

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION**

**GLENDALE, CALIFORNIA  
NOVEMBER 13, 2000**

**SPECIAL BOARD MEETING ON CHROMIUM CONTAMINATION**

**STAFF REPORT**

**INTRODUCTION**

At your direction, staff have scheduled a special meeting of the Regional Board on Monday, November 13<sup>th</sup> to conduct a workshop on the topic of chromium contamination in our Regional Board's jurisdiction. The meeting will convene at 9:30 a.m. at the Hilton Hotel (formerly the Red Lion), 100 W. Glenoaks, in Glendale. Notice of the meeting has been sent to our general mailing list for Board meetings, to individuals known to be interested in the chromium issue, and to selected technical speakers who will address the Board on this topic. Local elected officials have also been made aware of this workshop.

The issue of hexavalent chromium (chromium VI or Cr<sup>+6</sup>) concentration has accelerated in interest following several coincident events which include: 1) the adoption by Office of Environmental Health Hazard Assessment (OEHHA) of a Public Health Goal for total chromium that is well below the current California standard; 2) the testing of drinking water delivered to taps in public buildings that show levels above the Public Health; 3) the film Erin Brockovich which highlighted chromium contamination in a California desert community; and 4) extensive media coverage that has highlighted chromium contamination in groundwater in our Region.

Our meeting follows a legislative hearing that was held on October 24<sup>th</sup> in Burbank conducted by Sen. Deborah Ortiz, with Sen. Adam Schiff, Sen. Tom Hayden, and Assembly members Hannah Beth-Jackson and Jack Scott. The focus of that meeting was the concern over health impacts associated with chromium in drinking water and the difference between the Public Health Goal (PHG) set by the Office of Environmental Health Hazard Assessment (OEHHA) and the Department of Health Services (DHS). The hearing concluded with a desire by the legislators present to see an Action Level established for chromium at the PHG level set by OEHHA and their expressions that the Maximum Contaminant Level (MCL) process should not consider costs when DHS establishes an MCL (DHS must do so now by statutory requirement).

A separate legislative hearing was conducted by Assembly member Thomas Calderon to review progress (or the lack thereof) in addressing the longstanding contamination of groundwater in the San Gabriel Valley. Chromium was briefly discussed at that meeting.

At our October 12<sup>th</sup> Regional Board meeting, the Executive Officer presented an overview of the chromium issue to you.

**CHROMIUM CONTAMINATION IN OUR REGION**

As you know, groundwater is a significant source of drinking water in our Region. At the same time, industrial activity over many decades has resulted in contamination of shallow and deeper aquifers with many pollutants, foremost among these, volatile organic compounds (VOCs), mostly chemical solvents that have been improperly managed in the past.

Chromium has been noted as a contaminant in groundwater and soils as part of the USEPA's Superfund investigations and the Regional Board has been engaged in cleanup oversight at several facilities in the

region. In 1998, the Upper Los Angeles River Area (ULARA) Watermaster expressed concern that with the proposal to adopt a much lower Public Health Goal for chromium, that levels of chromium in drinking water wells in the San Fernando Valley (SFV) were above that proposed Public Health Goal (although well below the State MCL of 50 ppb).

The Watermaster convened an interagency task force to share information on this issue and Regional Board staff have been actively participating in this group since its inception. Inter-agency cooperation has focused on understanding the chromium problem in the San Fernando Valley, sharing information, staying abreast of developments regarding chromium contamination.

The Regional Board has worked closely with USEPA regarding chromium contamination and was granted funding in 1999 (continuing through 2000) to locate sources of chromium contamination and to take assessment and enforcement actions to bring about adequate site characterization.

### **THE CHROMIUM PROBLEM**

Chromium contamination has occurred in the SFV and other areas in our Region affecting soils and groundwater. Cr<sup>+6</sup> has been detected in production and groundwater monitoring wells in the San Fernando Valley area. Cr<sup>+6</sup> has been consistently detected in some shallow and deep production and extraction wells primarily in the North Hollywood and Pollock Operable Units, from depths ranging from 31 feet to as deep as 580 feet below ground surface.

Routine sampling of drinking water wells in the San Fernando Valley by the California Department of Health Services (DHS) and the Los Angeles City Department of Water & Power (LACDPW) have discovered elevated levels of Cr<sup>+6</sup>, also referred to as chromium VI. In the San Fernando Valley, the ratio of total chromium to Cr<sup>+6</sup> is between 61% and 99%. No drinking water wells have exceeded the MCL in the San Fernando Valley, however, a drinking water well in the City of Southgate was recently closed (October 2000) due to levels that did exceed the MCL. In the San Fernando Valley, the highest value detected in drinking water wells has been 15 µg/L (December 1999). Area-monitoring wells (not used for drinking water supply) for LACDPW have detected total chromium concentrations as high as 97 µg/L (December 1999), while USEPA's monitoring well network (also not used for drinking water supply) has detected Cr<sup>+6</sup> as high as 1,000 µg/L (March 2000). Chromium concentrations in groundwater are highly variable depending on how close a monitoring well may be to a potential source of contamination. Tap water has been tested at various public facilities and chromium concentrations up to 20 parts per billion (ppb) have been detected.

Because of the carcinogenic properties of chromium compounds, in California, a risk-based Maximum Contaminant Level (MCL) drinking water standard of 50 micrograms per liter (µg/L) has been established for Total Chromium (the aggregate of trivalent and hexavalent chromium). The federal MCL is different at 100 ppb. There is no MCL established for chromium VI although the Office of Environmental Health Hazard Assessment (OEHHA) has identified 2.5 µg/L for chromium VI as a level of concern. Generally, the concentrations of chromium in drinking water wells are well below the 50 micrograms per liter (µg/L) or parts per billion MCL. In limited areas, close to the source of contamination the concentrations of chromium can be orders of magnitude greater.

### **THE REGIONAL BOARD'S CHROMIUM INVESTIGATION**

The Regional Board has begun to investigate hexavalent chromium contamination in the San Fernando Valley. Regional Board staff have identified over suspected 250-chromium users from a database

comprised of over 4,040 chlorinated volatile organic compound (VOC) cases under developed under the Regional Board's Superfund investigation. Identification of sites is being coordinated with other agencies including the California Department of Toxics Substances Control (DTSC). In addition, DTSC has identified as many as 200 suspected chromium users from their Burbank and Glendale databases. The Chromium Investigation protocol is currently being finalized with USEPA and it is expected that the investigation will have formally begun before the November 13<sup>th</sup> workshop. To initiate this process, letters will be issued to potential contamination sites requiring the completion of an initial chemical use questionnaire. Additional action at each site will include inspections and a determination of the need for further assessment if it believed to be warranted.

#### **OTHER HEXAVALENT CHROMIUM IMPACTED AREAS**

Hexavalent chromium impacted sites exist in other areas of the state, including Daly City, Davis, Brentwood, and Los Banos. In Los Angeles County, the Regional Board is continuing to oversee the assessment and cleanup of hexavalent chromium impacted sites at defense-related businesses, aircraft manufacturing and industrial sites. Hexavalent chromium contamination in the soil and groundwater have been found in the cities of Los Angeles, Arcadia, San Marino, Compton, Redondo Beach, Pomona, La Verne, Long Beach, Industry, Hawthorne, and South Gate. Many of these sites are being actively assessed or cleaned-up voluntarily under a State Cost Recovery Program administered by the Regional Board.

#### **CHROMIUM BACKGROUND CONCENTRATIONS**

Hexavalent chromium is being identified in groundwater at locations where no industrial source can be identified or even suspected (Davis, California). The background levels are higher than previously thought to be present and approach levels that are seen in local groundwater being provided to customers in the LA Basin. There is currently little detailed knowledge of the extent of hexavalent chromium as a background chemical in groundwater. We also do not know what the expected background level should be for certain geological formations. For example, in the community of San Fernando, levels of hexavalent chromium are present but the inability to link a source suggests a similar background presence such as in Davis.

We do know, however, that hexavalent chromium contamination occurred earlier in this century and that conditions that would support widespread contamination were prevalent, e.g., unlined channels, lack of regulatory oversight, disposal in septic systems. Given the existence of favorable conditions for contamination and the expected disposal of chromium compounds, we can assume that chromium in groundwater in areas where chromium compounds were used, is present as a result of contamination until background levels can be better established.

#### **THE SUPERFUND INVESTIGATION**

In 1980, the California Department of Health Services (DHS), which is responsible for drinking water quality, discovered organic chemical contamination in the groundwater of the San Gabriel Valley. They in-turn requested all major groundwater users to conduct tests for the presence of certain industrial chemicals (solvents) in the drinking water they were serving their customers. The results of testing revealed volatile organic compound (VOC) contamination in the groundwater beneath large areas of the San Fernando Valley.

The United States Environmental Protection Agency (USEPA) entered into cooperative agreements with State and local agencies. The San Fernando Superfund project is large and complex, requiring many agencies to work together. USEPA is coordinating efforts to address groundwater contamination in the San Fernando Valley Basin with water supply management activities. The agencies include the Los Angeles Water and Power (LADWP), the Cities of Burbank and Glendale, the Crescenta Valley Water District, the ULARA Watermaster, the Metropolitan Water District (MWD), the California Environmental Protection Agency (CALEPA), the Los Angeles Regional Water Quality Control Board, the State Water Resources Control Board and the Department of Toxic Substances Control (DTSC). Representatives of these agencies meet quarterly at Management Committee Meetings to discuss assessment, cleanup and water supply issues pertaining to the San Fernando Valley Basin.

### **THE GLENDALE OPERABLE UNIT**

An emerging issue is that the Glendale Operable Unit (a water treatment plant cleaning-up groundwater contaminated by VOCs) is running but Glendale is not accepting treated water from this unit for their water supply system. Instead the water from the plant is being discharged to the LA River. USEPA has allowed Glendale a 90-day exception from their agreement to accept this water. The Superior Court appointed San Fernando Watermaster, Mel Blevins, is very concerned about this wasting of water (it is being treated at great cost then discharged to the LA River). He intends to report to the Superior Court on Nov 17<sup>th</sup> and that could start a process that could lead to an injunction being issued to Glendale and USEPA to not operate the plant (thereby stalling groundwater cleanup – but more likely a heart to heart session with the judge in closed chambers). In the meantime, Watermaster Blevins has advised Glendale that they will lose some of the credits they have banked for not pumping groundwater while it has been contaminated with VOCs. In essence, water that is being discharged to the LA River is water they should be accepting as drinking water supply. Since they are choosing not to accept this water, it is drawing down their water bank account. They may have already lost about a million dollars of their credit by not accepting water from the Glendale Operable Unit.

Another related issue is that the water being discharged from the Glendale Operable Unit may have relatively high levels of chromium. The discharged water should be in conformance with the California Toxics Rule that sets a level for chromium at 11 ppb (note that the discharge to the LA River is set at a level much lower than the 50 ppb for drinking water given chromium's toxicity to aquatic life), however, a permit from the Regional Board for discharge from the Glendale Operable Unit is not required given that USEPA has primacy over this discharge under Superfund law. The discharge is supposed to meet Applicable, Reasonable and Relevant (ARARs) requirements imposed by local jurisdictions.

### **THE REGIONAL BOARD'S CHALLENGE**

Chromium contamination is present in our Region's groundwater. It is at levels that vary widely depending on location and depth. At least one drinking water well (Southgate) has been removed from service due to chromium contamination. Many other wells have been removed due to VOC contamination and the aggregate loss of drinking water wells in this Region from contamination of various pollutants, VOCs, chromium, and nitrates, is a significant long-term concern for this Regional Board. Continued pumping of non-impacted wells to provide drinking water threatens to move contaminants and affect other wells in the future.

USEPA has authority over areas designated as Superfund sites and is moving forward with cleanups of extensive groundwater contamination. The Regional Board is a partner with USEPA in that effort. The USEPA's grant to the Regional Board for investigating sources of chromium contamination is a major

element of this partnership approach. This investigative process, however, will take time and will likely be contentious as potentially responsible parties resist being so designated.

The Regional Board is moving forward, directing the cleanup of chromium contaminated sites and more contaminated sites will be addressed in the future.

## **Status of Chromium Impacted Sites**

### **Lockheed Martin Facilities in Burbank**

Lockheed Martin manufactured aircraft and aerospace components at their Burbank facilities from 1928 to 1991. Chromium contaminated soils encountered during multiple site assessments were excavated and hauled off-site to appropriate treatment or disposal facilities. The excavated areas were backfilled with clean soil. The following sites are located within the capture zone of the Burbank Operable Unit groundwater extraction wells designed to control the spread of VOC contaminated groundwater:

- Plant B-1 Site (1705 Victory Place, Burbank)

Lockheed has completed the site demolition and removal of chromium contaminated soils. Approximately 215,000 cubic yards of soil impacted with petroleum hydrocarbons, volatile organic compounds and metals were excavated to a maximum depth of 25 feet below ground surface (bgs). In July 1997, the Regional Board issued a partial closure, except for the operation of the soil vapor extraction system. Maximum concentrations of hexavalent chromium detected in soil and groundwater are 110,000 ppb (parts per billion) and 440 ppb, respectively.

- Plant B-6 East, Building 371 (2960 N. Hollywood Way, Burbank)

Lockheed has completed the removal of approximately 525 cubic yards of chromium-contaminated soil to a depth of 20 feet below ground surface. The maximum concentration of hexavalent chromium detected in soil was 160,000 ppb. No hexavalent chromium has been detected in groundwater, but total chromium has been recorded as high as 40 ppb. Further vertical delineation of chromium impact is required.

- Plant A-1 North (2555 N. Hollywood Way, Burbank)

Lockheed has completed the chromium site assessments and remediation at this site. Approximately 333 cubic yards of chromium-contaminated soil were excavated to a maximum depth of 17 feet bgs. The maximum concentration of hexavalent chromium detected in soil is 116,000 ppb. In groundwater, only total chromium is present at a maximum concentration of 278 ppb.

### **U. S. Chrome**

The U. S. Chrome Site is located at 1480 Canal Avenue, Long Beach, which is three blocks west of the Long Beach Freeway (I-710), and north of Long Beach Harbor. The site encompasses approximately 25,000 square feet and contains a single concrete block structure. U. S. Chrome started operation in the early 1960s.

The subsurface formation includes fine grained sand, silt and clay. Soil samples were obtained on October 27 and 30, 1998 from 7 locations. The maximum total chromium concentrations at approximately 3, 7, 10, and 14 feet below ground surface (bgs) are 708,000 ppb, 3,810,000 ppb, 919,000 ppb, and 1,210,000 ppb, respectively. The maximum hexavalent chromium concentrations are 65,000 ppb, 440,000 ppb, 500,000 ppb, and 640,000 ppb, respectively. There is no groundwater monitoring well on-site. However, groundwater was encountered at 13 to 14 feet bgs.

To date, neither soil nor groundwater contamination plumes are fully defined. The responsible party (RP) claimed that there is no practical way to remove the chromium from the soil without affecting its ongoing operations. However, Regional Board is issuing a 13267 letter to the RP for work plans to delineate vertically and laterally the plume size.

### **Lawry's – Formerly Chromal Plating Company**

The Lawry's site is located at 528 San Fernando Road, Los Angeles. The site is comprised of approximately 2.3 acres of vacant land. The northern portion of the site, coinciding with the Golden State Freeway overpass and adjacent right-of-way area, is owned by Caltrans and is restricted in land use to industrial operations. Soil samples collected to date have detected extractable chromium concentrations up to 11,000 ppb, total chromium concentrations up to 19,443,000 ppb, and hexavalent chromium up to 1,600,000 ppb. Soil has been remediated to approximately 41 feet below ground surface (bgs) to maximum concentrations of 1,900 ppb of hexavalent chromium and 717,000 ppb of total chromium. This remaining treated chromium impacted soil is now isolated in a low-permeability, cemented soil matrix, which in conjunction with the cap will help limit the potential leaching of the remaining residual amounts of chromium into groundwater. An NFA letter was issued for the soil closure on August 10, 2000.

Groundwater underlies this facility at approximately 40 feet bgs. Groundwater monitoring has been conducted for approximately 7 years at this site. Hexavalent chromium has been detected in groundwater beneath the site with maximum concentrations up to 34,000 ppb (1994) pre-soil remediation, and with the current maximum concentrations up to 150 ppb (2000) post-soil remediation. The chromium groundwater plume identified appears to have stabilized and the chromium concentrations in groundwater have generally decreased over time. As specified in the cleanup and abatement order (CAO No. 99-037) issued for this site, the groundwater will continue to be monitored and the need to implement an active groundwater remediation system for the cleanup of the chromium groundwater plume will be evaluated upon one year of post-remedial groundwater monitoring, approximately December 2000. There are no public water supply wells within a one mile radius of the this site.

### **Former McDonald Douglas - Boeing C-1 Facility Long Beach**

The Boeing facility is located at 3855 Lakewood Boulevard in Long Beach. Chromium contamination was detected about 1995 when equipment in one of the manufacturing buildings was being removed. Additional investigation revealed that the soil and groundwater underlying the building were contaminated with chromium up to about 10,000,000 ppb. Boeing conducted soil remediation and received an NFA letter for soil in 1995. The groundwater investigation showed that chromium contamination mitigated from building the area to about 1,000 feet downgradient. The maximum concentration in groundwater was measured at 70,000 ppb. Boeing is implementing interim groundwater remediation. The nearest groundwater production well is located about 1 mile from the source of contamination and has not been impacted by Boeing.

**Former Voi-Shan Aerospace – 4001 Inglewood Avenue,  
Redondo Beach, CA (SLIC NO. 689)**

Metal fastener manufacturing operations for aerospace use begin around 1970 at the former Voi-Shan site. Past operations impacted the groundwater and soil on-site with VOCs, heavy petroleum hydrocarbons, and heavy metals. The manufacturing operations of metal fasteners was terminated in 1992. Currently, Vons Supermarket and several retail stores occupy the site. The site participated in the Spills, Leaks, Investigations, and Cleanups (SLIC) cost recovery program on April 2000. The concentration range of total chromium detected in soil is from 8,000 ppb to 27,000 ppb.

Groundwater has not been analyzed for total chromium or chrome 6. However, they were requested to do so on October 24, 2000. Groundwater results are expected by November 24, 2000. The perched groundwater is impacted with VOCs. A pump and treat system for groundwater remediation has been in operation since July 1992. The treatment system originally consisted of an air stripper and vapor phase carbon adsorption; currently, it consists of an aqueous phase carbon adsorption system. VOCs concentrations in extraction wells have reduced since groundwater remediation system in place. They will continue to run the groundwater pump and treat system. Water supply wells are present within a one mile radius of the site according to an in-house well map.

**Mondo Chrome**

A meeting was held with Evan Privette of Frey Environmental, the environmental consultant for Howard Kay, the owner of Mondo Chrome located at 4933 Firestone Boulevard in South Gate. South Gate Well No. 7 monitoring test results were 86 part per billion (ppb) of total chromium and 64 ppb of hexavalent chromium. Confirmation sampling of the well indicated 54 ppb total chromium and 54 ppb hexavalent chromium. A site investigation was conducted on October 6 and 9, 2000. South Gate Well No. 7 is located approximated 444 feet northwest of the subject site. The well was operating 24 hours a day and seven days a week. The well has been shut down since the discovery of the contamination. The well's first intake screen is located at 500 feet below ground surface.

The Regional Board issued a letter on August 31, 2000, requesting a full site investigation of soil and groundwater at the site. The deadline for the submittal of the workplan is October 31, 2000. Site analytical data from soil borings sampled during the soil investigation indicate contamination by tetrachloroethylene (PCE), trichloroethylene (TCE), chromium, chromium VI, cadmium, and toluene below ground surface. Site analytical data from groundwater monitoring shows the groundwater beneath the site has been contaminated with PCE, TCE, cis-1,2-DCE, 1,1-DCE, vinyl chloride, 1,2-dichloroethane, and chromium. Depth to groundwater beneath the site is approximately 40 feet below ground surface. Groundwater at the site has been tested for chromium IV and results indicated non-detect above 20 ppb. Groundwater gradient at the site has varied from south east, southwest, and to the north. Current groundwater flow is to the north.

Based on the site data, Frey Environmental will submit a one-mile radius search of environmental sites and title search in addition to their upcoming soil and groundwater workplan to aid the Regional Board in its investigation. The workplan to be completed by October 20, 2000. Frey Environmental indicated that a few landowners own the properties near the drinking water well. The additional information provided will aid in further off-site groundwater investigation to determine other possible sources of chromium impacts. The number of light industrial/commercial businesses in the area and the large capture zone of the drinking water well complicate identification of the source of contamination. Further investigation is necessary to determine the contamination source(s) for the drinking water well. Geographical

Information System (GIS) mapping to include all known potential source sites within the capture zone of the drinking water well will aid in the identification of the source and nature of the contamination. Additionally, GIS mapping should incorporate local, County and Department of Toxic Substances Control sites with suspected chromium contamination.

#### **Alcoa Composites - Former Alcoa/TRE Weslock**

Alcoa Composites (Former Alcoa/TRE Weslock) (Silc No. 552) is located at 13344 South Main Street, Los Angeles, California. Chromium was detected in soil at concentration up to 59,900 ppb, but hexavalent chromium was not detected in soil. Concentrations of chromium VI in the range of 380 to 460 ppb have been detected in groundwater (limited to three on-site wells). Depth to groundwater is approximately 40 feet below ground surface. Soil contamination (mainly VOCs) has been remediated by vapor extraction since October 1999. Quarterly groundwater monitoring has been conducted at the site. To date, there are no reported impacted water supply wells in the site vicinity (1-mile).

#### **Anadite**

Anadite (SLIC No. 541) is located at 10647 Garfield Avenue, South Gate, California. Chromium VI concentrations have been detected in soil at concentrations up to 250,000 ppb and in groundwater (limited to two on-site wells) in range of 5,000 to 43,000 ppb. Depth to groundwater is approximately 35 feet below ground surface. The site is in compliance with the schedule in Cleanup and Abatement Order No. 98-004. In August 2000, we approved a workplan for the proposed soil vapor extraction system for soil remediation. Groundwater is being quarterly monitored. To date, there are no reported impacted water supply wells in the site vicinity (1-mile).

#### **Barkens Inc.**

Barkens Inc. (SLIC No. 922) is located at 239 East Greenleaf Blvd, Compton, California. Chromium VI concentrations have been detected in soil at concentrations up to 260,000 ppb and in groundwater in range of 700 to 810,000 ppb. Depth to groundwater is approximately 35 feet below ground surface. Quarterly groundwater monitoring has been conducted at the site, starting from the third quarter 2000. Further site assessment, including soil and groundwater, has been required. It is anticipated that a further site investigation work plan will be submitted to us by December 31, 2000. To date, there are no reported impacted water supply wells in the site vicinity (1-mile).

#### **Mobil Torrance Refinery**

The Mobil Refinery is located at 3700 West 190th Street, Torrance. Since 1986 the refinery has been the subject of numerous subsurface investigations involving soil and groundwater. Soil and groundwater beneath and surrounding the site have been impacted by petroleum hydrocarbons from the refinery. Both MTBE and BTEX (benzene, toluene, ethylbenzene, and xylenes) compounds have also been detected in groundwater. No other contaminants of concern have been identified. Cleanup efforts are ongoing.

During the last routine groundwater sampling event, hexavalent chromium was detected in one of the shallow onsite groundwater monitoring wells at 146,000 ppb. The well was resampled and analysis detected 151,000 ppb. No other monitoring wells, including the perimeter wells, detected hexavalent chromium. The source of the hexavalent chromium is unknown at this time. A workplan to determine the source and extent will be submitted to the Regional Board in the next week.



**PRC-Desoto - formerly Courtaulds Aerospace Facility**

PRC-Desoto (PRC) formerly Courtaulds Aerospace Facility located at 5430 San Fernando Road, Glendale. Since 1949 has operated an aerospace sealant, coating and adhesive manufacturing business. PRC has implemented a soil and groundwater remediation plan to reduce the hexavalent chromium by ferrous sulfate addition to chromium III. Groundwater chromium VI concentrations ranged from 35,600 ppb to 111 ppb in 1999.

**Menasco**

Former Menasco located at Division, 26 East Providencia Avenue, Burbank has performed soil removal and a groundwater treatment system is currently operating to reduce the levels of chromium VI in the underlying groundwater. Groundwater concentrations of chromium VI were as high as 65 ppb in 1995.

**Drilube Company**

Drilube Company, located at 711 West Broadway, Glendale, has submitted a workplan to delineate the extent of heavy metal contamination beneath their site. Groundwater concentrations of chromium VI ranged from 32,000 ppb (1995) to 7,000 ppb in 1998.

**Former ITT Aerospace Controls Facility**

Former ITT Aerospace Controls Facility, 1106 Flower Street, Burbank, has submitted a remedial action plan to cleanup the effects of soil and groundwater beneath their facility contaminated. The remediation action plan is currently under review. In 1992, concentrations of chromium VI ranged from 21,000 ppb to 1,440 ppb in the groundwater.

**Xerox Pomona Site**

The concentration of chromium VI has been as high as 3,400,000 ppb in the soil. However, a Cleanup and Abatement Order was issued and soil cleanup has been completed. The site is undergoing groundwater cleanup.