

**SPECIAL MEETING OF THE GROUNDWATER QUALITY COMMITTEE  
OF THE BOARD OF DIRECTORS  
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA  
4040 PARAMOUNT BOULEVARD, LAKEWOOD, CA 90712  
1:00 P.M., JANUARY 26, 2009**

**AGENDA**

EACH ITEM ON THE AGENDA, NO MATTER HOW DESCRIBED, SHALL BE DEEMED TO INCLUDE ANY APPROPRIATE MOTION, WHETHER TO ADOPT A MINUTE MOTION, RESOLUTION, PAYMENT OF ANY BILL, APPROVAL OF ANY MATTER OR ACTION, OR ANY OTHER ACTION. ITEMS LISTED AS "FOR INFORMATION" MAY ALSO BE THE SUBJECT OF ANY "ACTION" TAKEN BY THE BOARD OR A COMMITTEE AT THE SAME MEETING.

- 1. DETERMINATION OF A QUORUM**
- 2. PUBLIC COMMENT**
- 3. MINUTES OF NOVEMBER 25, 2008**  
*Staff Recommendation:* Approve the minutes as submitted.
- 4. GROUNDWATER CONTAMINATION UPDATE**  
*Staff Recommendation:* For information.
- 5. GROUNDWATER QUALITY UPDATE – NEW STATE ARSENIC MCL**  
*Staff Recommendation:* For information.
- 6. DIRECTORS' REPORTS, INQUIRIES, AND REVIEW OF DIRECTIONS TO STAFF**
- 7. ADJOURNMENT**

Posted by Abigail C. Andom, Deputy Secretary, January 23, 2009.

In compliance with the Americans with Disabilities Act (ADA), if special assistance is needed to participate in the Board meeting, please contact Deputy Secretary Abigail Andom at (562) 921-5521 for assistance to enable the District to make reasonable accommodations.

All public records relating to an agenda item on this agenda are available for public inspection at the time the record is distributed to all, or a majority of all, members of the Board. Such records shall be available at the District office located at 4040 Paramount Boulevard, Lakewood, California 90712.

Agendas and minutes are available at the District's website, [www.wrd.org](http://www.wrd.org).

UNAPPROVED  
MINUTES

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**MINUTES OF NOVEMBER 25, 2008  
SPECIAL MEETING OF THE GROUNDWATER QUALITY COMMITTEE  
OF THE BOARD OF DIRECTORS OF THE  
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA**

A meeting of the Groundwater Quality Committee of the Board of Directors of the Water Replenishment District of Southern California was held on Tuesday, November 25, 2008 at 12:04 p.m., at the District Office, 4040 Paramount Boulevard, California. Chairperson Albert Robles called the meeting to order and presided thereover. Administrative Specialist Sheryll A. Moffat recorded the minutes.

**1. DETERMINATION OF A QUORUM**

Committee: Directors Albert Robles and Sergio Calderon  
Staff: Ted Johnson, Nancy Matsumoto and Phuong Ly.

**2. PUBLIC COMMENT**

None.

**3. MINUTES OF AUGUST 27, 2008 AND SEPTEMBER 24, 2008 MEETINGS**

The minutes were approved as submitted

**4. SALINE PLUME POLICY**

Senior Hydrogeologist Nancy Matsumoto said that the Committee had asked staff to evaluate the current state of the plume in the West Coast Basin to determine if it is moving or increasing in concentration and whether the District should consider additional mitigation. Staff addressed four questions: What is the current configuration of the plume and is it still moving? Does the plume remain a threat to any production wells in the basin? What are the pros and cons of remediating the plume? Should WRD have a role in continued plume management and remediation and if so, to what extent? She circulated the most updated maps of the saline plume. Director Robles asked why the saline plumes appear scattered in the Gage Aquifer. Ms. Matsumoto responded that there are several possible explanations, one being that the Gage aquifer is not of uniform thickness across the basin. She said that in comparing historical maps of the Silverado Aquifer that the plume is moving and overall its shape has changed slightly. She said that the plume has moved about one half mile in 10 years and continues to move eastward which could threaten our production wells. She said the deepest aquifer affected by the plume is the Lower San Pedro Aquifer.

She said our two monitoring wells near the Goldsworthy Desalter, the Mariner Well and the Columbia Well, have shown increasing concentrations over the last 10 years. She concluded saying that staff recommends moving forward with the Goldsworthy expansion and also remediating the contamination in the Lower San Pedro Aquifer.

Chief Hydrogeologist Ted Johnson said that the District (through the Water Code) has responsibility for cleaning up the plume and should consider partnering with West Basin, Torrance or even Metropolitan Water District – this would provide a better opportunity for funding. He concluded by acknowledging Ms. Matsumoto’s work and all her efforts putting together the maps this past year.

**5. GROUNDWATER CONTAMINATION UPDATE**

Ms. Matsumoto said that the Committee has expressed interest in expanding the District’s Groundwater Contamination Prevention Program and has requested recommendations regarding such an initiative. She circulated a handout that detailed 4 alternatives of action: 1) Status Quo; 2) Wellhead Treatment Site Investigations and Pursuit of Cost Recovery; 3) Partner with Regulatory Agency for Site Investigations and Remediation; 4) WRD Pursues Site Investigations and Remediation. The Committee recommended that staff send out RFP’s to various firms for a consultant to do a benefit/cost/risk analysis of pursuing these cost recovery alternatives, and report back to the next Committee meeting.

**6. DIRECTORS REPORTS, INQUIRIES AND REVIEW OF DIRECTIONS TO STAFF**

The Committee asked that staff work to get a West Basin exemption to pump the saline plume without a minimum chloride concentration requirement.

Director Calderon would like aerial maps from the 50-60’s of Bell, Commerce, and Maywood.

The committee will forego the December meeting unless staff needs to schedule one.

**7. ADJOURNMENT**

There being no further business to come before the Committee, the meeting was adjourned at 1:09 p.m.

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Chairperson

Attest:

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Director



## MEMORANDUM

ITEM NO. 4

*Prepared by:* Phuong Ly

*Reviewed by:* Ted Johnson

*Approved by:* Robb Whitaker

**DATE:           JANUARY 26, 2009**

**TO:             GROUNDWATER QUALITY COMMITTEE**

**FROM:          ROBB WHITAKER, GENERAL MANAGER**

**SUBJECT:       GROUNDWATER CONTAMINATION UPDATE**

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### CONTAMINATED GROUNDWATER SITES

With the cooperation and support of stakeholders such as the USEPA, RWQCB, and DTSC, WRD developed a list of high-priority contaminated groundwater sites within District boundaries. This list is a living document, subject to cleanup and "closure" of sites as well as discovery of new sites warranting further attention. Currently, the list includes 46 sites across the Central and West Coast Basins.

WRD has been working with the lead regulatory agencies for each of these sites to keep abreast of their status, offer data collection, review and recommendations as needed, and facilitate progress in site characterization and cleanup. Below is a discussion of two sites that were recently updated with information obtained from the regulatory agency.

#### UNIVAR USA, INC.

This site, located in the City of Commerce, was recently brought to the attention of WRD by California Water Service Company (Cal Water). Cal Water has a production well that is located approximately 900 feet north of the site and PCE and TCE concentrations have been increasing in the well since 2004. In August 2008, PCE and TCE concentrations in Cal Water's well were 1.66 ug/L and 3.23 ug/L, respectively. Based on staff's review of the data regarding this site, it was recently added to WRD's list of high-priority groundwater contamination sites.

From 1986 through 2002, the site was occupied by Univar USA and operations consisted of the storage and distribution of chemicals. Quarterly groundwater monitoring is being conducted under the oversight of DTSC. According to the most recent groundwater monitoring report (dated October 20, 2008), VOCs are the primary constituents of concern. Below is a summary of the analytical results of groundwater samples collected in June 2008.

<b>SUMMARY OF RECENT GROUNDWATER ANALYTICAL RESULTS UNIVAR USA, INC., CITY OF COMMERCE</b>		
<b>Chemical</b>	<b>Concentration In Groundwater (June 2008)</b>	<b>Maximum Contaminant Level (MCL)</b>
PCE	120 ug/L (Well MW-15)	5 ug/L
TCE	1,100 ug/L (Well MW-5)	5 ug/L
Carbon tetrachloride	1.5 ug/L (Well MW-16B)	0.5 ug/L
1,1-DCE	55 ug/L (Well MW-15)	6 ug/L
cis-1,1-DCE	89 ug/L (Well MW-15)	6 ug/L
1,2-DCA	3.3 ug/L (Well MW-10)	0.5 ug/L

Since April 2005, a soil vapor extraction system (SVE) has been removing VOCs from soils at the site. According to the DTSC Project Manager for this site, interim measures for groundwater cleanup are planned in the near future. WRD will be attending a public meeting regarding the status of cleanup activities at this site on January 28, 2009.

#### **ANGELES CHEMICAL COMPANY, INC.**

This site, located in the City of Santa Fe Springs, is an existing site on WRD's list of high-priority groundwater contamination sites. The investigation and cleanup of this site has been conducted under the oversight of DTSC. From 1976 through 2000, Angeles Chemical Company, Inc. (ACC) operated at the site as a petroleum solvents and chemicals wholesaler & distributor. Operations included the use of 34 underground storage tanks (USTs), rail cars, 4 aboveground storage tanks, and numerous 55-gallon drums. Since 2005, an on-site SVE system (including 11 extraction wells) has been removing VOCs from soils.

TCE is detected in the nearest production well (City of Santa Fe Springs Well #1) at concentrations up to 1.9 ug/L. A widespread groundwater contamination plume occurs across the Santa Fe Springs area within the shallow regional aquifers. VOC concentrations in groundwater at the site and southwest (downgradient) of the site are higher than VOC concentrations found in the Santa Fe Springs regional and upgradient of the site. Groundwater samples collected at the site in September 2008 indicate the presence of VOCs, 1,4-dioxane, total petroleum hydrocarbons as gasoline, and arsenic at elevated concentrations, as summarized below.

<b>SUMMARY OF RECENT GROUNDWATER ANALYTICAL RESULTS ANGELES CHEMICAL COMPANY, INC., SANTA FE SPRINGS</b>		
<b>Chemical</b>	<b>Concentration In Groundwater (Sept 2008)</b>	<b>Maximum Contaminant Level (MCL)</b>
PCE	301 ug/L (Well MW-25)	5 ug/L
TCE	209 ug/L (Well MW-25)	5 ug/L
1,1-DCE	1,770 ug/L (Well MW-16)	6 ug/L
cis-1,1-DCE	3,600 ug/L (Well MW-16)	6 ug/L
Ethylbenzene	871 ug/L (Well MW-10)	300 ug/L

**SUMMARY OF RECENT GROUNDWATER ANALYTICAL RESULTS  
ANGELES CHEMICAL COMPANY, INC., SANTA FE SPRINGS**

<b>Chemical</b>	<b>Concentration In Groundwater (Sept 2008)</b>	<b>Maximum Contaminant Level (MCL)</b>
Benzene	207 ug/L (Well MW-11)	1 ug/L
1,1-DCA	6,080 ug/L (Well MW-8)	5 ug/L
Vinyl Chloride	454 ug/L (Well MW-11)	0.5 ug/L
Total Xylenes	3,970 ug/L (Well MW-10)	1,750 ug/L
1,2,4-Trimethylbenzene	1,560 ug/L (Well MW-10)	NL = 330 ug/L
1,3,5-Trimethylbenzene	469 ug/L (Well MW-111)	NL = 330 ug/L
Napthalene	81 ug/L (Well MW-11)	NL = 17 ug/L
n-Propylbenzene	927 ug/L (Well MW-10)	NL = 260 ug/L
1,4-Dioxane	13,400 ug/L (Well MW-9)	NL = 3 ug/L
TPH-gasoline	22,100 ug/L (Well MW-10)	None
Dissolved Arsenic	78 ug/L (Well MW-7)	10 ug/L

NL = State Notification Level

DTSC has recommended preparation of a Feasibility Study and Remedial Action Plan for groundwater cleanup at the site.

**FISCAL IMPACT**

None at this time.

**STAFF RECOMMENDATION**

For information.



**MEMORANDUM**

**ITEM NO. 5**

*Prepared by:* Hoover Ng

*Reviewed by:* Ted Johnson

*Approved by:* Robb Whitaker

**DATE:           JANUARY 26, 2009**

**TO:             GROUNDWATER QUALITY COMMITTEE**

**FROM:          ROBB WHITAKER, GENERAL MANAGER**

**SUBJECT:       GROUNDWATER QUALITY REGULATORY UPDATE – NEW STATE ARSENIC MCL**

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**SUMMARY**

The California Department of Public Health (CDPH) regulates drinking water supplies and sets enforceable standards that water purveyors must meet to protect public health. After extensive review and public comment, the CDPH has revised the state arsenic level from 50 parts per billion (ppb) to 10 ppb, effective November 28, 2008. This revised standard is the same as the federal arsenic standard which the U.S. Environmental Protection Agency (EPA) set at 10 ppb, effective January 23, 2006. An MCL considers not only the health effects of a compound but also the technical and economical feasibility of treating it to acceptable levels. Arsenic can occur naturally in groundwater at varying concentrations depending on soil mineralogy and geochemical conditions, or can be introduced into the groundwater by human activities through agricultural or industrial practices. It can cause cancer, skin damage, and also impact the circulatory system.

One of the EPA requirements was to conduct initial quarterly monitoring in 2006 and to determine compliance after a 12 month period. This has been completed and follow up actions, including additional monitoring and treatment or removal of wells from service, have been implemented.

Various pilot tests have shown promising results to remove arsenic from groundwater using various technologies. Golden State Water Company's demonstration project in partnership with WRD at their Century Well in Paramount successfully demonstrated that iron based adsorbents (granular ferric hydroxide) effectively removes arsenic. However, the disposal of residuals has become problematic. The California Waste Extraction Test (WET) measures the leachability of the residuals for landfill disposal. Not all residuals from treatment processes are able to meet this criterion. The new regulations list as Best Available Technologies (BAT) for arsenic treatment activated alumina, coagulation/filtration, ion exchange, lime softening, reverse osmosis, electro dialysis and oxidation/filtration.

Ten production wells in the District's service area have arsenic levels that exceed 10 ppb. Samples collected from these wells since 2005 have had arsenic levels ranging from 11 to 53 ppb. Some pumpers have installed treatment systems and some have taken their wells offline.

**FISCAL IMPACT**

None.

**STAFF RECOMMENDATION**

For information.