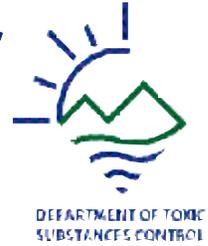


**Fact Sheet
March 2004**

Chico Area Groundwater Plume Updates And Public Notice



CHICO, CALIFORNIA

It is DTSC's mission to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality, by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.

State of California



California
Environmental
Protection Agency



Introduction

The Department of Toxic Substances Control (DTSC), is overseeing investigation and remediation activities for various sites in Chico, California where contamination of soil and groundwater has occurred. This fact sheet contains site updates for the Central Plume, North Valley Cleaners, Louisiana Pacific, North Central Plume, Southwest Plume and a public notice for the Chico Municipal Airport (see enclosed map for plume locations). This fact sheet also includes information on recently discovered groundwater contamination in south Chico at some wells in the Skyway Subdivision.

Public Notice Change In Chico Airport Cleanup Plan

This notice is to inform you that the Department of Toxic Substances Control (DTSC) has prepared a document called an Explanation of Significant Differences (ESD) which describes a change in the Remedial Action Plan (RAP) to address groundwater contamination at the Chico Municipal Airport in Chico, California. The RAP describes how groundwater, contaminated with chlorinated solvents, specifically trichlorethylene, would be treated and discharged. The RAP was approved in 2002 after public review and comment. Copies of the ESD, RAP and other site related documents are available at the information repositories listed in this fact sheet.

The change in the RAP described in the ESD is related to where water will be discharged. The water treatment method will remain the same. The water still goes through carbon filters and will be cleaned to drinking water standards. Originally, water was to be discharged to the California Water Service public water supply system. However, the City of Chico was not able to obtain a permit from the California Department of Health Services, who regulates drinking water, to discharge to this system.

Therefore DTSC has decided to discharge the cleaned water to Sycamore Creek. This requires a permit from the Central Valley Regional Water Quality Control Board. The Department of Fish and Game has determined that the discharge to Sycamore Creek will be acceptable if all regulatory requirements are met.

Area History

Groundwater contamination was first discovered in the Chico area in October of 1984. Eventually eight contaminated areas (plumes) were defined (see map insert). Those areas with their contaminants in parentheses are: The Central Plume (tetrachloroethylene/PCE), North Valley Cleaners (PCE), Louisiana Pacific Plume (pentachlorophenol/PCP), North Central Plume (PCE), Southwest Plume (PCE), Chloroform Plume (chloroform), Victor 20th Street Plume (trichloroethylene/TCE), and the Chico Airport (TCE). Following these discoveries, public water supply wells showing contamination above state standards were taken out of service.

Central Plume

DTSC has been involved in investigating and remediating this plume since 1986. In July of 1995, DTSC conducted an Interim Remedial Measure (IRM) which consists of two groundwater extraction wells and a granulated activated carbon (GAC) treatment system. The purpose of the extraction wells is to prevent PCE, a common dry cleaning chemical, contamination from spreading until a final remedy can be selected and implemented. The GAC removes PCE contamination from the water and the treated water is piped into the California Water Service (CWS) distribution system where it is blended with other water. CWS is a private company that provides water for the city of Chico.

When in operation, the IRM treats almost 400 gallons of water per-minute. However, during the first two years of operation the extraction wells had numerous mechanical problems and was either operating at a reduced capacity or non-operational. The extraction wells have been in almost continuous operation since September 1997 and have removed in excess of 1,000 pounds of PCE from the Chico drinking water aquifers. The 1,000 pounds is the equivalent of two 55 gallon barrels of pure PCE. The IRM is continuing to remove PCE at the rate of approximately 10 pounds per month.

Since 1999, the responsible parties acting under the direction of DTSC have reinstated quarterly groundwater sampling and have increased the number of monitoring wells in the intermediate aquifer from 18 to 21. They have also increased the number of monitoring wells in the deep aquifer from 3 to 22. The additional wells and frequent sampling provide confidence that the nature and extent of contamination is known. DTSC expects to proceed with the selection of a final remedy within the next year. The area of the plume appears to have stabilized and the concentrations of PCE are diminishing.

Within the Central Plume is the Chico High School Irrigation Well (Well). The Well was originally constructed without any casing and produced water from both the Deep and Intermediate Aquifers. The Well was located in the area of high concentrations of PCE in the intermediate aquifer and because of the way it was constructed DTSC felt the well was acting as a conduit for spreading contamination into the Deep Aquifer. The Well was only used for irrigation and the school had no other readily available source for irrigation water, so DTSC permitted the school to modify the construction of the well so it only produced from the Deep Aquifer.

Unfortunately, the contaminants had already migrated into the Deep Aquifer at this location, exhibiting concentrations of about 20 parts per billion PCE, about four times the maximum contaminant level (MCL) allowed for drinking water (5 ppb). The water from this Well is only used for irrigation and the watering takes place late at night when no one is on campus. DTSC toxicologists performed a risk assessment to determine if the watering posed a threat to human health. After examining several scenarios DTSC has determined that the watering results in no measurable increase in the risk to human health and will allow the high school to continue using the Well for irrigation.

North Valley Cleaners

The North Valley Cleaners (NVC) is located at 801 East Avenue. NVC was constructed in 1964 as part of the North Valley Plaza Shopping Center and did on-site dry cleaning until 1997. From 1964 to 1988, NVC discharged to an on-site septic system. In January 1995, remnants of PCE were detected in the drinking water supply in a well on Alba Avenue. The well is located four blocks west of NVC.

Preliminary investigations were done in 1995, 1996, and 1997. Two sources of contamination were found. Remnants of PCE were detected in soils at the two leach fields associated with the on-site septic system and PCE was found in soil and groundwater beneath a possible spill location just outside the back-door of NVC.

As an interim measure, a soil vapor extraction system (SVE) was installed at the spill location in 1997 to address soil contamination. The SVE created a vacuum in a well, pulling the PCE out of the soil and capturing it in a carbon filter. This has reduced soil as a source of groundwater contamination.

In March 1998 DTSC issued a Remedial Action Order to the responsible parties for continued investigation and remediation of the site. Site investigations continue under DTSC oversight for soil and groundwater in order to fully characterize the site. Long term measures to address contamination are being developed.

Louisiana Pacific

Remedial actions have been completed to address arsenic contamination in soil and pentachlorophenol, ethyl benzene, and xylene contamination in groundwater. Soil contamination has been addressed by excavating approximately 30,000 cubic yards of soil, consolidating the contaminated soil on site, and covering it with a three acre asphalt cap.

The site has been cleaned up to allow unrestricted uses in all areas except the location of the cap where site uses are limited to commercial and industrial uses. A deed restriction will limit exposure to remaining contaminants contained under the cap. Contaminated groundwater is being addressed by extraction, treatment, and recycling it back into the ground.

DTSC has certified that the final soil and groundwater remedies have been properly implemented. A five year review completed in 2002 confirms the site remedies have been effective, remain protective, and are being adequately operated and maintained.

North Central Plume

Since 1986, remediation of this plume has been done by the continuous operation of an air stripping treatment unit on CWS well number 16 located in the center of the plume. Water is pulled up out of the aquifer into a treatment system. There the water is then dispersed into the CWS distribution system. Initially, sampling showed the well to have PCE levels as high as 42.5 ppb, above the Maximum Contaminant Level of 5.0 ppb. Monthly pretreated samples in 2003 ranged from non-detect to 0.8 ppb PCE prior to treatment and PCE was not detected after treatment.

Since 2001 DTSC has conducting water sampling from the three monitoring wells located at the original source of the contamination. DTSC samples these wells twice a year, in the spring and fall. Contaminants have only been found in one of the three wells and the levels have dropped from 3.0 ppb of PCE to 2.0 ppb over the last three years. Levels of Cis-1, 2-DCE, which is a breakdown product of PCE, have dropped from 24 ppb to 2.5 ppb over the same time period.

Southwest Plume

The Southwest Plume extends for over one and one-half miles under the southern portion of Chico and flows from the northeast to the southwest. In August 1991 fourteen private wells on the leading edge of the plume were shut down and abandoned due to PCE contamination. These residents were hooked up to a waterline funded by DTSC.

In January 1992, a carbon treatment unit was purchased by CWS and DTSC, and installed on CWS well number 46. At the beginning of treatment, groundwater samples tested as high as 38 ppb for PCE. Today raw water samples are averaging about 10 ppb and samples of treated water detect no PCE. Also, the monitoring wells on the leading edge of the plume have shown a steady decrease in PCE concentrations since the treatment unit has been operating. Treatment (at well number 46) is planned to continue into the foreseeable future.

In 2001 EFI Henshaw, the contractor for the Responsible Parties, collected soil gas samples from 194 locations and groundwater samples from the shallow aquifer at 77 locations in the Southwest Plume. Most of these samples were taken along city streets which have sewer lines running along them. Detectable PCE in soil gas was found at only 4 of the 194 locations. Two of those were along Orange Street, one near 5th Street and the other near 7th Street. PCE in shallow groundwater was found at 23 locations. The highest concentrations (142 parts per-billion) were found along 7th Street between Chestnut and Orange.

Quarterly groundwater monitoring was reinstated in 2001. Recently eight (8) additional monitoring wells were installed in the Shallow Aquifer. Currently the RP's are in the process of installing three (3) additional monitoring wells in the Intermediate Aquifer and six (6) additional Monitoring wells in the Deep Aquifer. Within the next year DTSC will decide if these wells are sufficient to determine the complete nature and extent of contamination or if additional wells need to

be installed. This will lead to a final remedy for the site.

Chloroform Plume

The Chloroform Plume was identified during the initial sampling of California Water Service wells in 1984. Chloroform was detected in two wells at levels up to 13 ppb. No private wells were impacted, although, sewer samples in this area also showed the presence of chloroform. A swimming pool service located in the area was considered a possible source. Subsequent sampling did not detect chloroform in the two wells and DTSC has determined that no further action is necessary for this plume.

Victor 20th Street Plume

The Victor 20th Street contaminant plume stretches approximately one mile from Mulberry Street in a southwesterly direction to the intersection of Berrington Road and Dayton Road. In 1958 Victor Industries (Victor) relocated their aluminum tube and can manufacturing business from the Chico Airport to 365 and 395 East 20th Street. Victor used TCE as a degreaser until 1980 when it was replaced by tetrachloroethylene (PCE). Solvent disposal practices by Victor between 1958 and 1985 resulted in site soil contamination and the groundwater contamination plume that extends beneath the Stanley Park neighborhood.

Several phases of investigation were completed between 1990 and 1994 culminating in the design and installation of a drinking water pipeline for the Stanley Park neighborhood. After completing the pipeline, the Responsible Parties (RPs) stopped remedial work on the site. DTSC prevailed in Federal Court in 2000 and the RPs resumed the required characterization work. Since 2000, over a dozen new monitoring wells have been installed and quarterly groundwater sampling conducted. A pending agreement with the RPs will result in result in a substantial monetary settlement with DTSC.

The funds will be used to complete site characterization and to construct a pump and treat system as an interim measure.

Chico Municipal Airport /Victor Industries

DTSC finalized the Remedial Action Plan (RAP) for the Chico Municipal Airport in 2002. The Airport plume extends almost a mile from the intersection of Liberator Street and Boeing Avenue to the southwest towards Sycamore Creek. The RAP calls for the extraction of Trichloroethene (TCE) contaminated groundwater, treatment using activated carbon and discharge of treated water to Sycamore Creek. The City of Chico is currently implementing the RAP and the system should be fully operational in 2004.

Skyway Homes Subdivision

The Central Valley Regional Water Quality Control Board (CVRWQCB) recently requested DTSC to join them in investigating chlorinated solvents (trichloroethene, perchloroethylene) in groundwater beneath the Skyway Homes Subdivision. The subdivision is located south of the intersection of Midway and Hegan Lane in Chico. Chlorinated solvents were discovered in several private water wells along Skyway and Cessna Boulevards in the subdivision.

The investigation was initiated in response to comments from the public at the South Chico Toxics Task Force Public Awareness Meeting. The meeting was held to discuss issues related to groundwater contamination in the south Chico area. Some residents expressed concerns about potential contamination from petroleum products and MTBE due to possible leaks from an adjacent tank farm

In response the CVRWQB conducted sampling in residential wells in November of 2003. Petroleum products and MTBE were not detected in any of the wells sampled. However, chlorinated solvents were. Of the 40 wells sampled, 26 had detectable levels of solvents and ten homes

exceeded the Maximum Contaminant Level (MCL) of 5 parts per billion (ppb) set by the California Department of Health Services, Drinking Water Division. The highest level of TCE detected 18 ppb, and the highest for PCE was 1.4ppb. Residents whose wells were sampled were notified of the results.

DTSC is providing bottled water to homes with impacted wells until a permanent alternative water source can be secured. DTSC is working with the CVRWQCB and Butte County to identify potentially responsible parties (PRPs) to secure funding for the site investigation. The CVRWQCB will continue sampling potentially impacted wells and seek funding for the investigation and a permanent alternative water source.

Public Involvement

DTSC is committed to keeping the community informed of site activities and involved in our decision making process. DTSC has published fact sheets to update the community on site activities and has held public meetings to discuss site activities and to receive public comment.

Information Repositories

Copies of site related documents including sampling reports, remediation plans, and past fact sheets are available at the information repositories located at:

Meriam Library, Special Collection Department
California State University Chico
Chico, CA 95929
(530) 895-5710

Butte County Library, Chico Branch
1108 Sherman Avenue
Chico, CA 95925
(530) 891-2762

DTSC, Sacramento Office File Room
8800 Cal Center Drive
Sacramento, CA 95826
Contact: Bobbie Jensen at (916) 255-3758

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Mailing List Information

If you did not receive this fact sheet in the mail and wish to be on the Chico Area Groundwater mailing list, please complete the coupon on the following page and return it to Randy Sturgeon, Public Participation Specialist, at 8800 Cal Center Drive, Sacramento, CA 95827.

Please add me to the Chico Area Groundwater Site mailing list. DTSC mailing lists are solely for the purpose of keeping persons informed of DTSC activities. Mailing lists are not routinely released to outside parties. However, they are considered public records and, if requested, may be subject to release.

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