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# City of Maywood Drinking Water Sampling Project Phase II. Report

## 1.0 Background:

Since 2008, DTSC has been involved with discussions with the Maywood community during Maywood Community Inter-Agency meetings where it learned that on-going problems with the drinking water are a major environmental health for the community. For more than a decade, community members have lived with tap water that is frequently brown, bitter tasting, malodorous, and that sometimes contains red particulates. Under its Environmental Justice (EJ) policy, DTSC has a willingness and responsibility to work with EJ stakeholders to develop cross-agency approaches to address community concerns in Maywood surrounding their drinking water and to ensure that the community has a safe drinking water supply. DTSC is a founding agency member of the Community Inter-Agency Partnership, where discussions began to look for solutions to address the drinking water problem. Their 1<sup>st</sup> step was to work with community members to decide a sampling strategy. It was decided that it would be very important to have a clear snap shot in time of water testing data to compare to previous sampling efforts. DTSC took on the task of sampling for metals, Volatile Organic Compounds (VOC), Semi-Volatile Organic Compounds (SVOCs) and Perchlorates in each location sampled and based on those findings it was decided to conduct a second phase of sampling to verify some of the previous sampling results and to also include sampling data of the Maywood water from the source wells operated by the three water providers serving this city (Mutual Water Company 1, 2 & 3). This report is meant to bring community residents and others up to date on our work and opportunities for participation with the Community Inter-Agency Partnership and planned next steps.

The California Department of Public Health (CDPH), Drinking Water Program, is responsible for the enforcement of the federal and California Safe Drinking Water Acts (SDWAs) and the regulatory oversight of public water systems to assure the delivery of safe drinking water to all Californians.

DTSC is providing the Maywood community with technical support and working with CDPH on the assessment of the City of Maywood's drinking water quality. The Department of Toxic Substances Control (DTSC), Enforcement and Emergency Response Division (EERD) and the Office of Criminal Investigations (OCI) conducted

Phase I drinking water sampling in Maywood on October 12-13, 2010. The Phase II drinking water sampling of the residences, City Hall and water companies 1 and 2 occurred on August 8, 2012. The sampling of Water Company 3 occurred on January 15, 2013.

DTSC obtained drinking water samples at three types of sites:

- At the drinking water source wells of the three mutual water companies 1, 2 and 3 (the wells were sampled for the first time),
- Maywood residential homes (3), and
- City Hall.

| Location                                  | Date    |
|---|---------|
| Drinking Water Wells from Companies 1 & 2 | 8/8/12  |
| City Hall                                 | 8/8/12  |
| Maywood Residences (3)                    | 8/8/12  |
| MMW #3 Well 7                             | 1/15/13 |

\* Please see **Attachment A** for a detailed map displaying sample locations and service areas of all three Maywood Water Companies.

## 2.0 Purpose and Intent of the Sampling:

The purpose of this sampling was to assess the drinking water quality in Maywood and to serve as technical support within the Maywood Inter-Agency Partnership. The sampling results were reviewed by California Department of Public Health (CDPH), Drinking Water Program. This Report serves to provide a description of the sampling activities and protocols used, and any comments and recommendations received from the CDPH. This Report will also compare the results of the Phase II sampling with the previous DTSC Phase I sampling, and drinking water sampling conducted by the community and CDPH.

The focus of the DTSC Phase II Sampling effort was to assess the quality of drinking water within the city of Maywood starting from the drinking water source wells operated by the three mutual water companies, the water distribution systems, and selected households and public buildings that were found to have elevated levels during the Phase I Sampling. Sampling locations for the Phase II effort sampling were selected based on the results and recommendations of the Phase I DTSC report, titled *Sampling Report & Findings On The City of Maywood Drinking Water Project Phase I: Residential and Public Buildings*. See **Attachment B: DTSC Phase I Sample Report**

A number of active drinking water wells located within the three municipal water companies designated as municipal water company 1, 2 and 3 were sampled from the source in order to determine source drinking water quality prior to distribution to the residents of Maywood.



An additional goal of the Phase II effort was to assess the effectiveness of the new manganese treatment plant installed and operated by Maywood Mutual Water Company Number 2 at the 52<sup>nd</sup> Street treatment plant in June 2011. The treatment plant is designed to remove the majority of the manganese prior to the water entering the drinking water distribution system for customers serviced by Water Company 2.

The final goal was to test the use of a NSF and CDPH certified residential water filter installed in a home fixture to determine if the water filters significantly improved the quality of drinking water by reducing levels of contaminants.

### **3.0 The Sampling Teams Structure:**

#### **First Sampling: August 8, 2012**

On August 8, 2012, DTSC Staff and the Maywood Community Inter-agency Partnership, (MCIP), founding member Cynthia Babich divided into two sampling teams.

#### **Team 1:**

- Collected samples from
  - Maywood Mutual Water Company 1,
  - Maywood Mutual Water Company 2.
- Was comprised of the following people:
  - DTSC:
    - Andy Cano, Engineering Geologist,
    - Larry Stuck, Senior Hazardous Substances Scientist (SHSS),
    - Allison Saldana, Hazardous Substances Scientist (HSS).
  - Community Partnership:
    - Cynthia Babich, Founding Member,

#### **Team 2:**

- Collected samples from
  - City Hall,
  - Three separate residential homes.
- Was comprised of the following people:
  - DTSC:
    - Jacqueline Martinez, Public Participation Specialist (PPS),
    - Carlos Ortega, HSS,
    - Beatris Karaoglanyon, HSS,
    - Christine Papagni (Office of Pollution Prevention), SHSS,
  - LA County Sanitation Districts
    - Gerald Angel, Field Laboratory Technician

Residential homes were sampled by using an activated carbon filter (PUR brand) on the faucet for one sample from each location to be compared with the other three non-filtered samples that was collected from each location. The outside water connection to these homes was sampled in October, 2010 by DTSC and Maywood Inter-Agency partner members (faucet filtered water was not sampled during that time).

## **Second Sampling: January 15, 2013**

- Was comprised of the following people:
  - DTSC:
    - Andy Cano, Engineering Geologist,
    - Allison Saldana, HSS
  - LA County Sanitation Districts
    - Gerald Angel, Field Laboratory Technician

Robert Rohlf, Water Company 3 met the sampling team at the site of drinking water well #7 which had previous recorded sampling concentrations of Trichloroethene (TCE), an industrial solvent. Gerald Angel arrived to the site equipped with all the field supplies for the sampling and conducted the sampling at the well. He delivered the sample to the Los Angeles Sanitation District Laboratory for processing and at that time the analysis was subcontracted to Weck Laboratories, Inc. For detailed laboratory information refer to **Attachments A through D**.

### **3.1. Sample Collection and Procedure:**

Drinking water samples were collected from selected source wells from each of the 3 mutual water companies, from a connection closest to the residential water service connection at each of the three residences and Maywood City Hall, and from within each of the four selected resident's kitchen cold water tap. Where applicable, aerators attached to fixtures were removed prior to sampling.

#### **Source Well Sampling**

Samples from each of the three Maywood water companies were collected from a sample port from each selected source well.

#### **Distribution Sampling:**

Samples were collected from the residences after running the tap from 10 minutes to represent water quality from each of the distribution systems.

#### **Residential Sampling**

Samples were collected in four different sets. The four sets were collected from each of the homes and City Hall. The first set was analyzed for metals analysis only. The second and third set was analyzed for Metals, VOC, SVOC and perchlorate. The fourth set was used to evaluate the effectiveness of residential point of use water filters, and was analyzed for metals, VOC, SVOC and perchlorates. **See Sample Collection Table below.**

Set 1: The sample was collected immediately from the tap with no or minimal amount of flushing.



Set 2: The sample was collected after the tap water had been allowed to run for a minimum of 30 seconds.

Set 3: The sample was collected after the water had been flushed from the pipes for a minimum of 10 minutes, in order to represent the drinking water quality from each distribution system.

Set 4: The sample represented the drinking water quality after filtration from a granular activated carbon water filter. The filter was selected from the CDPH list of certified residential type water filters.

The Sample Collection Table below represents the sample locations and the analyses for each location.

| Sample ID | Set 1 (A) | Set 2 (B)               | Set 3 (C)               | Set 4 (D)                                |
|-----------|-----------|-------------------------|-------------------------|--|
|           | No Flush  | 30 Second Flush         | 10 Minute Flush         | Tap Filter:<br>Granular activated carbon |
|           | Metal     | Metal, VOC, Perchlorate | Metal, VOC, Perchlorate | Metal, VOC, Perchlorate                  |

\*This procedure is generally prescribed in the United States Environmental Protection Agency (USEPA), "Water: Basic Information about Regulated Drinking Water Contaminants" which can be found at <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm>

Each water sample collected was placed in clean sterile glass jars and plastic jars (for metals and perchlorates) and secured with chain-of-custody tape (except for the VOC samples, to eliminate cross contamination).

Samples were collected using a new pair of nitrile gloves for each sample set at each location. The sample collection jars were labeled with the following information: Date, the sampler's last name and sample ID (Location address). The majority of the samples were photographed at each location.

Metals:

Metal samples were collected in a 1 liter plastic bottle for each sample event. Each sample was preserved in respective containers with nitric acid that had been prepared in the bottle by the laboratory ahead of time.

VOCs:

Sample containers were pre-cleaned and prepared with appropriate preservatives by the receiving laboratory. VOCs are organic chemicals that have a high vapor pressure

at ordinary, room-temperature conditions and may dissipate from an open container to the atmosphere. The VOC water samples were collected in such a manner as to minimize the volatilization of organic compounds that may or may not be present within the tap water. VOC water samples were collected in three 40 ml laboratory preserved Volatile Organic Analysis (VOA) vials. Care was taken to place the sample lids on the VOA vials to ensure that no air bubbles are visible in the head space. The evidence tape was not used on the VOC samples in order to avoid any interference with proper recovery of the sample for analysis by the laboratory. VOC samples utilized 3 VOA vial, glass containers, 40ml each; and included 1 trip blank per sample transport container (Ice Chest). Each VOA vial containing the VOC sample was preserved with Hydrochloric Acid (HCL). Each amber glass container was preserved with HCL.

Each sample was labeled and placed into individual, clear plastic bags. Samples were placed within an ice chest with ice packs to cool the samples. A chain-of-custody form was used to document sample collection and proper shipment to the laboratory for analytical testing (**Attachment C**).

### 3.2 Laboratory Analysis Method

Laboratory analysis for VOCs was completed by using EPA method 524.2, Aromatic and Chlorinated compounds. Perchlorates were analyzed using EPA method 314.0 by using Ion Chromatography, and metals using EPA method 200 series.

### Quality Assurance/Quality Control

Quality Control included a minimum of 10% duplicate samples. The duplicate sample label information was identified as Dupe A. No time of day was indicated on the sample containers for the duplicate sample; and, all applicable information regarding the sample was placed onto the field log that was not shared with the laboratory. Samples provided sufficient quantity to allow for laboratory quality control sample analyses. For Metal and VOC analyses, additional trip blanks prepared by the laboratory accompanied the sample containers to each sampling location. The trip blanks were included in the ice chest and were transported with the samples to the laboratory under chain-of-custody.

**TABLE 1: Sample Locations:**

**Mutual Water Company Number 1. (by Team 1, 8/8/12)**

Address location: 5953 Gifford Ave. Huntington Park, CA 90255; samples collected by Andy Cano

| Sample Location Description  | Sample ID Number | Compounds Analyzed For        | Page Nos. in Photo Log A |
|--|------------------|-------------------------------|--------------------------|
| <b>Well #4</b><br>At the facility site: 5953 Gifford Ave. Huntington Park  | MWC1-w4          | Metals<br>VOCs<br>Perchlorate | 5-6                      |
| <b>Station 2:</b><br>6110 Gifford Ave. Huntington Park<br><br>Side walk location within residential neighborhood | MWC1-w2          | Metals<br>VOCs<br>Perchlorate | 8-10                     |

**Mutual Water Company Number 2; samples collected by Andy Cano (by Team 1, 8/8/12)**

| Sample Location Description   | Sample ID Number      | Compounds Analyzed For        | Page Nos. in Photo Log A |
|---|-----------------------|-------------------------------|--------------------------|
| <b>52<sup>nd</sup> Street Well</b><br><br>52 <sup>nd</sup> Street Maywood | MWC2-52 <sup>nd</sup> | Metals<br>VOCs<br>Perchlorate | 10-13                    |
| <b>4334 58<sup>th</sup> Street Maywood</b><br><br>Pump Station 1.         | MWC2-58 <sup>th</sup> | Metals<br>VOCs<br>Perchlorate | 14-16                    |



**Mutual Water Company Number 3: Collected on 1/15/13 by Gerald Angel**

| Sample Location Description | Sample ID Number | Compounds Analyzed For        | Photo Log B |
|-----------------------------|------------------|-------------------------------|-------------|
| Well # 7                    | MWC3-w7a         | Metals<br>VOCs<br>Perchlorate | Pages 1-11  |

**Maywood City Hall and Residential Confirmation Samples: (by Team 2 on 8/8/12); samples collected Gerald Angel**

| Sample Location Description                | Sample ID Number | Sample Collection Description  | Compounds Analyzed For        | Page Nos. in Photo Log B |
|--|------------------|--|-------------------------------|--------------------------|
| Maywood City Hall- Women's Public Restroom | 4319-A           | Water sample collected immediately upon turning on faucet.   | Metals                        | 1-5, 10-12               |
|  | 4319-B           | Water sample collected after running faucet for 30 seconds.  | Metals<br>VOCs<br>Perchlorate | 10,11,13                 |
|  | 4319-C           | Water sample collected after running faucet for 10 minutes.  | Metals<br>VOCs<br>Perchlorate | 10,11,14                 |
|  | 4319-D           | Water sample collected after running faucet water through a PUR brand activated carbon faucet filter | Metals<br>VOCs<br>Perchlorate | 6-8, 10-11, 15           |
| House Residence; Kitchen Sink Faucet       | 4436-A           | Water sample collected immediately upon turning on faucet.   | Metals                        | 22-23                    |



|                                     |        |  |                               |       |
|-------------------------------------|--------|--|-------------------------------|-------|
|                                     | 4436-B | Water sample collected after running faucet for 30 seconds.  | Metals<br>VOCs<br>Perchlorate | 22-23 |
|                                     | 4436-C | Water sample collected after running faucet for 10 minutes.  | Metals<br>VOCs<br>Perchlorate |       |
|                                     | 4436-D | Water sample collected after running faucet water through a PUR brand activated carbon faucet filter | Metals<br>VOCs<br>Perchlorate |       |
| House Residence-Kitchen Sink Faucet | 4043-A | Water sample collected immediately upon turning on faucet.   | Metals                        | 24-28 |
|                                     | 4043-B | Water sample collected after running faucet for 30 seconds.  | Metals<br>VOCs<br>Perchlorate |       |
|                                     | 4043-C | Water sample collected after running faucet for 10 minutes.  | Metals<br>VOCs<br>Perchlorate |       |
|                                     | 4043-D | Water sample collected after running faucet water through a PUR brand activated carbon faucet filter | Metals<br>VOCs<br>Perchlorate |       |
| House Residence-Kitchen Sink Faucet | 5258-A | Water sample collected immediately upon turning on faucet.   | Metals                        | 29-38 |

|  |        |  |                               |  |
|--|--------|--|-------------------------------|--|
|  | 5258-B | Water sample collected after running faucet for 30 seconds.  | Metals<br>VOCs<br>Perchlorate |  |
|  | 5258-C | Water sample collected after running faucet for 10 minutes.  | Metals<br>VOCs<br>Perchlorate |  |
|  | 5258-D | Water sample collected after running faucet water through a PUR brand activated carbon faucet filter | Metals<br>VOCs<br>Perchlorate |  |

**TABLE 2: Summary of the Analysis Results**

Table 2 contains the contaminants that were detected for the comparable samples (similar or same locations) collected by The California Department of Public Health (CDPH) for sampling on 5/4/07, 4/1/08 and samples collected by DTSC on 10/13/10 and 8/8/12 and 1/15/013. See Attachment D for Laboratory Sample Reports.

**Table Glossary:**

**Maximum Contaminant Levels (MCLs)** are standards that are set by the United States Environmental Protection Agency (EPA) for drinking water quality. An MCL is the legal threshold limit in the amount of certain contaminants in water provided by public water systems.

**Parts Per Million:** The amount of a contaminant in water is often measured in **milligrams per liter** (abbreviated as mg/L). This also is referred to as **parts per million**. A liter of water weighs 1000 grams, and a milligram is 1/1,000<sup>th</sup> of a gram. Example: *One drop of water is 2 ppm of a bathtub full of water.*

**Primary Drinking Water Standards** are the allowable maximums that can be found in drinking water of various potential contaminants. They are set to protect the public from contaminants that are a threat to human health. These are enforceable standards. For information on drinking water and how it is regulated: <http://water.epa.gov/drink/>

**Secondary Drinking Water Standards:** are set to protect the odor, taste and appearance of drinking water. The units are expressed as secondary maximum contaminant limits or SMCL. These are non-enforceable standards.

**Public Health Goals (PHG's)** are established levels of contaminants that represent no known risk to human health. These are non-enforceable goals. Information on PHG's can be found: <http://oehha.ca.gov/water/phg/allphgs.html>; <http://www.cdph.ca.gov/certlic/drinkingwater/Pages/MCLsandPHGs.aspx>



**Lead:** Lead exposure affects the nervous system and can cause a range of health effects, from behavioral problems and learning disabilities, to seizures and death. Children six years old and younger are most at risk. If not detected early, children with high levels of lead in their bodies can suffer from damage to brain and nervous system, learning and hearing problems anemia, and headaches.

**Manganese:** is a naturally occurring metal that is found in many types of rocks. It combines with other substances such as oxygen, sulfur, or chlorine. At very high concentrations above the established secondary standards and with prolonged exposure, manganese has been shown to affect the nervous system. For more information, please reference USEPA's 2004 Drinking Water Health Advisory for Manganese.

[http://www.epa.gov/ogwdw/ccl/pdfs/reg\\_determine1/support\\_cc1\\_magnese\\_dwreport.pdf](http://www.epa.gov/ogwdw/ccl/pdfs/reg_determine1/support_cc1_magnese_dwreport.pdf)

**Trichloroethylene (TCE)** is a volatile organic chemical used as an industrial solvent in automotive and metal industries. Some people who drink water containing high levels of TCE over many years may experience liver problems and may have an increased risk of getting cancer.

For specific information provided in Spanish and/or multiple languages, on a particular chemical or type of metal, please refer to **Toxfaqs** which is provided by the Agency for Toxic Substances and Disease Registry (ATSDR) at: <http://www.atsdr.cdc.gov>.

**TABLE 2:**  
**Mutual Water Companies 1, 2, 3 Sampling- [Reported in Micrograms per Liter]**  
**Sample ID. MWC1-w4**

| Analytes             | Results from 9/5/07 DPH Concentration [microgram/L] | Results from 10/13/10 DTSC Concentration [microgram/L] | Results from 8/8/12 DTSC Concentration [microgram/L] | Maximum Concentration Level (MCL/SMCL) [microgram/L] | Public Health Goals (PHG) [microgram/L] |
|----------------------|---|--|--|--|---|
| Barium               | 167   | *  | 1.8  | 1000   | 2000                                    |
| Chromium             | <RL   | *  | ND   | 50   |   |
| Copper               | <RL   | *  | 67   | 1300   | 300                                     |
| Lead                 | <RL   | *  | 5.2  | 15   | .2                                      |
| Manganese            | 77.4  | *  | 76   | 50   |   |
| Arsenic              | <RL   | *  | ND   | 10   | .004                                    |
| Bromoform            | <RL   | *  | ND   | .5   |   |
| Bromodichloromethane | <RL   | *  | ND   | .5   |   |
| Chloroform           | <RL   | *  | ND   | .5   |   |
| Dibromochloromethane | <RL   | *  | ND   | .5   |   |

*\*Samples were not taken at this location*

Note: These tables contain the detectable contaminant results for sampling conducted by DTSC and does not contain all data reflecting the DPH sampling because certain sites sampled by CDPH were not sampled by DTSC.

Sample ID. MWC1-w2

| Analytes             | Results from 9/5/07 DPH Concentration [microgram/L] | Results from 10/13/10 DTSC Concentration [microgram/L] | Results from 8/8/12 DTSC Concentration [microgram/L] | Maximum Concentration Level (MCL/SMCL) [microgram/L] | Public Health Goals (PHG) [microgram/L] |
|----------------------|---|--|--|--|---|
| Barium               | *   | *  | 13   | 1000   | 2000                                    |
| Chromium             | *   | *  | 0.77   | 50   |   |
| Copper               | *   | *  | 36   | 1300   | 300                                     |
| Lead                 | *   | *  | 1.4  | 15   | 0.2                                     |
| Manganese            | *   | *  | 30   | 50   |   |
| Arsenic              | *   | *  | 0.97   | 10   | 0.004                                   |
| Bromoform            | *   | *  | ND   | 0.5  |   |
| Bromodichloromethane | *   | *  | ND   | 0.5  |   |
| Chloroform           | *   | *  | ND   | 0.5  |   |
| Dibromochloromethane | *   | *  | ND   | 0.5  |   |

\*Samples were not taken at this location

Sample ID MWC2-52<sup>nd</sup>

| Analytes  | Results from 9/5/07 DPH Concentration [microgram/L] | Results from 10/13/10 DTSC Concentration [microgram/L] | Results from 8/8/12 DTSC Concentration [microgram/L] | Maximum Concentration Level (MCL) [microgram/L] | Public Health Goals (PHG) [microgram/L] |
|-----------|---|--|--|---|---|
| Manganese | 72.3  | *  | 57   | 50  |   |
| Nickel    | <RL   | *  | 1.6  | 100   | 12.0                                    |
| Zinc      | <RL   | *  | 7.4  | 5000  |   |
| Barium    | 72.7  | *  | 63   | 1000  | 2000                                    |

\*Samples were not taken at this location



Sample ID MWC2-58

| Analytes              | Results from 9/5/07 DPH Concentration microgram/L | Results from 10/13/10 DTSC Concentration microgram /L | Results from 8/8/12 DTSC Concentration microgram /L | Maximum Concentration Level (MCL) microgram/L | Public Health Goals (PHG) microgram/L |
|-----------------------|---|---|---|---|---------------------------------------|
| Aluminum              | <RL   | *   | 32  | 50 to 2000                                    |                                       |
| Manganese             | 51.12   | *   | .730  | 50  |                                       |
| Nickel                | <RL   | *   | 11  | 100   | 12.0                                  |
| Copper                | <RL   | *   | 21  | 1300  | 300                                   |
| Arsenic               | <RL   | *   | .420  | 10  | .004                                  |
| Selenium              | <RL   | *   | .480  | 50  | 30                                    |
| Barium                | 73.4  | *   | 69  | 1000  | 2000                                  |
| Lead                  | <RL   | *   | 1.50  | 15  | .0002                                 |
| Chloroform            | 1.3   | *   | 5.1   | .5  |                                       |
| Bromodichloromethane  | 35  | *   | 5.7   | .5  |                                       |
| Dibromochloromethane  | 10  | *   | 11  | .5  |                                       |
| Bromoform             | 22.5  | *   | 11  | .5  |                                       |
| Total Trihalomethanes | 37.3  | *   | 330   | 80  | .8                                    |

\*Samples were not taken at this location

Sample ID MWC3-w7a

| Analytes        | Results from 9/5/07 DPH Concentration microgram /L | Results from 10/13/10 DTSC Concentration microgram /L | Results from 1/15/13 DTSC Concentration microgram /L | Maximum Concentration Level (MCL) microgram /L | Public Health Goals (PHG) microgram /L |
|-----------------|--|---|--|--|--|
| Aluminum        | *  | *   | ND   | 50 to 2000                                     |  |
| Manganese       | *  | *   | 13   | 50   |  |
| Nickel          | *  | *   | 1.1  | 100  | 12.0                                   |
| Copper          | *  | *   | 1.2  | 1300   | .300                                   |
| Arsenic         | *  | *   | 1.1  | 10   | .004                                   |
| Selenium        | *  | *   | 1.8  | 50   | 30                                     |
| Barium          | *  | *   | 85   | 1000   | 2000                                   |
| Lead            | *  | *   | ND   | 15   | .2                                     |
| Chloroform      | *  | *   | ND   | .5   |  |
| Trichloroethene | *  | *   | 3.0  | 5.0  | 1.7                                    |

|                          |   |   |    |    |    |
|--------------------------|---|---|----|----|----|
| Bromodichlorome<br>thane | * | * | NA | .5 |    |
| Dibromochlorome<br>thane | * | * | ND | .5 |    |
| Total<br>Trihalomethanes | * | * | ND | 80 | .8 |

\*Samples were not taken at this location

**Maywood City Hall & Residential Sampling- [Reported in Milligrams per Liter].  
Sample ID. 4319**

| Analytes    | Results from 9/5/07 DPH Concentration [mg/L] <u>Samples were not collected at this site</u> | Results from 10/13/10 DTSC Concentration [mg/L] | Results from 8/8/12 DTSC Concentration [mg/L]                       | Maximum Concentration Level (MCL) [mg/L] | Public Health Goals (PHG) [mg/L] |
|-------------|---|---|---|--|----------------------------------|
| Perchlorate |   | ND  | 4319-A = ND<br>4319-B = ND<br>4319-C = ND<br>4319-D = ND            | 0.006                                    | 0.006                            |
| Barium      |   | 0.081   | 4319-A = .093<br>4319-B = .094<br>4319-C = .098<br>4319-D = .0067   | 2  | 2                                |
| Chromium    |   |   | 4319-A = ND<br>4319-B = ND<br>4319-C = ND<br>4319-D = ND            | 0.05                                     |                                  |
| Copper      |   | 0.11  | 4319-A = .15<br>4319-B = .046<br>4319-C = .007<br>4319-D = .0051    | 1.3                                      | 0.3                              |
| Lead        |   | 0.0086  | 4319 A = .0043<br>4319 B = ND<br>4319 C = ND<br>4319-D = ND         | 0.015                                    | 0.0002                           |
| Manganese   |   | 0.081   | 4319 A = .0042<br>4319 B = .0034<br>4319-C = .039<br>4319-D = .0087 | 0.05                                     | None<br>Establi<br>shed          |
| Arsenic     |   | ND  | 4319-A = ND<br>4319-B = .0014<br>4319-C = .0018                     | 0.010                                    | 0.0000<br>04                     |



|                              |  |        |  |       |        |
|------------------------------|--|--------|--|-------|--------|
|                              |  |        | 4319-D = ND  |       |        |
| <b>Bromoform</b>             |  | 0.0069 | 4319-A = ND<br>4319-B = .0026<br>4319-C = .0033<br>4319-D = ND | .080* | .0008* |
| <b>Bromodichloromet-hane</b> |  | 8.0    | 4319-A = ND<br>4319-B = .0065<br>4319-C = .013<br>4319-D = ND  | .080* | .0008* |
| <b>Chloroform</b>            |  | 0.0062 | 4319-A = ND<br>4319-B = ND.<br>4319-C = .016<br>4319-D = ND    | .080* | .0008* |
| <b>Dibromochloromet-hane</b> |  | 0.0097 | 4319-A = ND<br>4319-B = .0079<br>4319-C = .014<br>4319-D = ND  | .080* | .0008* |

\*Total threshold concentration for chemical byproducts from the treatment process.

**Sample ID. 4043**

| Analytes           | DTSC-10/13/10 Result [mg/L] | DTSC-8/8/12 Result [mg/L]  | Maximum Concentration Level (MCL) [mg/L] | Public Health Goals (PHG) [mg/L] |
|--------------------|-----------------------------|--|--|----------------------------------|
| <b>Perchlorate</b> | None detected               | 4043-A = ND<br>4043-B = ND<br>4043-C = ND<br>4043-D = ND         | .006                                     | .006                             |
| <b>Barium</b>      | .083                        | 4043-A = .065<br>4043-B = .063<br>4043-C = .063<br>4043-D = .001 | 2  | 2                                |
| <b>Chromium</b>    |                             | 4043-A = ND<br>4043-B = ND<br>4043-C = ND<br>4043-D = ND         | .05                                      | None Established                 |
| <b>Copper</b>      | .030                        | 4043-A = .091<br>4043-B = .044<br>4043-C = .024<br>4043-D = ND   | 1.3**                                    | .3                               |
| <b>Lead</b>        | .016                        | 4043-A = .083<br>4043-B = .00038<br>4043-C = ND<br>4043-D = ND   | .015**                                   | .0002                            |

|                             |     |   |        |                  |
|-----------------------------|-----|---|--------|------------------|
| <b>Manganese</b>            | .62 | 4043-A = .0034<br>4043-B = .0016<br>4043-C = .0019<br>4043-D = .00083 | .05    | None established |
| <b>Arsenic</b>              | ND  | 4043-A = ND<br>4043-B = ND<br>4043-C = ND<br>4043-D = ND              | .010   | .000004          |
| <b>Bromoform</b>            | 9.0 | 4043-A = ND<br>4043-B = .011<br>4043-C = .0097<br>4043-D = ND         | 0.080* | 0.0008*          |
| <b>Bromodichloromethane</b> | 3.0 | 4043-A = ND<br>4043-B = 0.0046<br>4043-C = ND<br>4043-D = ND          | 0.080* | 0.0008*          |
| <b>Chloroform</b>           | 1.3 | 4043-A = 0.0033<br>4043-B =<br>4043-C = 0.0032<br>4043-D = ND         | 0.080* | 0.0008*          |
| <b>Dibromochloromethane</b> | 7.1 | 4043-A = 0.01<br>4043-B = ND<br>4043-C = 0.0046<br>4043-D = ND        | 0.080* | 0.0008*          |

\*Total threshold concentration for chemical byproducts from the treatment process.

\*\*This action level is not a MCL, but listed under 22 CCR section 64672.3.

**Sample ID. 4436**

| <b>Analytes</b>    | <b>DTSC-10/13/10</b> | <b>DTSC-8/8/12 Results [mg/L]</b>                                 | <b>Maximum Concentration Level (MCL) [mg/L]</b> | <b>Public Health Goals (PHG) [mg/L]</b> |
|--------------------|----------------------|---|---|---|
| <b>Perchlorate</b> | ND                   | 4436-A = ND<br>4436-B = ND<br>4436-C = ND<br>4436-D = ND          | .006  | .006<br>(.001 in the 2011 draft)        |
| <b>Barium</b>      | .065                 | 4436-A = .062<br>4436-B = .062<br>4436-C = .063<br>4436-D = .0011 | 2   | 2                                       |



|                             |      |   |       |                     |
|-----------------------------|------|---|-------|---------------------|
| <b>Chromium</b>             | ND   | 4436-A = ND<br>4436-B = ND<br>4436-C = ND<br>4436-D = ND                      | .05   | None<br>Established |
| <b>Copper</b>               | .12  | 4436-A = .061<br>4436-B = .061<br>4436-C = .039<br>4436-D = ND                | 1.3   | .3                  |
| <b>Manganese</b>            | .044 | 4436-A =<br>.00077<br>4436-B =<br>.00077<br>4436-C =<br>.00074<br>4436-D = ND | 0.05  | None<br>established |
| <b>Arsenic</b>              | ND   | 4436-A = ND<br>4436-B = ND<br>4436-C = ND<br>4436-D = ND                      | .010  | .000004             |
| <b>Bromodichloromethane</b> | 2.5  | 4436-A = .0049<br>4436-B = .0049<br>4436-C = .0050<br>4436-D = ND             | .080* | .0008*              |
| <b>Bromoform</b>            | 9.3  | 4436-A = .021<br>4436-B = .021<br>4436-C = ND<br>4436-D = ND                  | .080* | .0008*              |
| <b>Chloroform</b>           | 1.1  | 4436-A = .0034<br>4436-B = .0034<br>4436-C = 0.0034<br>4436-D = ND            | .080* | .0008*              |
| <b>Dibromochloromethane</b> | 5.9  | 4436-A = 0.013<br>4436-B = 0.013<br>4436-C = 0.011<br>4436-D =                | .080* | .0008*              |

\*Total threshold concentration for chemical byproducts from the treatment process.

Sample ID. 5258

| Analytes             | DTSC-10/13/10 Samples were not collected on this date at this location | DTSC-10/18/12 Results [mg/L]   | Maximum Concentration Level (MCL) [mg/L] | Public Health Goals (PHG) [mg/L] |
|----------------------|--|--|--|----------------------------------|
| Perchlorate          |  | 5258-A = ND<br>5258-B = ND<br>5258-C = ND<br>5258-D = ND                 | 0.006                                    | 0.006                            |
| Barium               |  | 5258-A = 0.087<br>5258-B = 0.084<br>5258-C = 0.086<br>5258-D = 0.0050    | 2  | 2                                |
| Chromium             |  | 5258-A = 0.0032<br>5258-B = 0.0029<br>5258-C = 0.0034<br>5258-D = 0.0010 | 0.05                                     | None established                 |
| Copper               |  | 5258-A = 0.32<br>5258-B = 0.110<br>5258-C = 0.110<br>5258-D = 0.0064     | 1.3                                      | 0.3                              |
| Manganese            |  | 5258-A = 0.015<br>5258-B = 0.013<br>5258-C = 0.012<br>5258-D = 0.0017    | 0.05                                     | None Established                 |
| Lead                 |  | 5258-A = 0.011<br>5258-B = 0.0025<br>5258-C = ND<br>5258-D = ND          | 0.015                                    | 0.0002                           |
| Arsenic              |  | 5258-A = 0.0015<br>5258-B = 0.0014<br>5258-C = 0.0013<br>5258-D = 0.0012 | 0.010                                    | 0.000004                         |
| Bromodichloromethane |  | 5258-A = ND<br>5258-B = ND<br>5258-C = ND<br>5258-D = ND                 | 0.080*                                   | .0008*                           |



|                             |  |  |        |         |
|-----------------------------|--|--|--------|---------|
| <b>Bromoform</b>            |  | 5258-A = ND<br>5258-B = 0.0025<br>5258-C = 0.024<br>5258-D = ND  | 0.080* | .0008*  |
| <b>Chloroform</b>           |  | 5258-A = ND<br>5258-B = ND<br>5258-C = ND<br>5258-D = ND         | 0.080* | 0.0008* |
| <b>Dibromochloromethane</b> |  | 5258-A = ND<br>5258-B = 0.0068<br>5258-C = 0.0076<br>5258-D = ND | 0.080* | .0008*  |

\*Total threshold concentration for chemical byproducts from the treatment process.

#### 4.0 Summary of Findings and Recommendations:

The drinking water samples analyzed from the above locations within the City of Maywood were within EPA primary drinking water quality standards (the legal limits). However, secondary drinking water quality standards for manganese were exceeded in source well samples for water company number 1 and 2, in samples MWC-1-W4 and MWC-2-52, street (source well prior to manganese treatment). Maywood Water Company #2 has a manganese treatment unit that significantly reduced manganese levels to well below the secondary standard.

The laboratory analysis data for this Report was forwarded for review and quality assurance to Kurt Souza, Supervisor within the drinking water division of the California Department of Public Health (CDPH). Mr. Souza reported that the TCE detected in sample: MWC3-w7 showed elevated TCE results. TCE concentrations have been typical for this well however, TCE concentrations have been below the MCL for a number of years (within the safe drinking water limits). TCE is a commonly used man made industrial solvent that is used to remove oil and grease.

DTSC and the USEPA are currently evaluating the source of TCE for Maywood Mutual Water Company #3, Well 07, for potential facilities associated with TCE under the United States Environmental Protection Agency Preliminary Assessment/ Site Investigation (PA/SI) grant.

**Lead/ Arsenic:** A portion of the samples exceeded the public health goal (PHG) levels for Lead and Arsenic, but were within established limits. This may be due to older plumbing fixtures containing lead, as only trace levels were detected in source wells.

**Chlorinated bi-product chemicals:** are resulting from the use of chlorine as a disinfectant by water companies. The use of an NSF/California Department of Public Health certified activated carbon faucet filter (PUR Brand) showed a reduction of heavy metals (including lead and arsenic) and is recommended as a lower cost residential water treatment option. NSF International is an accredited, third-party certification body

that tests and certifies products to verify they meet these public health and safety standards. A list of certified residential use water filters is available on CDPHs Website:

**Manganese:**

Sample results for manganese demonstrated a significant reduction of levels for residents serviced by water company number 2. This is due to a new manganese treatment plant installed and operated by Maywood Water Company Number 2 in 2011, which effectively removed the majority of the manganese prior to the water entering the drinking water distribution system to well below secondary drinking water standards. Both water company 1 and 2 source wells were found to have manganese levels greater than the EPA secondary standard prior to treatment. Currently, the water company 1 is in the process of installing a new manganese treatment system. According to the water company 1, the plans are under review by CDPH, Drinking Water Program, and funding is being made available under a grant issued by the EPA and administered by CDPH.

**Arsenic:**

Arsenic was detected below the MCL within one of the homes but was either not found or in trace amounts within the drinking water source wells of the distribution system.

**TCE:**

TCE exceeded the PHG level at Water Company #3 at the well number 7, but did not exceed the primary standard. Therefore, the water from this well is currently considered safe for consumption and residential usage. TCE was not detected within any of the homes that were sampled during the Phase II sampling.

5.0 Next Steps

A public meeting is planned within the City of Maywood to present this report and its findings, and to provide comparisons with previous drinking water sampling conducted within Maywood. Representatives from partnership agencies, USEPA, CDPH, Council for Watershed Health, and the Army Corp of Engineers are invited to attend the presentation. A separate sampling of Maywood public schools is planned in partnership with LAUSD. A future training session on the use of residential point of use water filters will be provided to the Maywood community members.

6.0 Attachments:

- A. GIS Map of Sample Locations and DTSC Phase 2 Sampling Plan
- B. DTSC Phase I Sample Report
- C. Sample Chain of Custody/Login Sheets
- D. Sample Analysis Laboratory Results Reports
- E. Photo Log A
- F. Photo Log B
- G. Copy of the NSF/ANSI listing of the PUR brand faucet filter system (Model No.FM-3700B) certified for residential drinking water filtration.



  
Allison Saldana, HSS

6/20/13  
Date

## List of Acronyms

ATSDR – Agency for Toxic Substances and Disease Registry  
CDPH – California Department of Public Health  
DPH – Department of Public Health  
DTSC – Department of Toxic Substances Control  
EERD – Enforcement and Emergency Response Division  
EJ – Environmental Justice  
HCL – Hydrochloric Acid  
HSS – Hazardous Substances Scientist  
MCIP – Maywood Community Inter-Agency Partnership  
NSF – National Sanitation Foundation  
OCI – Office of Criminal Investigations  
PA/SI – Preliminary Assessment/Site Investigation  
PHG's – Public Health Goals  
PPS – Public Participation Specialist  
SDWA – Safe Drinking Water Act  
SHSS – Senior Hazardous Substances Scientist  
SMCL – Secondary Maximum Contaminant Levels  
SVOCs – Semi-Volatile Organic Compounds  
TCE – Trichloroethylene  
USEPA – United States Environmental Protection Agency  
VOCs – Volatile Organic Compounds