

**MEETING OF THE GROUNDWATER QUALITY COMMITTEE
OF THE BOARD OF DIRECTORS
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA
4040 PARAMOUNT BOULEVARD, LAKEWOOD, CA 90712
12:00 P.M., WEDNESDAY, SEPTEMBER 23, 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. GROUNDWATER QUALITY UPDATE – CHROMIUM REGULATORY UPDATE**
Staff Recommendation: For information.
- 4. REQUEST FOR PROPOSALS FOR TITLE 22 GROUNDWATER MONITORING PROGRAM LABORATORY SERVICES**
Staff Recommendation: Recommend the Board approve issuance of Request for Proposals for Title 22 Groundwater Monitoring Program Laboratory Services.
- 5. GROUNDWATER CONTAMINATION UPDATE**
Staff Recommendation: For information.
- 6. REQUEST FOR PROPOSALS FOR WELL PROFILING SERVICES**
Staff Recommendation: Recommend the Board approve issuance of Request for Proposals for Well Profiling Services.
- 7. SALINE PLUME UPDATE**
Staff Recommendation: For information.
- 8. DIRECTORS' REPORTS, INQUIRIES, AND REVIEW OF DIRECTIONS TO STAFF**
- 9. ADJOURNMENT**

Posted by Abigail C. Andom, Deputy Secretary, September 17, 2009.

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Agendas and minutes are available at the District's website, www.wrd.org.



MEMORANDUM

ITEM NO. 3

Prepared by: Hoover Ng

Reviewed by: Ted Johnson

Approved by: Robb Whitaker

DATE: SEPTEMBER 23, 2009

TO: GROUNDWATER QUALITY COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: GROUNDWATER QUALITY UPDATE – CHROMIUM REGULATORY UPDATE

SUMMARY

Chromium is currently regulated and monitored as total chromium with a Maximum Contaminant Level (MCL) of 50 micrograms per liter (ug/L) and is reported in water systems' annual Consumer Confidence Reports (CCR). It exists primarily as chromium 3 and chromium 6. Chromium 6 originates from industrial uses, e.g. chrome plating and manufacturing of steel and other alloys, and is also naturally occurring.

Chromium 3 is an essential nutrient that is found in food and vitamins. Chromium 6, aka hexavalent chromium, is known to cause cancer when inhaled. It is unclear if it will cause cancer if ingested. Some evidence suggests that gastric juices in the stomach, which are acidic, may convert the Chromium 6 to Chromium 3, thereby reducing its toxicity in humans. The potency of Chromium 6 when ingested is estimated to be 1000 times less than when inhaled.

Section 116365.5 of the Health and Safety Code requires the State Department of Health Services (now known as the California Department of Public Health (CDPH)) to establish an MCL for Chromium 6 by January 1, 2004, but they did not meet this deadline because a Public Health Goal (PHG) had not been established yet.

On August 20, 2009, the State Office of Environmental Health Hazard Assessment (OEHHA) released a draft PHG for Chromium 6 of 0.06 ug/L, which is almost 1000 times less than the current total chromium MCL of 50 ug/L. A PHG is established after reviewing health effects information only and may or may not be realistic or achievable in practice. After this PHG has been finalized, CDPH will proceed with establishing an MCL as close as possible to the PHG, and will consider not only health effects, but also occurrence and exposure levels and technical and economic feasibility.

The CDPH follows several steps before establishing an enforceable regulatory standard, or MCL.

- Gather and evaluate occurrence data
- Evaluate available analytical methods and estimate monitoring costs at a draft MCL
- Estimate population exposures at a draft MCL

- Identify best available treatment (BAT) options
- Estimate treatment costs at the draft MCL
- Review costs and associated health benefits (health risk reductions)
- Propose draft MCL

In 2001, Chromium 6 became an “unregulated contaminant requiring monitoring” in the state to determine where and how much of it was detected across the state. Water systems were required to monitor for it and report their results to the CDPH. Results show that it was above detected levels (>1 ug/L) in about 1/3 of the 7,000 water systems monitored. It has been detected in about 15 production wells in our service area ranging in concentrations from 1.6 to 13 ug/L. Only one well exceeded 10 ug/L.

Various treatment technologies are being evaluated to determine the most effective alternatives to reduce Chromium 6 to less than 5 ug/L. Candidates include ion exchange, both cation and anion, oxidation-reduction, and proprietary adsorption systems. In addition to evaluating the effectiveness of treatment, the generated wastes are also being evaluated to determine if they are either hazardous or nonhazardous. Some of these treatment systems also capture vanadium and uranium in the waste stream, which is undesirable.

The committee will be informed of new developments as they occur.

FISCAL IMPACT

None.

STAFF RECOMMENDATION

For information.



MEMORANDUM

ITEM NO. 4

*Prepared by: Hoover Ng
Reviewed by: Ted Johnson
Approved by: Robb Whitaker*

DATE: SEPTEMBER 23, 2009
TO: GROUNDWATER QUALITY COMMITTEE
FROM: ROBB WHITAKER, GENERAL MANAGER
SUBJECT: REQUEST FOR PROPOSALS FOR TITLE 22 GROUNDWATER MONITORING PROGRAM LABORATORY SERVICES

SUMMARY

The District has been managing the Title 22 Groundwater Monitoring Program since January 2007. This program provides sample collection and analysis of drinking water wells and reporting of results to the California Department of Public Health as required by their regulations. It ensures compliance with applicable source water quality monitoring requirements for drinking water wells. The District has provided this service to the following 20 pumpers subscribing to this program for over 70 wells.

Bellflower Home Garden Mutual Water Company	Norwalk, City of
Bellflower-Somerset Mutual Water Company	Orchard Dale County Water District
Bellflower Municipal Water System	Paramount, City of
Compton, City of	Pico Rivera, City of
Huntington Park, City of	Sativa County Water District
La Habra Heights County Water District	Signal Hill, City of
Lynwood Park Mutual Water Company	South Gate, City of
Lynwood, City of	Tract 180 Mutual Water Company
Maywood Mutual Water Company No. 1	Tract 349 Mutual Water Company
Maywood Mutual Water Company No. 2	Walnut Park Mutual Water Company
Maywood Mutual Water Company No. 3	

TestAmerica Analytical, Inc. was awarded a contract for laboratory services effective January 1, 2007. It will be expiring December 31, 2009 for this program. To ensure continuity of laboratory services, a Request for Proposals for Title 22 Groundwater Monitoring Program Laboratory Services will be issued this month effective January 1, 2010.

FISCAL IMPACT

This program has been included in the 09-10 budget.

STAFF RECOMMENDATION

Recommend the Board approve issuance of Request for Proposals for Title 22 Groundwater Monitoring Program Laboratory Services.



MEMORANDUM

ITEM NO. 5

Prepared by: Phuong Ly

Reviewed by: Ted Johnson

Approved by: Robb Whitaker

DATE: SEPTEMBER 23, 2009

TO: GROUNDWATER QUALITY COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: GROUNDWATER CONTAMINATION UPDATE

CONTAMINATED GROUNDWATER SITES

With the cooperation and support of stakeholders such as the United States Environmental Protection Agency (USEPA), California Regional Water Quality Control Board (RWQCB), and California Department of Toxic Substances Control (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 47 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.

HARD CHROME PRODUCTS (CITY OF LOS ANGELES, CENTRAL BASIN, LOS ANGELES FOREBAY)

Hard Chrome Products operated as a metal plating facility from 1943 to 1991. Prior to 1987, wastewater from the plating operations was discharged to an underground 3-stage clarifier at the eastern portion of the site. The clarifier was reportedly abandoned in place (buried underground) in November 1987. Hard Chrome Products also utilized an earthen containment trench (north portion), a drainage sump (northeast portion), and 3 concrete-lined trenches (northwest portion) at the site. All on-site structures were razed in 1994 and the site was capped with asphalt in 1995. The site is currently a vacant lot. Since 1989, multiple soil and groundwater investigations have been conducted under the oversight of the California Department of Toxic Substances Control (DTSC).

There are a total of 17 on-site and 4 off-site groundwater monitoring wells that are monitored quarterly. The constituents of concern in soil and groundwater beneath the site are chlorinated volatile organic compounds (VOCs), total chromium, chromium VI, and various metals. Since 2005, trichloroethene (TCE) has been detected in the nearest production well at concentrations between 11 and 30 micrograms per liter (ug/L). Below is a summary of the most recent analytical results of groundwater samples collected from the site.

SUMMARY OF RECENT GROUNDWATER ANALYTICAL RESULTS Hard Chrome Products, City of Los Angeles		
Chemical	Concentration In Groundwater (June 2009)	Maximum Contaminant Level (MCL)
Total Chromium	1,120 mg/L (Well URS-W5)	0.05 mg/L
Chromium VI	1,100 mg/L (Well URS-W5)	None
Trichloroethene (TCE)	920 ug/L (Well TtMW-1)	5 ug/L
Nitrate (as Nitrogen)	37 mg/L (Well HC-5)	10 mg/L
Cadmium	12.4 ug/L (Well URSW-1)	5 ug/L
Arsenic	748 ug/L (Well URSW-5)	10 ug/L
Lead	245 ug/L (Well URSW-2)	15 ug/L

In 1997 and 2008, shallow soil contaminated with chromium VI were excavated and disposed off site. Several times since 2007, calcium polysulfide was injected into soil and groundwater beneath the site to reduce chromium VI concentrations. Subsequent sampling results indicated a significant reduction of chromium VI concentrations in soil and groundwater. Additionally, the calcium polysulfide is reducing VOC concentrations in groundwater. Quarterly groundwater monitoring will continue at the site to see if chromium VI concentrations remain low at the site.

HONEYWELL INTERNATIONAL CORP. (CITY OF LOS ANGELES, WEST COAST BASIN)

From 1941 to 1987, various manufacturing operations were conducted at the site by Garrett Airesearch, which was subsequently purchased by AlliedSignal (now known as Honeywell). As part of the manufacturing operations, solvents, hazardous materials, & USTs were utilized. A total of 13 USTs have been either removed or abandoned in place. In 1991, AlliedSignal sold the property and it was redeveloped into an asphalt-covered commercial parking lot that is currently operated under the name Park'N'Fly. Since 1988, extensive soil, soil gas, and groundwater investigations have been conducted at the site and vicinity, under the oversight of the California Regional Water Quality Control Board (RWQCB).

Semi-annual groundwater monitoring is conducted at the site. There are a total of 51 groundwater monitoring wells that are screened in the semi-perched aquifer, the Gage Aquifer, and the upper Silverado Aquifer. The constituents of concern at the site are VOCs and 1,4-dioxane. Below is a summary of the most recent analytical results of groundwater samples collected from the site.

SUMMARY OF RECENT GROUNDWATER ANALYTICAL RESULTS Honeywell International Corp., City of Los Angeles		
Chemical	Concentration in Groundwater (January 2009)	Maximum Contaminant Level (MCL)
Benzene	18 ug/L (Well PMW-2)	1 ug/L
Carbon tetrachloride	0.86 ug/L (Well MW-203)	0.5 ug/L

SUMMARY OF RECENT GROUNDWATER ANALYTICAL RESULTS
Honeywell International Corp., City of Los Angeles

Chemical	Concentration in Groundwater (January 2009)	Maximum Contaminant Level (MCL)
Tetrachloroethene (PCE)	17 ug/L (Well MW-118)	5 ug/L
Trichloroethene (TCE)	150 ug/L (Well MW-12)	5 ug/L
1,1-Dichloroethene (1,1-DCE)	1,000 ug/L (Well MW-203)	6 ug/L
1,1-Dichloroethane (1,1-DCA)	41 ug/L (Well MW-118)	5 ug/L
1,2-Dichloroethane (1,2-DCA)	10 ug/L (Well MW-203)	0.5 ug/L
1,1,1-Trichloroethane (1,1,1-TCA)	4,400 ug/L (Well MW-1)	200 ug/L
1,1,2-Trichloroethane (1,1,2-TCA)	11 ug/L (Well MW-203)	5 ug/L
1,4-Dioxane	5,000 ug/L (Well MW-AVE1-80/AVE1-105)	None

Since 1990, a variety of remedial activities have been conducted at the site, including soil excavation, soil vapor extraction (SVE), and groundwater remediation pilot studies. A site-wide SVE system was installed and operated from September 1990 through October 1991. Approximately 100,000 pounds of VOCs were removed from soil to a maximum depth of 65 feet below ground surface. In 1992, RWQCB issued no further action for site soils, except at the northwest quadrant of the site.

An SVE/vacuum-enhanced recovery system began operating in March 2000 at the northwest quadrant of the site. The SVE system was shutdown between 2005 and 2007 due to modifications to the treatment system. In 2007, the SVE system resumed removal of VOCs from soil at the northwest quadrant of the site.

Additional groundwater monitoring wells have been proposed downgradient of the site to further define the off-site plume and at the northwest quadrant of the site to evaluate vertical migration of contaminants beneath the site. The RWQCB hopes to select a groundwater remediation technology once additional data has been collected from the proposed groundwater monitoring wells.

FISCAL IMPACT

None at this time.

STAFF RECOMMENDATION

For information.



MEMORANDUM

ITEM NO. 6

Prepared by: Charlene King

Reviewed by: Ted Johnson

Approved by: Robb Whitaker

DATE: SEPTEMBER 23, 2009

TO: GROUNDWATER QUALITY COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: REQUEST FOR PROPOSALS FOR WELL PROFILING SERVICES

SUMMARY

For the purpose of protecting and preserving the groundwater supplies within the WRD service area for beneficial uses, WRD is empowered to undertake activities to prevent contaminants from entering the groundwater supplies; to remove contaminants from the groundwater; to determine the existence, extent, and location of groundwater contaminants and to perform or obtain engineering, hydrologic, and scientific studies.

Understanding the production capacities and the water quality conditions of the multiple aquifers within the Central and West Coast Basins is important to the District to properly manage the groundwater resources. One of the programs WRD has to collect this information is the Well Profiling Program, formerly known as the Well Testing Program. This program is to test water supply wells located in the service area to determine the flow and water quality profiles entering the wells from different zones across the perforated intervals. The testing methods include dynamic flow profiling or spinner logging for the groundwater flow velocities and zone sampling, also known as depth discrete sampling, for the water quality distributions. By testing and sampling different sections of a well and possibly sealing off zones with contamination, the well can produce water that will not require treatment before entering the distribution system.

A Request for Proposals (RFP) is scheduled for release to obtain a scope of work and cost estimate from qualified companies to perform this work. The awarded company will provide testing services for flow profiling or spinner logging, zone sampling, dynamic video surveys, and a complete comprehensive report of the results to the District and the well owner.

FISCAL IMPACT

This program has been included in the 09-10 budget.

STAFF RECOMMENDATION

Recommend the Board approve issuance of Request for Proposals for Well Profiling Services.



MEMORANDUM

ITEM NO. 7

Prepared by: Ted Johnson

Reviewed by: Nancy Matsumoto

Approved by: Robb Whitaker

DATE: SEPTEMBER 23, 2009

TO: GROUNDWATER QUALITY COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: SALINE PLUME UPDATE

At the March 6 and April 30, 2009 Committee meetings, Staff presented a draft Saline Plume Policy which was the culmination of considerable work to synthesize the current understanding of the remnant seawater intrusion plume that exists in the West Coast Basin, and present possible options for future cleanup of the salt water contamination.

At the June 11, 2009 Committee meeting, Staff discussed efforts to expand knowledge of the saline plume by drilling two new monitoring wells in the City of Torrance to obtain more detailed information on the northern and southern extents of the plume. These two wells, known as PM05 (Columbia Park) and PM06 (Madrona Marsh) have since been completed and preliminary results are available. Also at the June 11 meeting, the Committee stated that discussions on the Saline Plume and the Saline Plume Working Group should be incorporated into the West Coast Basin Optimization Study.

For the September Committee meeting, Staff will present the preliminary information on the results of drilling the two monitoring wells, an Executive Summary of the draft Saline Plume investigation for potential presentation to the West Coast Basin Optimization Study group and other interested parties, and an update on discussions with Torrance on the future of saline plume remediation.

FISCAL IMPACT

None.

STAFF RECOMMENDATION

For information.