dedicated lengths of tubing was used to purge and sample the wells. Purge water discharges were disposed of on permeable ground adjacent to the wells. No surface water discharges occurred.

Sampling was completed according to the following procedure:

- 1. Disinfect all equipment including water level sounder, pump, and tubing with a dilute bleach solution².
- 2. Measure static water level within each well and calculate the three-well volume³ of the well required for purging as per USEPA groundwater sampling protocol.

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^{1 &}quot;MW-2D" is actually "MW-2I".

² In the case of the Bayside Well, samples were collected simply by activating the pump in the extraction mode.

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- 3. Purge the well and collect the samples.
- 4. Measure field water quality data⁴ and collect samples in sample containers with appropriate preservatives as per relevant USEPA sampling protocols for individual constituents.
- 5. Transport samples to EBMUD's state certified laboratory in a cooler for further analyses, under chain of custody.

Table 4 contains construction details for all available wells in the groundwater monitoring system⁵. Table 5 contains groundwater elevation and depth to groundwater data. Table 6 summarizes general groundwater quality data; Table 7 summarizes sampling results for standard minerals; Table 8 summarizes haloacetic acids data; and Table 9 summarizes results for trihalomethanes. Tables 10 and 11 summarize vertical gradient calculations. Appendix A contains the original lab reports including the analytical methods used and associated method detection limits and minimum levels of quantitation.

Figure 1 shows the groundwater level monitoring network and Figure 2 shows the groundwater quality monitoring network. Pressure transducers have been installed in all of the wells listed in Table 4, in addition to the Bayside Well. These transducers measure water level and temperature at a minimum of 30-minute intervals. Figures 3 and 4 present the groundwater level contour maps for August 3 and December 25, 2010, respectively. Figures 5 to 17 present the 2010 groundwater level trends for the monitoring wells.

The high chloride concentrations from MW-2S, a shallow well screened from 40 to 60 feet below grade, are consistent with historic high chloride concentrations observed in the local shallow zone. Results for TTHMs and HAAs were well below the permit limits of 80 μ g/L and 60 μ g/L, respectively. No exceedances of water quality limits in the order were observed.

Groundwater elevation contour maps were prepared to represent subsurface conditions on August 3 and December 25, before and after the extraction test that occurred from August 4 to September 29. On both occasions, the deep aquifer was flowing in a southwesterly direction in the immediate area surrounding the Bayside project site. The gradient was 0.0003 ft/ft in both cases. Water levels at MW-1 were used to also represent conditions at the Bayside Well due to its proximity to the Bayside Well and the fact that it is screened at the same depth.

Vertical gradients were calculated for the three nested wells at MW-5 for January 25 and December 25 (see Tables 10 and 11). The direction of flow was downward in each case.

Figures 5 through 17 show the typical pattern of higher groundwater levels in the deep aquifer during the winter/spring than fall/summer prevailed. Wells as far away from the Bayside Well as MW-10D registered effects of the extraction that occurred in August and September with a corresponding decrease in water levels. The water levels in all cases quickly recovered upon ceasing the extraction operation. MW-1, MW-2S, MW-2I,

³ Only one and a half and one casing volumes of water were purged from MW-2I and MW-4, respectively, due to time constraints as a result of the fact that the pump was only producing approximately 0.5 gpm. However, the pumping was equivalent to a micro-purging process because of minimal disturbance to the water in the wells and minimal water level fluctuations. Water samples were not collected until all monitored field water quality parameters had stabilized. The resultant samples were therefore considered representative of the formation water, and the results were consistent with those from previous years.

⁴ Measured field WQ parameters included pH, specific conductance, temperature, and color. Chlorine residual was also measured immediately prior to sample collection.

⁵ Not all of the wells in Table 4 are required to be monitored according to Order No. R2-2007-0038.

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MW-3, and MW-4 also displayed a temporary decline in water levels on December 8 that corresponded to the end-of-the-year groundwater sampling event.

A few aberrations in water levels were observed in some of the wells and they were considered anomalies. For example, MW-2S water levels displayed a decreasing trend in early to mid-August, seemingly corresponding to the extraction ongoing at that time, but then abruptly recovered on August 19. The extraction that occurred in August and September was continuous without interruptions and did not end until September 29. One potential explanation is that the decreasing trend observed in early to mid-August was not real and a result of transducer malfunction, which also contributed to a data gap that existed from January 20 to August 11. Another anomaly observed was an almost 4-ft fluctuation in elevation on August 3 at MW-5I. This occurred prior to the two-month long extraction with no apparent explanation.

Lastly, according to Figure 16, MW-10I exhibited artesian conditions in October with the water level reaching as high as 15.96 ft above mean sea level (amsl), while the top of the casing is at 11.76 ft amsl. Yet, this well was never observed to be flowing and no injection took place in all of 2010. 0.04 inch of rain did fall on October 17 in this area, but that was not enough to explain this significant rise in groundwater level.

In addition to MW-2S mentioned above, transducer malfunction also contributed to data gaps for MW-2I, MW-3, MW-5S, and MW-10I.

The extent of injected water was not evaluated because no injection occurred in 2010 while over 113 million gallons of water was extracted.

EBMUD will continue to monitor injection and extraction of groundwater in accordance with all associated regulatory permits in 2011.

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact me at (510) 287-0345 or Derek Lee, Senior Environmental Health and Safety Specialist, at (510) 287-1086.

Sincerely

John H. Schroeter, P.E.

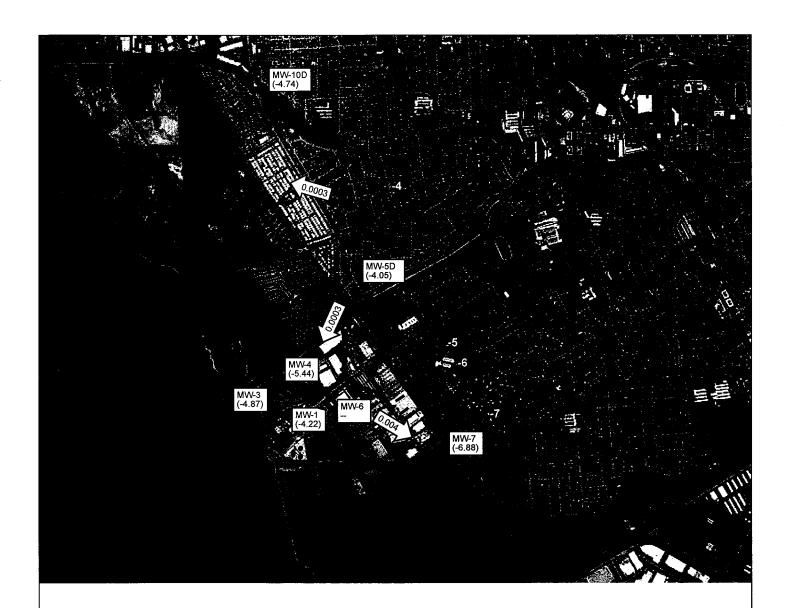
Manager of Environmental Compliance

Figure 1 – Groundwater Level Monitoring Well Network



Figure 2 – Groundwater Quality Monitoring Well Network





LEGEND



Groundwater monitoring well

(-3.24)

Groundwater elevation in feet below mean sea level (measured August 3, 2010)

-3.0

Groundwater elevation contour in feet below mean sea level (contour interval: 1.0 feet)



Calculated groundwater gradient direction and magnitude in foot per foot

URS

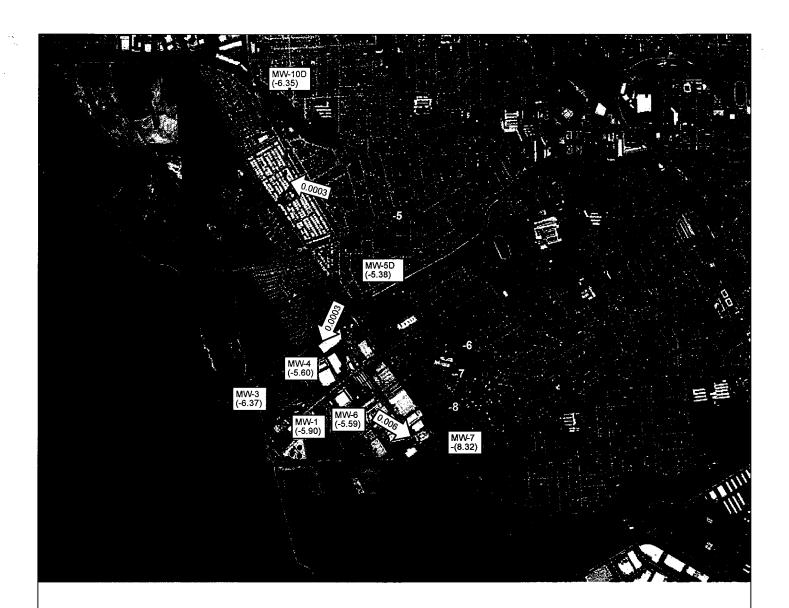
26817754.2008

GROUNDWATER ELEVATION CONTOUR MAP

August 3, 2010

Figure 3

EBMUD



LEGEND



Groundwater monitoring well

(-3.24)

Groundwater elevation in feet below mean sea level (measured December 25, 2010)

-3.0

Groundwater elevation contour in feet below mean sea level (contour interval: 1.0 feet)



Calculated groundwater gradient direction and magnitude in foot per foot

URS

26817754.2008

EBMUD

GROUNDWATER ELEVATION CONTOUR MAP

(December 25, 2010)

Figure 4

Figure 5 - MW-1 2010 GW Level Trend

Figure 6 - MW-2S 2010 GW Level Trend

Figure 7 - MW-2I 2010 GW Level Trend

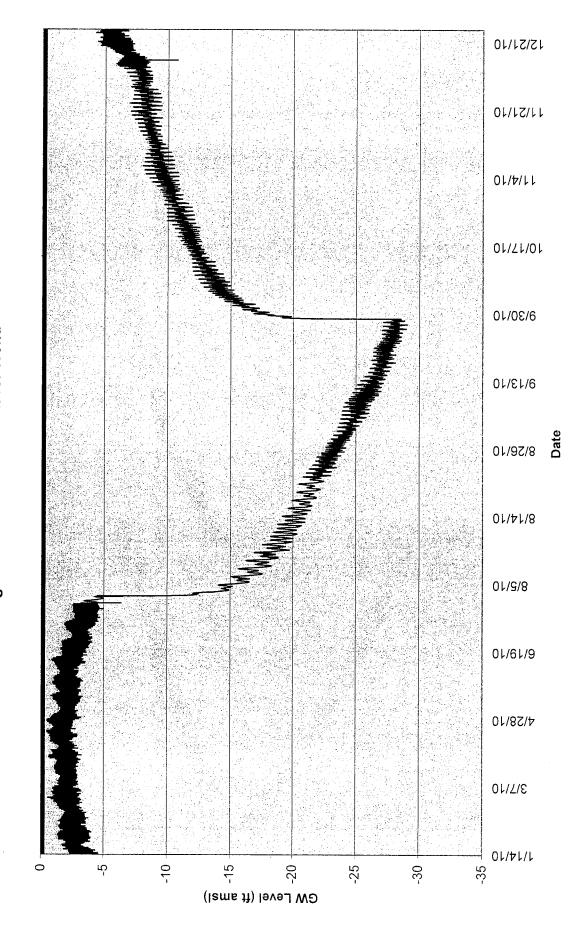


Figure 8 - MW-3 2010 GW Level Trend

Figure 9 - MW-4 2010 GW Level Trend

12/9/10 01/11/11 01/15/01 01/21/01 01/97/6 01/6/6 8/22/10 01/21/8 01/1/1 12 10 9 7 4 ω GW Level (ft amsi)

Figure 10 - MW-5S 2010 GW Level Trend

Figure 11 - MW-5I 2010 GW Level Trend

Figure 12 - MW-5D GW Level Trend

Figure 13 - MW-6 2010 GW Level Trend

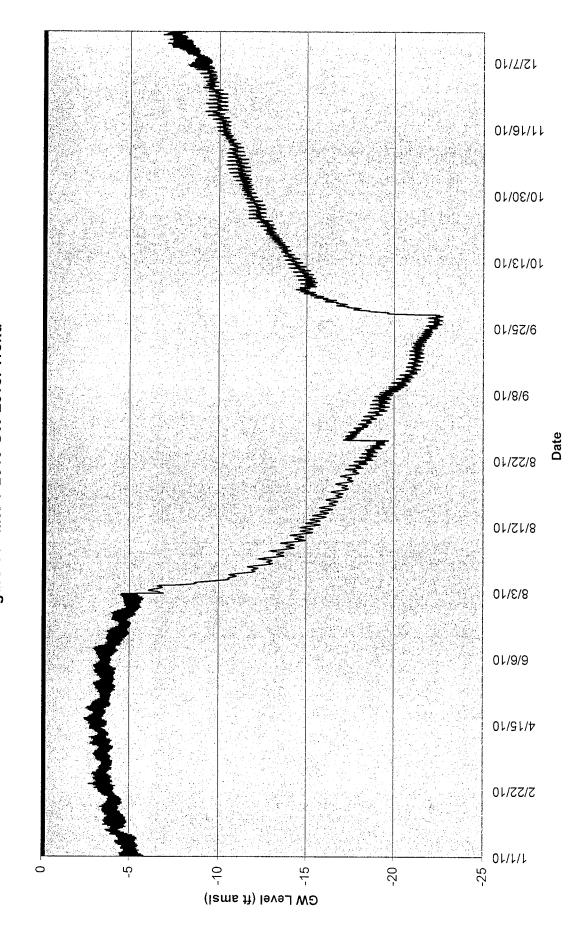


Figure 14 - MW-7 2010 GW Level Trend

12/4/10 01/91/11 10/53/10 01/11/01 01/42/6 01/2/6 8\50\10 01/8/8 01/9/9 01/91/7 2/22/10 01/1/1 12 10 9 7 0 ∞ GW Level (ft amsi)

Figure 15 - MW-9D 2010 GW Level Trend

Figure 16 - MW-10I 2010 GW Level Trend

Figure 17 - MW-10D 2010 GW Level Trend

Date	Average Flow Rate (GPM)	Approx. Daily Volume (MGD)
Permit Limit	= Annual Rat	e of 1 MGD
Aug-10	1377	1.98
	1377 1377	1.98 1.98

Table 2: Inje	ction Sumn	nary
Date	Average Flow Rate (GPM)	Approx. Daily Volume (MGD)
Permit Limit	= Annual Rat	e of 1 MGD
2010	0	0
Annualized Daily Rate		0

Table 3: Cur		9
Year	Recovered Volume (gallons)	Injected Volume (gallons)
2009	4,545,000	445,000
2010	113,000,000	0
Total	117,545,000	445,000

San 122° 9' 25.2" 2600 Grant Ave Lorenzo San 122° 9' 25.2" 2600 Grant Ave Lorenzo San 122° 9' 25.2" 2600 Grant Ave Lorenzo San 122° 9' 28.8" 2600 Grant Ave Lorenzo San 122° 9' 28.8" 2600 Grant Ave Lorenzo San 122° 9' 06.6" 2006 Via Barrett Lorenzo San 122° 9' 06.6" 2005 Via Barrett Lorenzo San 122° 9' 06.6" 2007 Via Barrett Lorenzo San 122° 9' 04.5" 15600 Worthley Lorenzo San 122° 6' 46" Ave Lorenzo San 122° 6' 46" Ave San Lorenzo San Lorenzo San 122° 6' 46" Ave Lorenzo San San Lorenzo San Lorenzo San Lorenzo San Lorenzo San San Lorenzo	Well ID	: Groundwat	ter Monitorin	Table 4: Groundwater Monitoring Wells Information Well ID Latitude Longitude Address C	City	Completion Date	Drilled Depth (ft bgs)		Casing Depth (ft bgs)	Casing Depth Depth of Perforation (ft bgs) Begin (ft bgs)		Depth of Perforation Begin (ft bgs)	Depth of Perforation Depth of Perforation Begin (ft bgs) End (ft bgs)
San San	MW-1 ¹	37° 40' 4.8"	122° 9' 25.2"	2600 Grant Ave	San Lorenzo		665	650		520		640	640 2
San 37° 40′ 4.8" 122° 9′ 25.2" 2500 Grant Ave Lorenzo San 37° 40′ 4.8" 122° 9′ 28.8" 2600 Grant Ave Lorenzo San 37° 40′ 11.6" 122° 9′ 28.8" 2600 Grant Ave Lorenzo San 37° 40′ 11.6" 122° 9′ 28.8" 2575 Grant Ave Lorenzo San 705 37° 40′ 14.4" 122° 9′ 06.6" 2006 Via Barrett Lorenzo Sep-08 460 460 37° 40′ 34.4" 122° 9′ 06.6" 2005 Via Barrett Lorenzo Sep-08 460 37° 40′ 34.4" 122° 9′ 06.6" 2005 Via Barrett Lorenzo Sep-08 460 460 37° 40′ 34.4" 122° 9′ 06.6" 2007 Via Barrett Lorenzo Sep-08 460 460 37° 40′ 34.4" 122° 9′ 06.6" 2007 Via Barrett Lorenzo Feb-01 1025 37° 40′ 34.4" 122° 9′ 04.5" 15600 Woorthley Lorenzo Feb-01 1025 37° 41′ 11" 122° 9′ 44.2" Lorenzo Dark Lorenzo Nov-00 972 37° 41′ 11" 122° 9′ 46" San Ave Lorenzo Jan-08 460 37° 41′ 11" 122° 9′ 46" S89 E. Lewelling San San San Jan-08 460 37° 41′ 19" 122° 9′ 43" 15528 Wick Blvd Leandro Sep-08 680 680 37° 41′ 19" 122° 9′ 43" 15528 Wick Blvd Leandro Sep-08 680 680 37° 41′ 19" 122° 9′ 43" 15528 Wick Blvd Leandro Sep-08 680 680 37° 41′ 19" 122° 9′ 43" 15528 Wick Blvd Leandro Sep-08 680 680 37° 41′ 19" 122° 9′ 43" 15528 Wick Blvd Leandro Sep-08 680 3	MW-2S ¹	37° 40' 4.8"	122° 9' 25.2"	2600 Grant Ave	San Lorenzo		210	60		4 0		60	60 2
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37° 40' 34.4" 122° 9' 05.6" 2006 Via Barrett Lorenzo Sep-08 460 37° 40' 34.4" 122° 9' 06.6" 2005 Via Barrett Lorenzo Sep-08 460 37° 40' 34.4" 122° 9' 06.6" 2005 Via Barrett Lorenzo Sep-08 460 37° 40' 34.4" 122° 9' 04.5" 2007 Via Barrett Lorenzo Feb-01 1025 37° 40' 34.4" 122° 9' 04.5" 15600 Worthley Lorenzo Nov-00 1000 37° 40' 07" 122° 8' 44.2" Lorenzo park Lorenzo Nov-00 1000 37° 39' 56.5" 122° 8' 44.2" Lorenzo park Lorenzo Nov-00 1000 37° 41' 11" 122° 6' 46" San Lorenzo Nov-00 972 37° 41' 11" 122° 6' 46" Sap E. Lewelling San Jan-08 460 37° 41' 19" 122° 6' 46" Sap E. Lewelling San Jan-08 460 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 <td>MW-4¹</td> <td>37° 40' 11.6"</td> <td>122° 9' 28.8"</td> <td>2575 Grant Ave</td> <td>San Lorenzo</td> <td></td> <td>705</td> <td>650</td> <td></td> <td>520</td> <td></td> <td>650</td> <td>650 2</td>	MW-4 ¹	37° 40' 11.6"	122° 9' 28.8"	2575 Grant Ave	San Lorenzo		705	650		520		650	650 2
37° 40' 34.4" 122° 9' 06.6" 2005 Via Barrett Lorenzo Sep-08 460 37° 40' 34.4" 122° 9' 06.6" 2007 Via Barrett Lorenzo Feb-01 1025 37° 40' 07" 122° 9' 04.5" 15600 Worthley Lorenzo Nov-00 1000 37° 40' 07" 122° 9' 04.5" 15600 Worthley Lorenzo Nov-00 1000 37° 40' 07" 122° 9' 44.2" Lorenzo park Lorenzo Nov-00 972 37° 41' 11" 122° 6' 46" Seg E. Lewelling San Jan-08 460 37° 41' 11" 122° 6' 46" Seg E. Lewelling San Jan-08 460 37° 41' 19" 122° 6' 46" Ave Lorenzo Jan-08 460 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680	MW-5S ¹		122° 9' 06.6"	2006 Via Barrett	San Lorenzo	Sep-08	460	210		200	200 210		210
37° 40' 34.4" 122° 9' 06.6" 2007 Via Barrett Lorenzo Feb-01 1025	MW-51 ¹	37° 40' 34.4"	122° 9' 06.6"	2005 Via Barrett	San Lorenzo	Sep-08	460	325		315	315 325		325
37° 40′ 07" 122° 9′ 04.5" 15600 Worthley Lorenzo Nov-00 1000 37° 39′ 56.5" 122° 8′ 44.2" Western tip of San San Nov-00 972 37° 39′ 56.5" 122° 8′ 44.2" Lorenzo park Lorenzo Nov-00 972 37° 39′ 56.5" 122° 8′ 44.2" Lorenzo park Lorenzo Nov-00 972 37° 41′ 11" 122° 6′ 46" S89 E. Lewelling San Jan-08 460 37° 41′ 11" 122° 6′ 46" Ave Lorenzo Jan-08 460 37° 41′ 11" 122° 6′ 46" Ave San Jan-08 460 37° 41′ 19" 122° 9′ 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41′ 19" 122° 9′ 43" 15528 Wick Blvd Leandro Sep-08 680	MW-5D ¹		122° 9' 06.6"	2007 Via Barrett	San Lorenzo	Feb-01	1025	640		500	500 630		630
37° 39' 56.5" 122° 8' 44.2" Western tip of San Lorenzo park San Lorenzo Davis Street Lorenzo Davis Street Lorenzo Davis Street Leandro Nov-00 972 34° 43' 04" 122° 11' 50.3" 1970 Davis Street Leandro Leandro 910 37° 41' 11" 122° 6' 46" Ave Lorenzo Jan-08 460 37° 41' 11" 122° 6' 46" Ave Lorenzo Jan-08 460 37° 41' 11" 122° 6' 46" Ave Lorenzo Jan-08 460 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680	MW-61	37° 40' 07"	122° 9' 04.5"	15600 Worthley	San Lorenzo	Nov-00	1000	655		480	480 650		650
34° 43' 04" 122° 11' 50.3" 1970 Davis Street Leandro 910 37° 41' 11" 122° 6' 46" Ave Lorenzo Jan-08 460 37° 41' 11" 122° 6' 46" Ave Lorenzo Jan-08 460 37° 41' 11" 122° 6' 46" Ave Lorenzo Jan-08 460 37° 41' 11" 122° 6' 46" Ave Lorenzo Jan-08 460 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680	MW.7 ¹	37° 39' 56.5"	122° 8' 44.2"	Western tip of San Lorenzo park	San Lorenzo	Nov-00	972	680		510	510 630		630 4 7.42
37° 41' 11" 122° 6' 46" Ave Lewelling San 460 460 37° 41' 11" 122° 6' 46" 589 E. Lewelling San Jan-08 460 460 37° 41' 11" 122° 6' 46" Ave Lorenzo Jan-08 460 460 37° 41' 11" 122° 6' 46" Ave Lorenzo Jan-08 460 460 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680	MW-8D	34° 43' 04"	122º 11' 50.3"	1970 Davis Street	San Leandro		910	490		420			480 2 14.76
37° 41' 11" 122° 6' 46" 589 E. Lewelling San Jan-08 460 37° 41' 11" 122° 6' 46" 589 E. Lewelling San Jan-08 460 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680	MW-9S	37° 41′ 11"	122° 6' 46"	589 E. Lewelling Ave	San Lorenzo	Jan-08	460	120		110	110 120		120 2 54.39
37° 41' 11" 122° 6' 46" Ave San Jan-08 460 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680	MW-91	37° 41' 11"	122° 6' 46"	589 E. Lewelling Ave	San Lorenzo	Jan-08	460	210		200	200 210		210 2 54.39
37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680	MW-9D ¹		122° 6' 46"	[im	San Lorenzo	Jan-08	460	335		325	325 335		335 2
37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680 San San San San San San San San Sep-08 680	MW-10S	37° 41' 19"	122° 9′ 43″	15528 Wick Blvd	San Leandro	Sep-08	680	120		100	100 120		120
37° 41' 19" 122° 9' 43" 15528 Wick Blvd Leandro Sep-08 680	MW-101 ¹	İ	122° 9' 43"	15528 Wick Blvd	San Leandro	Sep-08	680	360		340	340 360		360 2
	MW-10D ¹	37° 41' 19"	122° 9' 43"	15528 Wick Blvd	San Leandro	Sep-08	680	610		590	590 610		610 2

^{1 -} Groundwater level monitoring required per Order No. R2-2007-0038

Table 5: Groundwater Elevation/Depth to Groundwater Data	roundwa	iter Eleva	ition/Dep	th to Gro	undwate	r Data												******
				Groun	Groundwater Elevation	vation							Depth	Depth to Groundwater	water			
					ft amsl									ft bgs				
	BW	MW-1	MW-2S	MW-21	MW-4	9-MM	MW-1 MW-2S MW-2I MW-4 MW-6 MW-5D MW-7 MW-10D	MW-7	MW-10D	ВW	MW-1	MW-1 MW-2S MW-2I MW-4	MW-21		9-MM	MW-6 MW-5D MW-7 MW-10D	MW-7	MW-10D
12/8/2008			0.99		-4.07							8.78*		12.68*				
12/9/2008		-5.06		1.09							13.74*		8.73*					
12/14/2009					-3.75									12.71				
12/15/2009			0.95	1.44								8.95	8.46					
12/8/2010 -7.22	-7.22	•	1.71	0.25	-7.45					15.6		8.19	9.65	16.41				

Notes:
BW = Bayside Well
Applicable well reference elevations are different from those in Table 4.

Table 6: General Water Quality Data

				-														:									
					рH								Chlo	Chlorine Residual	dual								TDS				
														mg/L									mg/L				
	BW	MW-1	MW-1 MW-2S	MW-21	MW-4	1 9-MM	MW-5D	VW-7	MW-4 MW-6 MW-5D MW-7 MW-10D	BW	MW-1 MW-2S	/W-2S	MW-21	MW-4	19-MM	MW-5D	MW-7	MW-6 MW-5D MW-7 MW-10D	ВW	MW-1	MW-1 MW-2S MW-21		MW-4	MW-6	MW-5D	MW-7	MW-4 MW-6 MW-5D MW-7 MW-10D
12/8/2008			9.6		7.82						-	ND		ND ND							77000		400				
12/9/2008		7.96		7.97							ND		ND					;		170		520					
12/14/2009	9 8.18				8.02					ND				ND					200				440				
12/15/2009	9		6.55	8.05								ND	ND								87000	510					
12/8/2010	7.37		6.33	7.56	7.51					ND		ND	ND	ND					360		80000	620	430		_		
				An	Ammonia as	as N							N:	Nitrate as N	Z								Chloride	ie			
					mg/L									mg/L				•					mg/L				
	BW	MW-1	MW-1 MW-2S	MW-21	MW-4	MW-6 1	VIW-5D	νν-7 i	MW-4 MW-6 MW-5D MW-7 MW-10D	BW	MW-1 N	MW-2S	MW-21		7-MW-6 MW-5D MW-7	MW-5D	MW-7	MW-10D	ВW	MW-1	MW-1 MW-28 MW-21			MW-6	MW-4 MW-6 MW-5D MW-7 N	MW-7	MW-10D
12/8/2008			0.28		0.28							<0.14		<0.14							510		50				
12/9/2008		<0.2		0.84				_			<0.14		<0.14							25		78					
12/14/2009	<0.3				<0.3					0.029				0.36					31				54				
12/15/2009	w.		<0.3	<0.3								<0.095	0.16								39000	84					
12/8/2010	<0.3		<0.3	<0.3	<0.3	_				E0.004		<0.31	<0.0031 <0.0031	<0.0031					55		44000	110	57				
				 -	Manganese	se								Iron			3										
					µg/L									μg/L													
	BW	MW-1	MW-1 MW-2S	MW-21	MW-4	MW-6 1	VIW-5D 1	WW-7∤I	MW-4 MW-6 MW-5D MW-7 MW-10D	BW	MW-1 N	MW-2S	MW-21	MW-4	MW-6	MW-5D	MW-7	MW-6 MW-5D MW-7 MW-10D									
12/8/2008			18800		206	1						<230		47	·												
12/9/2008		56.7		101							<11		210														
12/14/2009	9 55.4				228					130				35				:									
12/15/2009	9		36900	98.6								31	110														
12/8/2010	58.1		35000	99.8	203	_				160		<83	390	77													

Notes:

BW = Bayside Well

E = Estimated value, concentration outside calibration range. For SIP, E=DNQ, Estimated Concentration.

Notes: BW = Bayside Well

Table 7: S	Standa	rd Mine	7: Standard Minerals Data							:											E	7					
		į		Calc	Calcium µg/L	Ì			_				Magr	Magnesium µg/L	ŀ							ال	Potassium				
								_	MW-		MW-							MW-									MW-
	BW	MW-1	MW-2S	MW-21	MW-4		MW-6 MW-5D MW-7		10D	BW		MW-2S	MW-21	MW-4		MW-6 MW-5D MW-7	MW-7	10D	ВW	MW-1	MW-2S	MW-2!		MW-4 MW-6	MW-5D	MW-7 1	10D
12/8/2008			630000		25400							1500000		10600							230000		3200				
12/9/2008		17000		15000							5400		14000							1100		5500					
12/14/2009	28000				30000					7400				12000					1400				2800				
12/15/2009			1300000	15000									13000								500000	6100					
12/8/2010	27000		1300000	17000	29000					7900		2.50E+06	15000	12000					1700		450000	6000	2600				
		7		Soc	Sodium								Su	Sulfate								끘	Hardness				
				Эď	⊔g/Ľ								п	mg/L									mg/L				
	ВW	MW-1	MW-2S	1C-WM	MW-4		MW-6 MW-5D MW-7		19 ¥ 19 ¥	₽₩	1 WW-	NW-2S	1C-WM	MW-4		MW-6 MW-5D MW-7	MW-	7 10D-	ВW	MW-1	MW-2S	MW-21		WW-4 NW-6	MW-5D	MW-7 1	10D
12/8/2008			11000000		102000							5600		32							16000		110				
12/9/2008		36000		150000					_		6		27							64		93				_ _	
12/14/2009	41000				110000	ן				23				37					97				120				لـــا
12/15/2009			2.30E+07	160000								4000	26								17000	100					
12/8/2010	84000		2.10E+07	170000	100000					42		5700	23	42					100		16000	100	130				
			Alk	Alkalinity: Total as CaCO ₃	tal as Ca	1CO3							Alkalinity: Hydroxide	: Hydro	(ide							Alkalinit	Alkalinity: Carbonate	onate			
				m	mg/L								П	mg/L									mg/L				
	ВW	MW-1	MW-2S	MW-21	MW-4		MW-6 MW-5D MW-7		10D	BW	1 MW-	MW-2S	MW-2I	MW-4		MW-6 MW-5D MW-7	MW-	7 10D	ВW	MW-1	MW-2S	MW-21		MW-4 MW-6	MW-5D	MW-7 1	10D
12/8/2008			420		230							<0.1		<0.1							0.16		1.4				
12/9/2008		87		160							<0.1		6.1							0.74		1.4					
12/14/2009	110				240					< 0.1				<u>^0.1</u>					0.66				1.6				
12/15/2009			380	310								<0.1	6.1					_			0.2	2.8				_	
12/8/2010	170		390	310	230					<0.1		<0.1	<0.1	<0.1					0.37		<0.1	۔۔	0.7			_	
			A	Alkalinity: Bicarbonate	3icarbon:	ate																					
				Э	mg/L																						
	ВW	MW-1	MW-2S	MW-2I	MW-4		MW-6 MW-5D MW-7		10 P																		
12/8/2008			420		229																						
12/9/2008		86.2		159																							
12/14/2009	109	-			238																						
12/15/2009			380	307				_								,											
12/8/2010	170		390	310	230						Ī																

Table 8: Haloacetic Acids Data

12/8/2010	12/15/2009	12/14/2009	12/9/2008	12/8/2008				12/8/2010	12/15/2009	12/14/2009	12/9/2008	12/8/2008				12/8/2010	12/15/2009	12/14/2009	12/9/2008	12/8/2008				
<0.99		<0.99			BW			<0.26		<0.26			BW			<2.9		<2.9			ВW	T		1
			<0.99		MW-1						<0.26		MW-1						<2.9		MW-1			
<0.99	<0.99			<0.99	MW-1 MW-2S			<0.26	<0.26			1.5	MW-1 MW-2S		Е	<2.9	<2.9			2.1	MW-1 MW-2S			
<0.99	<0.99		<0.99		MW-21		Dichlo	<0.26	<0.26		<0.26		MW-21		romodic	<2.9	<2.9		<2.9		MW-21			
<0.99		<0.99		<0.99	MW-4 MW-6 MW-5D MW-7	hg/L	Dichloroacetic Acid	<0.26		<0.26		<0.26	MW-4 MW-6 MW-5D	µg/L	Bromodichloroacetic Acid	<2.9		<2.9		<2.9	MW-21 MW-4 MW-6 MW-5D MW-7	hg/L	HAA(5)	ì
			<u> </u>	ļ	MW-6 I		Acid		<u> </u> _				MW-6 I		tic Acid		_				MW-6 I			
					MW-5D								MW-5D								WW-5D			İ
					- 								MW-7	_										l
				ļ	10D			_	<u> </u>		ļ		10D				_			<u> </u>	10D		_	
<0.54		<0.54			BW			<0.54	-	<0.54			BW			<u>&</u>		<u></u>	ļ		BW _			
	<u> </u>		<0.54	<u> </u>	1 W-				<u> </u>		<0.54		1 W				<u> </u>		9	ļ	1 V			
<0.54	<0.54	 		<0.54	MW-2S		٦	<0.54	<0.54			<0.54	MW-2S		CF	<i>\$</i>	ξ.			3.6	MW-2S			l
<0.54	<0.54		<0.54		MW-21		Monobromoacetic Acid	<0.54	<0.54		<0.54		MW-21		Chlorodibromoacetic Acid	Ş,	~ 5		Ĝ		MW-21		-	
<0.54		<0.54		<0.54	MW-4 MW-6 MW-5D MW-7	µg/L	moaceti	<0.54		<0.54		<0.54	MW-4 MW-6 MW-5D MW-7	µg/L	omoace	%		<5		ζ ₁	MW-4 MW-6 MW-5D MW-7	hg/L	HAA(9)	
					MW-6		ic Acid						MW-6		etic Acid						MW-6			
					MW-5D								MW-5D		7						MW-5D			
					MW-7								MW-7								MW-7			
					10D								MW- 10D								10D			
<0.78		<0.78			BW			<0.25		<0.25			BW			<0.55		<0.55			BW			
			<0.78		MW-1 MW-2S						<0.25		MW-1 MW-2S						<0.55		MW-1			
<0.78	<0.78			<u>-1</u> 55	лw-2S			<0.25	<0.25			0.6				<0.55	<0.55			<0.55	MW-1 MW-2S			
<0.78	<0.78		<0.78		MW-21		Monoch	<0.25	<0.25	-	<0.25		MW-21		Dibro	<0.55	<0.55		<0.55		MW-21		Bromochloroacetic Acid	
<0.78		<0.78		<0.78		hg/L	Monochloroacetic Acid	<0.25		<0.25		<0.25		µg/L	Dibromoacetic Acid	<0.55		<0.55		<0.55		hg/L	hloroac	
					MW-6		tic Acid						MW-6		c Acid						MW-6		etic Acio	
				<u> </u>	MW-5E								MW-5E								MW-5E			
					MW-4 MW-6 MW-5D MW-7								MW-4 MW-6 MW-5D MW-7			•					MW-4 MW-6 MW-5D MW-7			
					MW- 10D								MW- 10D								10D			

Table 8: Haloacetic Acids Data

Notes: BW = Bayside Well

Table 9: Trihalomethanes Data

	_	Т	_			Г	ı —			1	1		_	_	Г	Т	_		1
12/8/2010	12/15/2009	12/14/2009	12/16/2008	12/9/2008	12/8/2008				12/8/2010	12/15/2009	12/14/2009	12/4/2009	12/1/2009	12/16/2008	12/9/2008	12/8/2008			
<0.64		< 0.64				BW			<2.43	1	<2.43	0.11	0.1				ВW		
4		4	-	<0.11						-	3,		-		< 0.37		i .		
<0.64	<0.64				<0.11	MW-1 MW-2S MW-21 MW-4 MW-6 MW-5D MW-7 MW-10D			<2.43	<2.43						<0.37	MW-1 MW-2S MW-21 MW-4 MW-6 MW-5D MW-7 MW-10D		
<0.64	<0.64			<0.11		MW-21		Dibron	<2.43' <2.43	 					<0.37		8 MW-21		
<0.64		<0.64			<0.11	MW-4	µg/L	Dibromochloromethane	<2.43		<2.43 ¹					<0.37	MW-4	hg/L	SWHTT
						MW-6 N		าethane	_								MW-6 N		
						1W-5D N							-				1W-5D N		
						/W-7 M											/W-7 M		
			<0.11											<0.37			_		
<0.64		<0.64		_		BW N			<0.57		<0.57				^		BW N		
	_			<0.13		MW-1 MW-2S			_	_					<0.054		MW-1 MW-2S		
<0.64	^0.64 ^			_	<0.13				<0.57	<0.57					<	<0.054			
<0.64	^0.64			<0.13		MW-2! !		Bro	<0.57	<0.57			_		<0.054	_	MW-21 1		Ch
<0.64		<0.64			<0.13		µg/L	Bromoform	<0.57		<0.57					<0.054	MW-4 MW-6 MW-5D MW-7 MW-10D	µg/L	Chloroform
						1M-9-M							-				W 9-W		
						MW-6 MW-5D MW-7 MW-10D					-						V-5D M\		
		_	Α			N-7 MW								6			N-7 MW		
į			<0.13			'-10D			^		٨			<0.054					
									<0.58		< 0.58				٨	_	BW M		
									<u>^</u>	<u> </u>		_			<0.074	<0.	N-1 MV		
									<0.58 <0	<0.58 <0					6	<0.074	/-28 MV		Bro
									<0.58 <0	<0.58	6				<0.074	.	V-21 MV	<u>,</u>	Bromodichloromethane
									<0.58		<0.58	-	-	_		<0.074	V-4 MW	µg/L	lorometh
																	/-6 MW-		ane
													1	4			MW-1 MW-2S MW-21 MW-4 MW-6 MW-5D MW-		
												-		<0.074		-	-7 MW-10E		
														74		╛	8		

Notes:
BW = Bayside Well
1 - Calculated from individual THMs

Nested Well Set	MW-5S	MW-5I	MW-5D
Elevation at land surface (ft amsl)	13.88	13.88	13.76
Depth of monitoring well (ft bgs)	210	325	640
Depth to water (ft bgs)	1.27	7.26	15.2
Hydraulic Head (ft)	12.61	6.62	-1.44
pressure Head (ft)	208.73	317.74	624.8
Elevation Head (ft)	-196.12	-311.12	-626.24
Vertical Hydraulic Gradient (ft/ft	t)	0.052	0.026

Nested Well Set	MW-5S	MW-5I	MW-5D
Elevation at land surface (ft amsl)	13.88	13.88	13.76
Depth of monitoring well (ft bgs)	210	325	640
Depth to water (ft bgs)	2.82	8.88	19.14
Hydraulic Head (ft)	11.06	5	-5.38
pressure Head (ft)	207.18	316.12	620.86
Elevation Head (ft)	-196.12	-311.12	-626.24
Vertical Hydraulic Gradient (ft/ft	<u>:)</u>	0.053	0.033

Appendix A: Lab Reports

EBMUD Laboratory Analytical Report

EAST BAY MUNICIPAL UTILITY DISTRICT Laboratory Services Division PO Box 24055, MS 59, Oakland, CA 94623 Phone (510)287-1432 Fax (510)465-5462

California Environmental Laboratory Accreditation Program Certificate Number 1060

Laboratory Report - L164135

LSR # - B455-0706-1 Project Title: BAYSIDE GROUND WATER PROJECT

Report generated on: Jan 04, 2011 04:18 pm

5 - Samples received by the lab on: Dec 09 2010, 07:48 am

0 - Lost Analyses 0 - Hold Time Exceedences Turn-around-time not met

Client PM: DEREK LEE

Lab PM: JACK C. LIM

This is an electronic transmittal of a Laboratory Analytical Report

Samples included in this report:

Sample	Type Collected	Site	Locator	ClientID
L164135-1	GRAB 08-Dec-2010 09:30	WTP BAYSIDE	BAY WELL HEAD	-
L164135-2	GRAB 08-Dec-2010 17:27	GW BAYSIDE	BAY1-MW2S	-
L164135-3	GRAB 08-Dec-2010 16:12	GW BAYSIDE	BAY1-MW2I	-
L164135-4	GRAB 08-Dec-2010 13:53	GW BAYSIDE	BAY1-MW4	-
L164135-5	QCFB 08-Dec-2010 13:40	FIELD QC	COLLECTION QC	-

Legend to the laboratory qualifiers used in this report:

E - Estimated value, concentration outside calibration range, For SIP, E=DNQ, Estimated Concentration.

U - Analyte not detected

Qualifiers for subcontract work - See textvalue for description

LSR#: B455-0706-1 BAYSIDE GROUND WATER PROJECT

WTP BAYSIDE Site:

Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo

Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002

L164135-1 (P167787-1)
GRAB (Instantaneous Grab) Lab ID: Sample Type:

Date Collected: Dec 08 2010, 09:30am Sample collector: SPenman / ESS

Date Received: Dec 09 2010, 07:48am Sample receiver: RMOLINA

Sample Comments: BAYSIDE WELL pH = 7.37 ;Cl2R = ND mg/L; Depth to GW = NA feet

; +TRANSMITTAL for OXY-18

Method Reference					of the second second	Matrix T	ag
Parameter Qua	lifier	Result	Units	Dilution	MDL	RL/ML	-9
Method: PER SUBCONTRACT LABORATORY REPORT - Subcontract data from Test America					to the second	GroundH20	
Comment: Original report transmitted to clie SUBCONTRACT LAB DATA DATA TRANSMITTAL	nt. Copy	of report a	archived wi	th data packet.			
Run ID: R207128 / Work Group No.: WG166445 Prep Date1: 29-DEC-11 Analyzed 29-Dec-10 00:	00						
Method: SAMPLER PROVIDED FIELD MEASUREMENTS FIELD ANALYSIS/OBSERVATION DATA PARAMETERS	- DATA ENT	RY LIST FO	R FIELD DAT	A OL AND STEAST	i wakini wa 11	GroundH20	
PH		7.37	pH units	1			
CHLORINE RESIDUAL: TOTAL	U	0.1	mg/L	1	0.1		
Run ID: R206402 / Work Group No.: WG166043							
Prep Datel: 08-DEC-10 Analyzed 08-Dec-10 09:	30						
Method: EPA 8260B - Trihalomethanes: GC/MS	. Programysis	og præsikers			ti kataliswegotayan ng gari	GroundH20	
TARGET ANALYTES		- Willeman	e in Agenty Allice Care	e and the projection of the second of	u a not tribbigo, electricitet del Maria e di	Groundizo	
CHLOROFORM	U	0.57	ug/L	1	0.57		
BROMODICHLOROMETHANE	υ	0.58	ug/L	1	0.58		
DIBROMOCHLOROMETHANE	υ	0.64	ug/L	1	0.64		
BROMOFORM	ט	0.64	ug/L	1	0.64		
INTERNAL STANDARD			- 5 ,				
FLUOROBENZENE SURROGATE		112	% recove	ry 1			
4-BROMOFLUOROBENZENE		112	% recove	rv 1			
Run ID: R206523 / Work Group No.: WG166072			1 100010	- 7 -			
Prep Datel: 10-DEC-10 Analyzed 10-Dec-10 15:	30						
Method: EPA 300.1 - Anions by IC: EPA 300.1 Instrument calibrated 07-DEC-10		* 1		eria. Programa		GroundH2O 1	
TARGET ANALYTES							
NITRATE AS N	E	0.0041	mg/L	1	0.0031	0.4	
SURROGATE	-	0.0011	mg/ H	-	0.0031	0.4	
DICHLOROACETATE		100	% recove:	my 1			
Run ID: R206441 / Work Group No.: WG166038		100	1 100000	- y -			
Prep Date1: 09-DEC-10 Analyzed 09-Dec-10 12:	54						
Method: EPA 300.1 - Anions by IC: EPA 300.1	5.400-53	t Malgoria			ang kalang menganggan	GroundH20	
Instrument calibrated 07-DEC-10	1 + 1 2 × ± 1+	and the second	* 1780 × 1780	e teatre le divisió de la colo		GroundH20	
TARGET ANALYTES							
CHLORIDE		55	mg/L	50	0.21		
SULFATE		42	mg/L	50	0.21	0.5	
SURROGATE		7.0	g/ 11	50	0.4	0.5	
DICHLOROACETATE		100	§ 70.0010	··· F0			
Run ID: R206441 / Work Group No.: WG166038		100	% recove:	ry 50			
Prep Datel: 09-DEC-10 Analyzed 09-Dec-10 11:	07						
Method: EPA 552.2 - Haloacetic Acids & Dalap	on	e typeel				GroundH20	
TARGET ANALYTES							
BROMOCHLOROACETIC ACID	U	0.55	ug/L	1	0.55		
BROMODICHLOROACETIC ACID	U	0.26	ug/L	1 .	0.26		
CHLORODIBROMOACETIC ACID	U	0.54	ug/L	1	0.54		
DALAPON	Ü	0.15	ug/L	1	0.15		

RL is either the client requested or regulatory mandated Reporting Limit. ML is the regulatory mandated Minimum Level

LSR#: B455-0706-1 BAYSIDE GROUND WATER PROJECT

Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo

Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002

Lab ID: L164135-1 (P167787-1)
Sample Type: GRAB (Instantaneous Grab)

Date Collected: Dec 08 2010, 09:30am Sample collector: SPenman / ESS

Date Received: Dec 09 2010, 07:48am Sample receiver: RMOLINA

Sample Comments: BAYSIDE WELL pH = 7.37; Cl2R = ND mg/L; Depth to GW = NA feet

; +TRANSMITTAL for OXY-18

Method Reference	en i de de projektione de la compansión de la compansión de la compansión de la compansión de la compansión de La compansión de la compa	Andrews Bulleys Salta (1888)				Matrix Tag	
Parameter	Qualifier	Result	Units	Dilution	MDL	RL/ML	
DIBROMOACETIC ACID	Ū	0.25	ug/L	1	0.25	1	
DICHLOROACETIC ACID	υ	0.99	ug/L	1	0.99	1	
MONOBROMOACETIC ACID	ប	0.54	ug/L	1	0.54	1	
MONOCHLOROACETIC ACID	บ	0.78	ug/L	1	0.78	2	
TRIBROMOACETIC ACID	ប	0.83	ug/L	1	0.83		
TRICHLOROACETIC ACID	υ	0.30	ug/L	1	0.3	1	
VALUE CALCULATED FROM OTHER RESULTS							
HAA (5)		0.0	ug/L		2.9		
HAA (9)		0.0	ug/L		5		
INTERNAL STANDARD							
1,2,3-TRICHLOROPROPANE		100	% recov	ery	1		
SURROGATE				-			
2,3-DIBROMOPROPIONIC ACID		97	% recov	ery	1		
Run ID: R206805 / Work Group No.:	WG166249			•			
Prep Date1: 15-DEC-10 Prep Date2:	21-DEC-10 Analyzed	21-Dec-10 1	8:11				
-	-						
Method: SM(20)2320 B - Alkalinity:	: Total, Titration					GroundH20	
TARGET ANALYTES							
ALKALINITY: TOTAL AS CACO3		170	mg/L	1	5		
Run ID: R206424 / Work Group No.:	WG166052						
Prep Datel: 09-DEC-10 Analyzed 09-	-Dec-10 08:00						
Method: SM(20)2340 C - HARDNESS: T	TOTAL, TITRATION					GroundH2O	
TARGET ANALYTES							
HARDNESS: TOTAL AS CACO3		100	mg/L	1	2		
Run ID: R206460 / Work Group No.:	WG166069						
Prep Datel: 10-DEC-10 Analyzed 10-	-Dec-10 10:25						
-							
Method: SM(20)2540 C - Solids: Tot	al Dissolved			will be with the		GroundH20	
TARGET ANALYTES					*****		
TOTAL DISSOLVED SOLIDS		360	mg/L	1	18		
Run ID: R206563 / Work Group No.:	WG166061		-				
Prep Datel: 10-DEC-10 Analyzed 10-	Dec-10 07:20						
Method: SM(20)4500-CO2 D - Hydroxi	de, calculation			Tahu unit da Najar		GroundH20	
TARGET ANALYTES							
ALKALINITY: HYDROXIDE	υ	0.10	mg/L	1	0.1		
Run ID: R206428 / Work Group No.:	WG166056						
Prep Date1: 09-DEC-10 Analyzed 09-	-Dec-10 14:00						
						ı	
Method: SM(20)4500-CO2 D - Carbona	ate, Calculation					GroundH20	
TARGET ANALYTES							
ALKALINITY: CARBONATE		0.37	mg/L	1	0.1		
Run ID: R206428 / Work Group No.:	WG166056						
Prep Date1: 09-DEC-10 Analyzed 09-	Dec-10 14:00						
-						•	
Method: SM(20)4500-CO2 D - BICARBO	ONATE, CALCULATION					GroundH2O	
TARGET ANALYTES							
ALKALINITY: BICARBONATE		170	mg/L	1	5		
Run ID: R206428 / Work Group No.:	WG166056		-				
Prep Datel: 09-DEC-10 Analyzed 09-							

LSR#: B455-0706-1 BAYSIDE GROUND WATER PROJECT

Site: WTP BAYSIDE Baysid

Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo

BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002

Lab ID: L164135-1 (P167787-1)

Locator:

Sample Type: GRAB (Instantaneous Grab)

Date Collected: Dec 08 2010, 09:30am Sample collector: SPenman / ESS

Date Received: Dec 09 2010, 07:48am Sample receiver: RMOLINA

Sample Comments: BAYSIDE WELL pH = 7.37; Cl2R = ND mg/L; Depth to GW = NA feet

; +TRANSMITTAL for OXY-18

Method Reference Parameter	Qualifier	Result	Units	Dilution	MDL	Matrix Tag RL/ML
Method: SM(20)4500-NH3 B,C - AMMONIA: TARGET ANALYTES	TOTAL, TITRATION	Ī				GroundH2O
AMMONIA AS N Run ID: R206578 / Work Group No.: WG16	U 6122	0.300	mg/L	1	0.3	
Prep Datel: 14-DEC-10 Analyzed 14-Dec-	10 08:00					
Method: EPA 200.7 - ICP Scan TARGET ANALYTES						RawH2O
CALCIUM	2	7,000	ug/L	1.04	10	
IRON		160	ug/L	1.04	8.3	100
POTASSIUM		1,700	ug/L	1.04	11	
MAGNESIUM		7,900	ug/L	1.04	15	
MANGANESE		58.1	ug/L	1.04	0.728	20
SODIUM	8	4,000	ug/L	1.04	17	
Run ID: R206582 / Work Group No.: WG16	6112					
Prep Datel: 14-DEC-10 Analyzed 14-Dec-	10 11:22					

Analytical Results Report

LSR#: B455-0706-1 BAYSIDE GROUND WATER PROJECT

Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater

Locator: BAY1-MW2S OW-1 the same parcel as the Bayside Well on Oro Loma Property; formerly BAY1-MW2-60

Lab ID: L164135-2 (P167787-2) Sample Type: GRAB (Instantaneous Grab)

Date Collected: Dec 08 2010, 05:27pm Sample collector: SPenman / ESS

Date Received: Dec 09 2010, 07:48am Sample receiver: RMOLINA

Sample Comments: MS2S pH = 6.33; Cl2R = ND mg/L; Depth to GW = 8.19 feet ; +TRANSMITTAL

Method Reference						Matrix	Tag
Parameter Qu	alifier	Result	Units	Dilution	MDL	RL/ML	
Method: PER SUBCONTRACT LABORATORY REPORT - Subcontract data from Test America Comment: Original report transmitted to cli SUBCONTRACT LABOATA				data packet.		GroundH20	
DATA TRANSMITTAL							
Run ID: R207128 / Work Group No.: WG166445 Prep Date1: 29-DEC-11 Analyzed 29-Dec-10 00	:00						
Method: SAMPLER PROVIDED FIELD MEASUREMENTS FIELD ANALYSIS/OBSERVATION DATA PARAMETERS	- DATA E	ENTRY LIST FO	R FIELD DATA			GroundH2O	
PH		6.33	pH units	1			
DEPTH		8.19	feet	1			
CHLORINE RESIDUAL: TOTAL	U	0.1	mg/L	1	0.1		
Run ID: R206402 / Work Group No.: WG166043 Prep Datel: 08-DEC-10 Analyzed 08-Dec-10 17	:27						
Method: EPA 8260B - Trihalomethanes: GC/MS TARGET ANALYTES						GroundH2O	
CHLOROFORM	บ	0.57	ug/L	1	0.57		
BROMODICHLOROMETHANE	U	0.58	ug/L	1	0.58		
DIBROMOCHLOROMETHANE	υ	.0.64	ug/L	1	0,64		
BROMOFORM	U	0.64	ug/L	1	0.64		
INTERNAL STANDARD							
FLUOROBENZENE		106	<pre>% recovery</pre>	1			
SURROGATE			_				
4-BROMOFLUOROBENZENE		115	% recovery	• 1			
Run ID: R206523 / Work Group No.: WG166072 Prep Datel: 10-DEC-10 Analyzed 10-Dec-10 16	:20						
Method: EPA 300.1 - Anions by IC: EPA 300.1 Instrument calibrated 07-DEC-10 TARGET ANALYTES				we have a second	Mark the Election	GroundH20	1
NITRATE AS N SURROGATE	Ŭ	0.31	mg/L	100	0.31	0.4	
DICHLOROACETATE		100	% recovery	100			
Run ID: R206441 / Work Group No.: WG166038		100	* LCCOVCLY	100			
Prep Datel: 09-DEC-10 Analyzed 09-Dec-10 14	:06						
Method: EPA 300.1 - Anions by IC: EPA 300.1 Instrument calibrated 07-DEC-10 TARGET ANALYTES						GroundH20	
CHLORIDE		44,000	ma/T	25000	1.00		
SULFATE		5,700	mg/L	25000	100 200	0 5	
SURROGATE		3,700	mg/L	∠5UUU	200	0.5	
DICHLOROACETATE		100	% recovery	25000		5	
Run ID: R206441 / Work Group No.: WG166038 Prep Datel: 09-DEC-10 Analyzed 09-Dec-10 13	:30	100	* recovery	23000			

LSR#: B455-0706-1 BAYSIDE GROUND WATER PROJECT

East Bay Ground Water Injection/Extraction Project Bayside Groundwater Site: GW BAYSIDE

Locator: BAY1-MW2S OW-1 the same parcel as the Bayside Well on Oro Loma Property; formerly BAY1-MW2-60

Lab ID: L164135-2 (P167787-2)

Sample Type: GRAB (Instantaneous Grab)
Date Collected: Dec 08 2010, 05:27pm Sample collector: SPenman / ESS

Date Received: Dec 09 2010, 07:48am Sample receiver: RMOLINA

Sample Comments: MS2S pH = 6.33; C12R = ND mg/L; Depth to GW = 8.19 feet ; +TRANSMITTAL

Method Reference						Matrix Tag
Parameter	Qualifier	Result	Units	Dilution	MDL	RL/ML
Method: EPA 552.2 - Haloacetic Acids & D	alapon					GroundH20
TARGET ANALYTES						
BROMOCHLOROACETIC ACID	υ	0.55	ug/L	1	0.55	
BROMODICHLOROACETIC ACID	ט	0.26	ug/L	1	0.26	
CHLORODIBROMOACETIC ACID	U	0,54	ug/L	1	0.54	
DALAPON	U	0.15	ug/L	1	0.15	
DIBROMOACETIC ACID	Ŭ	0.25	ug/L	1	0.25	. 1 .
DICHLOROACETIC ACID	ד ד	0.99	ug/L	1	0.99	1
MONOBROMOACETIC ACID	ŭ	0.54	ug/L	1	0.54	1
MONOCHLOROACETIC ACID	ש	0.78	ug/L	1	0.78	2
TRIBROMOACETIC ACID	ŭ	0.83	ug/L	1	0.83	2
TRICHLOROACETIC ACID	ū	0.30	ug/L	1	0.3	1
VALUE CALCULATED FROM OTHER RESULTS	Ü	0.50	ug/ 1	*	0.5	1
HAA (5)		0.0	ug/L		2.9	
HAA (9)		0.0	ug/L		5	
INTERNAL STANDARD		0.0	ug/ L		5	
1,2,3-TRICHLOROPROPANE		100	% recov		1	
SURROGATE		100	4 16CO	,et A	1	
		110	o			
2,3-DIBROMOPROPIONIC ACID	••	110	% recov	rery	1	
Run ID: R206805 / Work Group No.: WG1662 Prep Datel: 15-DEC-10 Prep Date2: 21-DEC		01 D 10	10 50			
ALKALINITY: TOTAL AS CACO3 Run ID: R206424 / Work Group No.: WG1660 Prep Date1: 09-DEC-10 Analyzed 09-Dec-10		390	mg/L	1	5	
Method: SM(20)2340 C - HARDNESS: TOTAL,				· San Angelon (1)		GroundH20
TARGET ANALYTES						
HARDNESS: TOTAL AS CACO3		16,000	mg/L	100	200	
Run ID: R206460 / Work Group No.: WG1660	69					
Prep Datel: 10-DEC-10 Analyzed 10-Dec-10	10:25					
						au au a
Method: SM(20)2540 C - Solids: Total Dis	solvea					GroundH2O
TARGET ANALYTES						
TOTAL DISSOLVED SOLIDS		80,000	mg/L	20	360	
Run ID: R206563 / Work Group No.: WG1660						
Prep Date1: 10-DEC-10 Analyzed 10-Dec-10	07:20					
Method: SM(20)4500-CO2 D - Hydroxide, ca	lculation					GroundH2O
ALKALINITY: HYDROXIDE	υ	0.10	mg/L	1	0.1	
Run ID: R206428 / Work Group No.: WG1660	56		-			
Prep Datel: 09-DEC-10 Analyzed 09-Dec-10						
Method: SM(20)4500-CO2 D - Carbonate, Ca	lculation	ers, et ing	n ner Wesel	Jako Medinge		GroundH2O
ALKALINITY: CARBONATE	Ū	0.10	mg/L	1	0.1	
Run ID: R206428 / Work Group No.: WG1660 Prep Datel: 09-DEC-10 Analyzed 09-Dec-10						

LSR#: B455-0706-1 BAYSIDE GROUND WATER PROJECT

East Bay Ground Water Injection/Extraction Project Bayside Groundwater Site: GW BAYSIDE

Locator: BAY1-MW2S OW-1 the same parcel as the Bayside Well on Oro Loma Property; formerly BAY1-MW2-60

Lab ID: L164135-2 (P167787-2) Sample Type: GRAB (Instantaneous Grab)

Date Collected: Dec 08 2010, 05:27pm Sample collector: SPenman / ESS

Date Received: Dec 09 2010, 07:48am Sample receiver: RMOLINA

Sample Comments: MS2S pH = 6.33; Cl2R = ND mg/L; Depth to GW = 8.19 feet ; +TRANSMITTAL

Method Reference						Matrix Tag
Parameter .	Qualifier	Result	Units	Dilution	MDL	RL/ML
Method: SM(20)4500-CO2 D - BICARBONATE, TARGET ANALYTES	CALCULATION			e de la companya de l		GroundH2O
ALKALINITY: BICARBONATE		390	mg/L	1	5	
Run ID: R206428 / Work Group No.: WG166 Prep Date1: 09-DEC-10 Analyzed 09-Dec-1			-			
riep bacel: 03-bac-10 Analyzed 03-bec-1	0 14:00					
Method: SM(20)4500-NH3 B,C - AMMONIA: T	OTAL, TITRATION	Г				GroundH2O
AMMONIA AS N	ŭ	0.300	mq/L	1	0.3	
Run ID: R206578 / Work Group No.: WG166	122		3, –		•;•	
Prep Datel: 14-DEC-10 Analyzed 14-Dec-1	00:80					
Method: EPA 200.7 - ICP Scan TARGET ANALYTES						RawH2O
CALCIUM	1.30	E+06	uq/L	104	1000	
IRON	ប	83	ug/L	10.4	83	100
POTASSIUM	4.5	0,000	ug/L	10.4	110	
MAGNESIUM	2.50	E+06	ug/L	10.4	150	
MANGANESE	. 3	5,000	ug/L	10.4	7.28	20
SODIUM	2.10	E+07	ug/L	104	1700	
Run ID: R206582 / Work Group No.: WG166	112					
Prep Date1: 14-DEC-10 Analyzed 14-Dec-1	12:47					

Analytical Results Report

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LSR#: B455-0706-1 BAYSIDE GROUND WATER PROJECT

Site: GW BAYSIDE

East Bay Ground Water Injection/Extraction Project Bayside Groundwater

Locator:

BAY1-MW2I

OW-1 the same parcel as the Bayside Well on Oro Loma Property; aka BAY1-MW2D until 11-2009;

; +TRANSMITTAL

formerly BAY1-MW2-190

Lab ID:

L164135-3 (P167787-3)

Sample Type:

GRAB (Instantaneous Grab) Date Collected: Dec 08 2010; 04:12pm Sample collector: SPenman / ESS

Date Received: Dec 09 2010, 07:48am Sample receiver: RMOLINA

Sample Comments: MW2I pH = 7.56; Cl2R = ND mg/L; Depth to GW = 9.65 feet

Method Reference Parameter						Matrix Tag
Parameter	ualifier	Result	Units	Dilution	MDL	RL/ML
Method: PER SUBCONTRACT LABORATORY REPORT Subcontract data from Test America Comment: Original report transmitted to cl				th data packet.		GroundH2O
SUBCONTRACT LAB DATA DATA TRANSMITTAL						
Run ID: R207128 / Work Group No.: WG166445						
Prep Datel: 29-DEC-11 Analyzed 29-Dec-10 0	0:00					
Method: SAMPLER PROVIDED FIELD MEASUREMENT FIELD ANALYSIS/OBSERVATION DATA PARAMETERS	S - DATA EN	TRY LIST FOR	FIELD DATA	A rea in the		GroundH20
PH		7.56	pH units	1		
DEPTH		9.65	feet	1		
CHLORINE RESIDUAL: TOTAL	U	0.1	mg/L	1	0.1	
Run ID: R206402 / Work Group No.: WG166043						
Prep Datel: 08-DEC-10 Analyzed 08-Dec-10 1	6:12					
Method: EPA 8260B - Trihalomethanes: GC/MS						GroundH2O
TARGET ANALYTES						
CHLOROFORM	υ	0.57	ug/L	1	0.57	
BROMODICHLOROMETHANE	U	0.58	ug/L	1	0.58	
DIBROMOCHLOROMETHANE	U	0.64	ug/L	1	0.64	
BROMOFORM	ŭ	0.64	ug/L	1	0.64	
INTERNAL STANDARD						
FLUOROBENZENE		107	% recove:	ry 1		
SURROGATE						
4-BROMOFLUOROBENZENE		114	% recove:	ry 1		
Run ID: R206523 / Work Group No.: WG166072						
Prep Datel: 10-DEC-10 Analyzed 10-Dec-10 1	6:47					
Method: EPA 300.1 - Anions by IC: EPA 300.	1					GroundH20
Instrument calibrated 07-DEC-10						
TARGET ANALYTES						
SULFATE SURROGATE		23	mg/L	50	0.4	0.5
DICHLOROACETATE		100				
		100	% recover	ry 50		
Run ID: R206441 / Work Group No.: WG166038	4 . 42					
Prep Datel: 09-DEC-10 Analyzed 09-Dec-10 1	4:42					
Method: EPA 300.1:- Anions by IC: EPA 300. Instrument calibrated 07-DEC-10 TARGET ANALYTES	1 .					GroundH2O l
NITRATE AS N	U	0.0031	mq/L	1	0.0031	0.4
SURROGATE	J	2.0051	5/ 4	-	0.0031	V. 4
DICHLOROACETATE		99	% recover	rv 1		
Run ID: R206441 / Work Group No.: WG166038			, 2000,00	-1 -		
Prep Date1: 09-DEC-10 Analyzed 09-Dec-10 1	5:18					
•						

LSR#: B455-0706-1 BAYSIDE GROUND WATER PROJECT

BAY1-MW2I

Site: GW BAYSIDE

East Bay Ground Water Injection/Extraction Project Bayside Groundwater

OW-1 the same parcel as the Bayside Well on Oro Loma Property; aka BAY1-MW2D until 11-2009; formerly BAY1-MW2-190

Locator: Lab ID: Sample Type:

L164135-3 (P167787-3)

GRAB (Instantaneous Grab)

Date Collected: Dec 08 2010, 04:12pm Sample collector: SPenman / ESS

Date Received: Dec 09 2010, 07:48am Sample receiver: RMOLINA

Sample Comments: MW2I pH = 7.56; Cl2R = ND mg/L; Depth to GW = 9.65 feet ; +TRANSMITTAL

W 13 3 D 5						
Method Reference Parameter	Oualifier	Result	Units	Dilution	MDL	Matrix Tag RL/ML
ratameter	Qualifier	Result	OHIES	Dilucion	ממויו	KL/ PL
Method: EPA 300.1 - Anions by IC: EPA 3	00.1					GroundH2O 2
Instrument calibrated 07-DEC-10						
TARGET ANALYTES						
CHLORIDE		110	mg/L	100	0.42	
SURROGATE						
DICHLOROACETATE		98	% recov	ery 100		
Run ID: R206441 / Work Group No.: WG166						
Prep Date1: 09-DEC-10 Analyzed 09-Dec-1	.0 17:42					
Method: EPA 552.2 - Haloacetic Acids &	Dalapon					GroundH2O
TARGET ANALYTES	**	0.55	/ T	•	0 55	
BROMOCHLOROACETIC ACID BROMODICHLOROACETIC ACID	U U	0.55 0.26	ug/L ug/L	1	0.55 0.26	
CHLORODIBROMOACETIC ACID	ט	0.26	ug/L ug/L	1	0.26	
DALAPON	ט	0.15	ug/L ug/L	1	0.15	
DIBROMOACETIC ACID	ט	0.15	ug/L ug/L	1	0.15	1
DICHLOROACETIC ACID	ט	0.99	ug/L	1	0.25	1
MONOBROMOACETIC ACID	ט	0.54	ug/L	1	0.54	1
MONOCHLOROACETIC ACID	U	0.78	ug/L	1	0.78	2
TRIBROMOACETIC ACID	ט	0.83	ug/L	1	0.83	~
TRICHLOROACETIC ACID	U	0.30	ug/L	1	0.3	1
VALUE(S) USED TO CALCULATE OTHER VALUE(S)	•		-3/ =	-	0.0	-
HAA (5)		0.0	ug/L		2.9	
HAA (9)		0.0	ug/L		5	
INTERNAL STANDARD						
1,2,3-TRICHLOROPROPANE		100	% recov	ery	1	
SURROGATE						
2,3-DIBROMOPROPIONIC ACID		100	% recov	ery	1	
Run ID: R206805 / Work Group No.: WG166	249					
Prep Datel: 15-DEC-10 Prep Date2: 21-DE	C-10 Analyzed	21-Dec-10	19:40			
Method: SM(20)2320 B - Alkalinity: Tota	l, Titration					GroundH2O
TARGET ANALYTES			4-		_	
ALKALINITY: TOTAL AS CACO3		310	mg/L	1	5	
Run ID: R206424 / Work Group No.: WG166						
Prep Datel: 09-DEC-10 Analyzed 09-Dec-1	.0 08:00					
Method: SM(20)2340 C - HARDNESS: TOTAL,	ΤΙΤΡΑΤΙΟΝ					GroundH2O
TARGET ANALYTES	111141101					Groundizo
HARDNESS: TOTAL AS CACO3		100	mg/L	1	2	
Run ID: R206460 / Work Group No.: WG166	069		5, 4	~	-	
Prep Datel: 10-DEC-10 Analyzed 10-Dec-1						
Method: SM(20)2540 C - Solids: Total Di	.ssolved					GroundH2O
TARGET ANALYTES						
TOTAL DISSOLVED SOLIDS		620	mg/L	2	36	
Run ID: R206563 / Work Group No.: WG166						
Prep Datel: 10-DEC-10 Analyzed 10-Dec-1	.0 07:20					

LSR#: B455-0706-1 BAYSIDE GROUND WATER PROJECT

GW BAYSIDE Site:

BAY1-MW2I Locator:

East Bay Ground Water Injection/Extraction Project Bayside Groundwater

OW-1 the same parcel as the Bayside Well on Oro Loma Property; aka BAY1-MW2D until 11-2009;

formerly BAY1-MW2-190

Lab ID:

L164135-3 (P167787-3)

Sample Type:

GRAB (Instantaneous Grab)

Date Collected: Dec 08 2010, 04:12pm Sample collector: SPenman / ESS

Date Received: Dec 09 2010, 07:48am Sample receiver: RMOLINA

Sample Comments: MW2I pH = 7.56; Cl2R = ND mg/L; Depth to GW = 9.65 feet ; +TRANSMITTAL

Method Reference						Matrix	Tag
Parameter Quali	Eier	Result	Units	Dilution	MDL	RL/ML	
Method: SM(20)4500-CO2 D - Hydroxide, calculat:	ion					GroundH20	
TARGET ANALYTES							
ALKALINITY: HYDROXIDE	Ū	0.10	mg/L	1	0.1		
Run ID: R206428 / Work Group No.: WG166056							
Prep Datel: 09-DEC-10 Analyzed 09-Dec-10 14:00							
Method: SM(20)4500-CO2 D - Carbonate, Calculat	ion					GroundH20	
TARGET ANALYTES			/-				
ALKALINITY: CARBONATE		1.0	mg/L	1	0.1		
Run ID: R206428 / Work Group No.: WG166056							
Prep Date1: 09-DEC-10 Analyzed 09-Dec-10 14:00							
MARINE CALCON ACON CONTRACTOR DE CARCONIAME CALCUIT	MITON					GroundH20	
Method: SM(20)4500-CO2 D - BICARBONATE, CALCULA TARGET ANALYTES	ALTON					Groundrao	
ALKALINITY: BICARBONATE		310	mq/L	1	5		
Run ID: R206428 / Work Group No.: WG166056		310	g/ 12	-	3		
Prep Date1: 09-DEC-10 Analyzed 09-Dec-10 14:00							
riep bacer. Us-bac to many sea us see to 14.00							
Method: SM(20)4500-NH3 B,C - AMMONIA: TOTAL, T	ITRATIO	N ·				GroundH20	
TARGET ANALYTES							
AMMONIA AS N	Ū	0.300	mq/L	1	0.3		
Run ID: R206578 / Work Group No.: WG166122			_				
Prep Datel: 14-DEC-10 Analyzed 14-Dec-10 08:00							
•							
Method: EPA 200.7 - ICP Scan						RawH2O	
TARGET ANALYTES							
CALCIUM	;	17,000	ug/L	1.04	10		
IRON		390	ug/L	1.04	8.3	100	
POTASSIUM		6,000	ug/L	1.04	11		
MAGNESIUM	;	15,000	ug/L	1.04	15		
MANGANESE		99.8	ug/L	1.04	0.728	20	
SODIUM	1	70,000	ug/L	1.04	17		
Run ID: R206582 / Work Group No.: WG166112.							
Prep Datel: 14-DEC-10 Analyzed 14-Dec-10 12:52							

LSR#: B455-0706-1 BAYSIDE GROUND WATER PROJECT

Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater

Locator: BAY1-MW4 OW-1 the same parcel as the Bayside Well on Oro Loma Property; formerly BAY1-MW5

Lab ID: L164135-4 (P167787-4)
Sample Type: GRAB (Instantaneous Grab)

Date Collected: Dec 08 2010, 01:53pm Sample collector: SPenman / ESS

Date Received: Dec 09 2010, 07:48am Sample receiver: RMOLINA

Sample Comments: MW4 $\,$ pH = 7.51 ;Cl2R = ND $\,$ mg/L; Depth to GW = 16.41 feet $\,$; +TRANSMITTAL

•						
Method Reference						Matrix Tag
Parameter	Qualifier	Result	Units	Dilution	MDL	RL/ML
Method: PER SUBCONTRACT LABORATORY REPORT	T - Subcontra	ct data tran	smittal		The second second second	GroundH2O
Comment: Original report transmitted to	client. Copy	of report a	rchived wit	th data pac	cket.	
SUBCONTRACT LAB DATA						
DATA TRANSMITTAL						
Run ID: R207128 / Work Group No.: WG16644						
Prep Date1: 29-DEC-11 Analyzed 29-Dec-10	00:00					
Method: SAMPLER PROVIDED FIELD MEASUREMEN	NTS - DATA EN	TRY LIST FOR	FIELD DATA		- 물질링이 설립하다 (1884년	GroundH2O
FIELD ANALYSIS/OBSERVATION DATA PARAMETERS						
PH		7.51	pH units	1		
DEPTH		16.41	feet	1		
CHLORINE RESIDUAL: TOTAL	Ŭ	0.1	mg/L	1	0.1	
Run ID: R206402 / Work Group No.: WG16604	43					
Prep Datel: 08-DEC-10 Analyzed 08-Dec-10	13:53					
Method: EPA 8260B - Trihalomethanes: GC/N	MS			. 44 - 51 -		GroundH2O
TARGET ANALYTES						01041141120
CHLOROFORM	υ	0.57	ug/L	1	0.57	
BROMODICHLOROMETHANE	Ū	0.58	ug/L	1	0.58	
DIBROMOCHLOROMETHANE	Ū	0.64	ug/L	1	0.64	
BROMOFORM	υ	0.64	ug/L	1	0.64	
INTERNAL STANDARD			3,			
FLUOROBENZENE		112	% recove:	ry 1	•	
SURROGATE				-		
4-BROMOFLUOROBENZENE		105	% recove:	ry 1		
Run ID: R206523 / Work Group No.: WG1660	72					
Prep Datel: 10-DEC-10 Analyzed 10-Dec-10	17:14					
Mathed IRDA 200 1 Paint by TG IRDA 200		**, t				7****
Method: EPA 300.1 - Anions by IC: EPA 300 Instrument calibrated 07-DEC-10	0.1					GroundH2O 1
TARGET ANALYTES						
NITRATE AS N	U	0.0031	mg/L	1	0.0031	0.4
SURROGATE	U	0.0031	111g/15	T	0.0031	0.4
DICHLOROACETATE		100	% recove:	rız 1		
Run ID: R206441 / Work Group No.: WG1660	3.8	100	1 100000	Ly I		
Prep Datel: 09-DEC-10 Analyzed 09-Dec-10						
riop bacci. Or bac to mary sea or bec to	10.50					
Method: EPA 300.1 - Anions by IC: EPA 300	0.1	and the state of t		s sa ^{tant} atas	All Beach of Million	GroundH2O
Instrument calibrated 07-DEC-10						
TARGET ANALYTES						
CHLORIDE		57	mg/L	50	0.21	
SULFATE		42	mg/L	50	0.4	0.5
SURROGATE						
DICHLOROACETATE		100	% recove:	ry 50		
Run ID: R206441 / Work Group No.: WG16603	38					
Prep Datel: 09-DEC-10 Analyzed 09-Dec-10	15:54					

LSR#: B455-0706-1 BAYSIDE GROUND WATER PROJECT

Site:

GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater

OW-1 the same parcel as the Bayside Well on Oro Loma Property; formerly BAY1-MW5 Locator: BAY1-MW4 Lab ID: L164135-4 (P167787-4)

Sample Type: GRAB (Instantaneous Grab)

Date Collected: Dec 08 2010, 01:53pm Sample collector: SPenman / ESS

Date Received: Dec 09 2010, 07:48am Sample receiver: RMOLINA

Sample Comments: MW4 pH = 7.51 ;Cl2R = ND mg/L; Depth to GW = 16.41 feet ; +TRANSMITTAL

Method Reference			tili in		eretir Eseries	Matrix Tag
Parameter	Qualifier	Result	Units	Dilution	MDL	RL/ML
Method: EPA 552.2 - Haloacetic Acids	& Dalapon		Sign of	Contract Contract		GroundH2O
BROMOCHLOROACETIC ACID	U	0.55	uq/L	ï	0.55	
BROMODICHLOROACETIC ACID	, υ	0.26	ug/L	1	0.26	
CHLORODIBROMOACETIC ACID	ט .	0.54	ug/L	1	0.54	
DALAPON	ŭ	0.15	ug/L	1	0.15	
DIBROMOACETIC ACID	Ü	0.25	ug/L	1	0.25	1
DICHLOROACETIC ACID	บ	0.99	ug/L	1	0.99	1
MONOBROMOACETIC ACID	Ü	0.54	ug/L	1	0.54	1
MONOCHLOROACETIC ACID	Ü	0.78	ug/L	1	0.78	2
TRIBROMOACETIC ACID	U	0.83	ug/L	1	0.83	2
TRICHLOROACETIC ACID	Ü	0.30	ug/L	1	0.3	1
VALUE CALCULATED FROM OTHER RESULTS	•	0,00	~5, Z	*	0.5	1
HAA (5)		0.0	ug/L		2.9	
HAA (9)		0.0	ug/L		5	
INTERNAL STANDARD		0.0	ug/ £		3	
1,2,3-TRICHLOROPROPANE		100	% reco	verv	1	
SURROGATE		100	. 1000	very	+	
2,3-DIBROMOPROPIONIC ACID		110	% reco	ueru	1	
Run ID: R206805 / Work Group No.: WGI	66249	110	* 1600	very	1	
Prep Date1: 15-DEC-10 Prep Date2: 21-		21-Dec-10	20.25			
Method: SM(20)2320 B - Alkalinity: To TARGET ANALYTES ALKALINITY: TOTAL AS CACO3 Run ID: R206424 / Work Group No.: WGI Prep Date1: 09-DEC-10 Analyzed 09-Dec	66052	230	mg/L	ক্রিয়ে ইনিক্রিন বর্গ শিল্প 1	godi e elektronik y za zapak S	GroundH2O
Method: SM(20)2340°C - HARDNESS: TOTA	L, TITRATION	her esp j		signification of		GroundH2O
HARDNESS: TOTAL AS CACO3		130	mg/L	1	2	
Run ID: R206460 / Work Group No.: WG1 Prep Date1: 10-DEC-10 Analyzed 10-Dec			_			
Method: SM(20)2540 C - Solids: Total TARGET ANALYTES	Dissolved			entropies de la companya de la compa	1. 法条件外的总统	GroundH20
TOTAL DISSOLVED SOLIDS		430	mg/L	1	18	
Run ID: R206563 / Work Group No.: WG1	66061		٥.			
Prep Date1: 10-DEC-10 Analyzed 10-Dec	-10 07:20					
Method: SM(20)4500-CO2 D - Hydroxide, TARGET ANALYTES	calculation					GroundH2O
ALKALINITY: HYDROXIDE	ΰ	0.10	mg/L	1	0.1	
Run ID: R206428 / Work Group No.: WG1 Prep Date1: 09-DEC-10 Analyzed 09-Dec						
Method: SM(20)4500-CO2 D - Carbonate, TARGET ANALYTES	Calculation					GroundH2O
ALKALINITY: CARBONATE	•	0.70	mg/L	1	0.1	
Run ID: R206428 / Work Group No.: WG1						
Prep Datel: 09-DEC-10 Analyzed 09-Dec	-10 14:00					

RL is either the client requested or regulatory mandated Reporting Limit. ML is the regulatory mandated Minimum Level

LSR#: B455-0706-1 BAYSIDE GROUND WATER PROJECT

Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater

Locator: BAY1-MW4 OW-1 the same parcel as the Bayside Well on Oro Loma Property; formerly BAY1-MW5

Lab ID: L164135-4 (P167787-4)
Sample Type: GRAB (Instantaneous Grab)

Date Collected: Dec 08 2010, 01:53pm Sample collector: SPenman / ESS

Date Received: Dec 09 2010, 07:48am Sample receiver: RMOLINA

Sample Comments: MW4 pH = 7.51; Cl2R = ND mg/L; Depth to GW = 16.41 feet ; +TRANSMITTAL

Method Reference Parameter	Qualifier	Result	Units	Dilution	MDL	Matrix Tag RL/ML
Method: SM(20)4500-CO2 D - BICARBONATE,	CALCULATION					GroundH2O
ALKALINITY: BICARBONATE Run ID: R206428 / Work Group No.: WG166 Prep Datel: 09-DEC-10 Analyzed 09-Dec-1		230	mg/L	1	5	
Method: SM(20)4500-NH3 B,C - AMMONIA: T TARGET ANALYTES	COTAL, TITRATION	ı .		Pinger Begins		GroundH2O
AMMONIA AS N Run ID: R206578 / Work Group No.: WG166 Prep Datel: 14-DEC-10 Analyzed 14-Dec-1		0.300	mg/L	1	0.3	
Method: EPA 200.7 - ICP Scan TARGET ANALYTES						RawH2O
CALCIUM	2	9,000	ug/L	1.04	10	
IRON		77	ug/L	1.04	8.3	100
POTASSIUM		2,600	ug/L	1.04	11	
MAGNESIUM	1	.2,000	ug/L	1.04	15	
MANGANESE		203	ug/L	1.04	0.728	20
SODIUM Run ID: R206582 / Work Group No.: WG166 Prep Datel: 14-DEC-10 Analyzed 14-Dec-1	112	00,000	ug/L	1.04	17	

LSR#: B455-0706-1 BAYSIDE GROUND WATER PROJECT

Site: FIELD QC Sample collection QC

Locator: COLLECTION QC Field QC Sample submitted for analysis

Lab ID: L164135-5 (P168160-1) Sample Type:

QCFB (Field Blank Grab)

Date Collected: Dec 08 2010, 01:40pm Sample collector: SPenman / ESS

Date Received: Dec 09 2010, 07:48am Sample receiver: RMOLINA

Sample Comments: QCFB for L164135-4; Prep'd on 06-DEC-10 by RTC; extra +HOLD for COC

documentation;

Method Reference	Taller Qualifier	Result		Dilution		Matrix Tag RL/ML
Method: EPA 8260B - Trihalomethanes: GC/M		10 3 000 mg 2		nilla edjest		GroundH2O
CHLOROFORM	ט	0.57	ug/L	1	0.57	
BROMODICHLOROMETHANE	Ŭ	0.58	ug/L	1	0.58	
DIBROMOCHLOROMETHANE	ΰ	0.64	ug/L	1	0.64	
BROMOFORM	Ū	0.64	ug/L	1	0.64	
INTERNAL STANDARD						
FLUOROBENZENE		119	% recove:	ry 1		
SURROGATE		1		-		
4-BROMOFLUOROBENZENE		106	% recove:	ry 1		
Run ID: R206523 / Work Group No.: WG16607	2					
Prep Datel: 10-DEC-10 Analyzed 10-Dec-10	14 - 34					