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**Coast Wood Preserving  
Ukiah, California**

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***Second 5-Year Review***

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**January 15, 2001  
Revised August 15, 2001**



**MWH**

MONTGOMERY WATSON HARZA

15 August, 2001

Mr. Patrick Lee  
Department of Toxic Substances Control  
700 Heinz Avenue, Suite 200  
Berkeley, CA 94710

Dear Patrick:

Enclosed is a copy of the revised Second 5-Year Review of the Coast Wood Preserving site in Ukiah, CA. This review replaces the draft 5-Year Review sent to Mr. Mark Piros by Mr. Gene Pietila of Coast Wood Preserving by letter of 15 January, 2001, and reflects changes made as a result of discussions with Mr. Piros and Ms. Goebels. The specific changes are described below. Please return or discard the former report and use this review instead.

The most significant changes are in Table 6, the proposed monitoring program for future activities at the site. The present program reflects the desires of DTSC and the Water Board in the wells and frequencies to be utilized. This monitoring program is also consistent with the recently-approved work plan for abandonment of select monitoring wells at the site.

The other change is in the historical data base, Table 3 and Appendix A. We found that some of the reports by former workers on site did not include the year, but rather either did not enter a year, or showed "00" for the year. Our computer database picked up this as 2000, when in fact most of the data was early in the 1980 decade. Where possible, those samples were updated to the correct year. In some cases, the sample data had to be deleted, as it was not possible to determine with certainty the correct year for the sample collection.

Very truly yours,

Montgomery Watson Harza

Jim V. Rouse

CC:

Janice M. Goebels  
David Stensby  
Bob Schmidt (2 copies)  
Gene Pietila  
Rick Thomasser



**MWH**

MONTGOMERY WATSON HARZA

## COAST WOOD PRESERVING SECOND 5-YEAR REVIEW

January 15, 2001  
Revised August 15, 2001

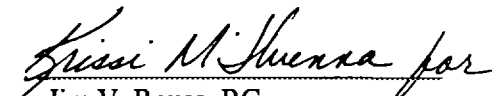
**Prepared for:**

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P O Box 673  
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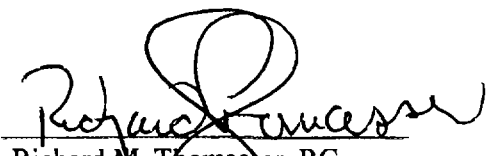
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# Coast Wood Preserving, Inc.

- Pressure Treated
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- Custom Treating

P.O. BOX 673  
UKIAH, CALIFORNIA 95482  
(707) 468-0141

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California Environmental Protection Agency  
Department of Toxic Substances Control  
Attn: Mark Piros  
700 Heinz Ave.  
Berkeley, California 94710

January 15, 2001

Dear Mr. Piros:

Coast Wood Preserving (CWP) is pleased to transmit the enclosed 5-Year Review report dated January 15, 2001. This report was prepared by Montgomery Watson at the request of Coast Wood Preserving. The report reviews the progress of groundwater remedial actions to date and specifically during the last 5 years.

Groundwater remedial activities have included groundwater extraction and reuse and most recently (since September 1999) in-situ reduction and fixation of chromium.

If you have any questions or comments regarding this report, please call either Bob Schmidt at (209) 632-9931 or me at (707) 468-0141.

Sincerely,



Gene Pietila  
Manager



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## 1.0 INTRODUCTION

Coast Wood Preserving, Inc. (CWP) has operated a wood preserving facility at the intersection of Taylor and Plant Roads in Ukiah, California (Figure 1) (the site) since 1971. These operations have resulted in chromium impacts to soil and shallow ground water underlying the facility. Since June 1980, a number of studies have been conducted to investigate the presence of chromium contamination in the subsurface environment at the site (Figure 2). Table 1 provides information on the monitoring wells installed at the CWP. In 1983, CWP installed a slurry wall to contain the chromium-impacted ground water, and began a program of extraction and reuse of the ground water collected upgradient of the slurry wall. These actions were formally approved as remedial actions in 1989. In 1999, amendments to the remedial action were proposed and approved as described below. This document presents the second 5-year review of the remedial action program at the site.

### 1.1 Remedial Action Plan

Remedial actions at the CWP site were described in the "Remedial Action Plan (RAP)" prepared by Geosystem Consultants, Inc. (Geosystem), (Sept. 1989) and approved by the State of California, Department of Toxic Substances Control (DTSC). The RAP specified control of site runoff and the capture of ground water through wells HL-7, near the slurry wall, and CWP-18, located in the vicinity of the plant. Recovered water and contaminated storm-water runoff was used as plant makeup water, to the extent possible, with excess water stored and treated by electrochemical methods and re-injected into the ground water. For several years thereafter, ground-water monitoring has been conducted at the site, including water-level measurements and the collection of ground-water samples for chemical analysis. These activities were designed to generate data for evaluating the effectiveness of conventional remedial activities at the site, performed in accordance with the requirements of Order 94-63 by the California Regional Water Quality Control Board (CRWQCB), North Coast Region.

### 1.2 RAP Amendment

CWP submitted a "Proposed Amendment to the Remedial Action Plan" (the RAP Amendment) (Montgomery Watson, May, 1999) which proposed enhancements to the remedial program at the site, based on technological advancements since the original RAP was approved. These enhancements involve the use of an innovative *in situ* reduction and fixation approach for chromium (Figure 3). The RAP Amendment was approved by DTSC in July 1999. The CRWQCB approved Waste Discharge Requirements Order No. 99-45 on July 21, 1999 authorizing the proposed *in-situ* reduction program and establishing new ground-water monitoring and sampling requirements (Table 2). The revised ground-water monitoring and sampling began in the fourth quarter of 1999. The orders and permits issued by governmental agencies required the conduct of a one-year annual review of the remedial activities under the amended RAP. This one-year review was prepared by Montgomery Watson and submitted on January 12, 2001 in combination with the Fourth Quarter and Annual Report for 2000.

## 2.0 BACKGROUND

Reviews of the effectiveness of remedial actions are required by CERCLA Section 121c, NCP Section 300.400 fii, and OSWER Directives 9355.7-02, to ensure that a remedial action remains protective of public health and the environment and is functioning as designed. Five-year reviews such as this become a part of the site file. The first 5-year review was conducted by DTSC and issued December 26, 1996. This second



5-year review has been prepared by Montgomery Watson upon the request of Coast Wood Preserving, for submission to the DTSC. As stated above, a separate one-year review, which is combined with the Fourth Quarter and Annual Report, has been prepared by Montgomery Watson (January 12, 2001) and specifically addresses a review of recent in-situ remediation, as required by conditions of the RAP Amendment.

## 2.1 Site Description

The site is located on the west side of Taylor Road and south of Plant Road, on the southern side of Ukiah, California. It is located in the Ukiah Valley, a north-south trending alluvial basin formed by the Russian River drainage system. Alluvium of Recent age has been deposited along the river valley, and ground water in the alluvium generally drains into and supports base flow of the Russian River.

Timber preservation activities have been conducted continuously at the site since 1971, using an acidic solution of sodium dichromate, copper sulfate and arsenic acid. Since 1980, CWP has made numerous facility improvements including berm construction, grading, roof construction and paving to minimize the formation of runoff contaminated with drippage from treated wood, and to control such runoff as it occurs. Since 1983, CWP has conducted a number of remedial activities to improve the quality of ground water under the site. Since September 1999, CWP has further conducted innovative *in-situ* remediation of ground-water contamination using a direct-push hydrofracture injection of reduced sulfur solutions to reduce and immobilize chromium in the subsurface. Timber preservation activities continue at the site, with no plans to cease operation in the foreseeable future.

## 2.2 Geohydrology

The RAP presents a discussion of regional and site geology and hydrology, with detailed maps and cross sections. The following is a brief summary of the site geohydrology, abstracted from the RAP with modifications based on drilling subsequent to the preparation of the RAP.

Ground water beneath the site is recharged to the saturated zone by the infiltration of precipitation and flows to the southeast to east, to support base flow in tributaries of the Russian River. The saturated zone is comprised of unconsolidated material ranging from clay to gravel. Geosystem (September 1989) divided the unconsolidated material in the subsurface under the CWP site into four zones. Zone 1, extending from the surface to a depth of approximately 20 feet, consists primarily of silty clay, clayey silt, and clayey sand, with more permeable stringers and lenses of sand and gravel. Zone 1 is the zone of existing chromium contamination. The lower boundary of Zone 1 was considered to be a very stiff blue silty clay to clayey silt layer, typically four to five feet thick. It was noted in the RAP that the blue clay was absent in some locales. Subsequent drilling by Fluor Daniel GTI in the installation of wells CWP-101 and CWP-102 (Montgomery Watson, September 9, 1999) also failed to encounter the blue clay at the anticipated depths, indicating it was not as laterally consistent as earlier believed.

Zone 2 consists of a sand and gravel layer approximately five to ten feet in thickness. Zone 2 decreases in thickness to the southeast, and is discontinuous off site. Minor contamination has been noted in Zone 2. Zone 3 is a stiff olive brown clayey silt at the lower boundary of Zone 2. This zone was considered by Geosystem to be four to six feet in thickness. Zone 4 is a clayey sand and gravel stratum that underlies Zone 3. Few borings reach Zone 4.



## 2.3 History

Coast Wood Preserving began wood preserving operations using chromated copper arsenate (CCA) for preservation of wood at the Coast site in 1971. On January 31, 1972, the county raised questions about the possible discharge of CCA preservatives via runoff of rainwater. This was documented on February 23, 1972 by the California Department of Game and Fish, which notified the CRWQCB that preservation material was being discharged into tributaries of the Russian River. Waste abatement orders were issued in 1972 to control such contamination. In January 1973, CWP complied with orders to pave the site.

H. Esmaili & Assoc. (August 1981) installed a series of monitoring wells at the site, identified as CWP-1 through CWP-6. By April 1981, results were available which identified that there was ground-water contamination by chromium underlying the CWP site. In October 1981, CWP installed extraction wells CWP-7, CWP-8, and CWP-9. In November 1981, the CRWQCB installed off-site monitoring wells FPT-1, FPT-2 and FPT-3, which confirmed off-site migration. In August and September 1982, Kleinfelder Associates installed additional monitoring wells CWP-10 through CWP-16. In December 1982, Kleinfelder submitted a report on ground-water monitoring at the site. In June 1983, CWP installed off-site wells FPT-4 and FPT-5. Kleinfelder installed off-site monitoring wells AT-1 through AT-3 off site in September 1983. In March 1984, D'Appolonia conducted soil borings S-1 through S-26 on the site, and reported results in May 1984. D'Appolonia also installed deep boring S-27 and converted it to deep monitoring well CWP-17 in January 1985. Additional monitoring wells CWP-18 through CWP-21 were constructed in August 1985.

All of these data were utilized by Geosystem (March 31, 1986) to prepare an "Evaluation of On-Site Ground Water Extraction". Geosystem (September 1989) subsequently issued the Remedial Action Plan. The RAP, described above, included:

- Paving of exposed soil to prevent infiltration and leaching of chromium from contaminated soils into ground water,
- On-site treatment of contaminated soils using best available technology upon termination of wood treating operations at the site,
- Hydraulic control of impacted ground water by means of extraction wells,
- Electrochemical treatment of extracted ground water,
- Reuse, recycling or reinjection of treated ground water,
- Ground-water monitoring to ensure the effectiveness of the remedial measures.

Many of the features of the RAP were already completed prior to the issuance and approval of the RAP. The site was paved by 1981 and canopies constructed in 1985 to prevent rainfall contacting freshly-treated wood. Dedicated drip-pad equipment was used to further prevent spread of contamination.

As mentioned above, the first five-year review of the site was issued by the DISC, on December 26, 1996. This review described the implementation and success of the various measures to that date. The review noted a period of non-compliance during 1993 to 1995, due to the inability to reuse or re-inject all the extracted ground water, and the subsequent cessation of pumping for a short period. The review noted that monitoring data showed a decline in chromium concentration in on-site wells and that off-site wells were below the MCL of 0.05 mg/l, as a result of the actions taken by CWP, such as the construction of the slurry wall and ground-water withdrawal.



## **2.4 Contaminants of Concern**

Chromium, resulting from the release and migration of hexavalent chromium contained in wood treating solution, is the primary contaminant of concern at the site (Geosystem, September 1989). Chromium primarily has two valence states in the natural environment. Trivalent chromium is naturally occurring in soil and rock material. At near-neutral pH conditions, trivalent chromium forms a low-solubility hydroxide, which tends to sorb onto natural soil material and be immobilized. Hexavalent chromium is present in industrial process chemicals such as wood-treating solution as the chromate or dichromate anion, and has a high solubility in ground water over a wide range of pH conditions. Hexavalent chromium can be reduced to the trivalent form by reducing conditions, such as are generated by anaerobic bacteria, and by reaction with naturally-occurring reductants such as ferrous iron, reduced sulfur species such as sulfides, or organic carbon (Palmer and Puls, October 1994).

The existing database on chromium concentrations in ground water at the site is primarily in the form of dissolved chromium, as determined by analysis of the total chromium concentration in samples filtered before laboratory analysis. At normal pH values, this would essentially be equivalent to the concentration of hexavalent chromium, because of the low solubility of trivalent chromium hydroxide (Palmer and Puls, October 1994). As described in later sections, some wells which have been impacted by the injection of alkaline reductant solutions do contain dissolved chromium, apparently in the form of dissolved trivalent chromium solubilized by the elevated pH conditions which temporarily occur in the ground water in the area of reductant injection.

The California and US Environmental Protection Agency (Federal ) Drinking Water Standards are currently set at 0.05 and 0.1 mg/l, respectively, on the basis of total chromium concentrations; however, these standards are developed in recognition of the low mobility of the trivalent form.

Arsenic is also a component of the timber preservative solutions; however, geochemical interactions with the site soil have immobilized the arsenic within the upper portions of the soil. As a result, the arsenic is generally not mobile in the ground water and was not considered as a contaminant of concern, during the RAP preparation.

The presence of chromium in site soils at concentrations in excess of 100 mg/kg and of arsenic at concentrations above 15 mg/kg was addressed in site soil investigations (D'Appolonia/TT, May 1984) and in the RAP (Geosystem, 1989). Soil remediation in the RAP was deferred until facility closure, at which time final actions are to be determined.

## **3.0 SITE CONDITIONS**

Initial conditions at the CWP site are described in some detail in the RAP (Geosystem, September, 1989). Subsequent changes in conditions are described in a series of annual monitoring reports submitted by CWP to regulatory agencies and as discussed below.

### **3.1 Monitor Well Evaluation**

As described in an earlier section, the monitoring well network at the CWP site consists of numerous wells, installed by CWP and its consultants, in addition to wells installed by state agencies, over the period from 1981 to 1999. Table 1 provides information on the depth, diameter, and construction of the existing wells.



The means of drilling, the depths of completion, and the materials of construction vary widely, with some of the "wells" actually consisting of pipes installed into gravel-filled back-hoe trenches. Many of the wells were constructed before there was a complete understanding of site geohydrology and contaminant distribution. As a result, there are wells currently in existence which are not needed for monitoring the ground-water conditions at the site. Such wells, especially those that are off site, offer a possibility for ground-water contamination, either by accidental releases or by activities of vandals, and are not needed for future monitoring. Recommendations for modification to the monitoring system are contained in Section 6.0.

## **3.2 Ground Water Remediation**

Initial remediation of ground-water contamination was accomplished by means of a pump & treat system, with ground water extracted from the saturated zone and either used for make-up water within the CWP plant or treated and reinjected to the subsurface. Since September 1999, remediation has been accomplished by means of an innovative system of *in-situ* geochemical reduction and fixation. These ground water remedial actions are further described below.

### **3.2.1 Pump & Treat System**

The control of the spread of ground-water contamination at the CWP site was accomplished from before the date of the RAP until September 1999 by means of the extraction of ground water from well CWP-18, located near the drip pad, and HL-7, a pipe installed in a gravel-filled trench immediately up-gradient of the slurry wall near the east side of the CWP property. Such efforts were successful in preventing off-site migration of chromium in excess of California MCL values, and were conducted as specified in the RAP.

The effectiveness of the system for remediation of the on-site contamination was limited by the low permeability of the site subsurface, especially in Zone 1. Recovery rates were low, and the effectiveness was further limited by seasonal fluctuations in water levels. High water levels leached mobile chromium from near-surface soils, and low water levels resulted in the stranding of contamination in interstitial moisture in the vadose zone after water levels declined. The lack of significant remedial progress is illustrated by chromium concentrations in monitoring wells such as CWP-6, which showed little change over years of pumping (Table 3). This has proven typical for many pump & treat systems throughout the nation.

### **3.2.2 In-Situ Reduction and Fixation**

The above shortcomings of the pump & treat system were recognized by CWP, after the installation and initial operation of the system. New technology subsequently became available and proven which would be more effective at remediation of chromium contamination in the saturated zone. CWP sought to use this new technology to meet agency goals for amending remedial actions to:

*"bring past decisions into line with the current state of knowledge with respect to remediation science and technology, and by doing so, improve the cost effectiveness of site remediation while ensuring reliable short and long term protection of human health and the environment"*  
(Environmental Protection Agency, 1996).



CWP submitted a "Proposed Amendment to the Remedial Action Plan" (Montgomery Watson, May 1999) for modification of the RAP, using technology which had been proven after the approval of the RAP. As noted above, the RAP Amendment was approved by the relevant agencies in July 1999.

The technology enhancement chosen for the CWP site was in-situ reduction of the hexavalent chromium to the trivalent form, using direct-push hydrofracture techniques to generate sub-horizontal fractures to allow the spread of polysulfide reductant between injection points along a series of injection lines across the plume area. The technology and the results have been described in more detail in a separate one-year review document, prepared to fulfill the requirements of the RAP Amendment (Montgomery Watson, January 2001). Areas of reductant injection are shown on Figure 3.

### **3.3 Soil Contamination**

As noted in the first five-year review, no remediation of soil contamination was anticipated until after closure of the wood treating activities at the CWP site, at which time treatability studies are to be conducted by CWP for the selection of technologies. The RAP recognized that such closure was at least 10 years from the 1989 date of the document. At present, CWP has no plans for cessation of wood-treating activities at the site.

As described in a later section, CWP has recently conducted additional sampling activities which aid in understanding the nature of chromium mobility in the unsaturated soil. This involved the installation and sampling of a series of pressure-vacuum lysimeters at three locations within the area of soil contamination, to determine the true mobility of hexavalent chromium. Experience at other CCA wood treating sites (Rouse and Davies, December 2000) has shown such lysimeters to be effective in evaluating the mobility of chromium in soil, as well as the effectiveness of in-situ soil remediation approaches. Data generated by the lysimeters will be useful in conduct of the treatability studies required to be conducted at the time of closure of the CWP facilities. The contact of reductant solution with contaminated soil (through seasonal ground water fluctuations), together with reduced infiltration through improved paving, will minimize leaching of chromium from the soil.

### **3.4 Areas of Non-Compliance**

The initial 5-year review noted that CWP was generally in compliance with the terms of the RAP except for a period from early 1994 to June 1995, during which time pumping of contaminated ground water was not conducted.

Following the date of the first 5-year review, CWP has generally been in compliance with the RAP and the subsequent amendment. A routine program of paving and pavement repair has done much to reduce possible infiltration of contaminated runoff, especially considering the capping of the wood-storage area on the drip pad. No issues of non-compliance are known.

## **4.0 PROGRESS SINCE LAST 5-YEAR REVIEW**

There has been significant progress toward remediation of ground-water contamination at the CWP site since the date of the first five-year review (DTSC, January 26, 1996), as discussed below.



## 4.1 Pump & Treat System Operation

Operation of the pump & treat system by CWP became more routine and matured after the date of the first five-year review. The monitoring of the system was conducted by CWP personnel, with regular evaluations conducted by outside consultants. For example, Geological Technics, Inc. (February 10, 1999) prepared an annual report on the monitoring for 1998. The report showed that pumping from HL-7 influenced ground-water flow. Water-quality sampling showed the continued presence of chromium contamination on site, at concentrations up to 20 mg/1 in well CWP-6, near the drip pad, but no off-site contamination in excess of the MCL of 0.05 mg/1 for chromium. There was some evidence of minor contamination down-gradient of the slurry wall but remaining on the site, apparently as a result of migration of chromium prior to the construction of the slurry wall, perhaps further caused by pumping from a well (CWP-8) located down-gradient of the trench having caused contamination to migrate under the trench.

## 4.2 *In-Situ* Reduction

The conduct of the *in-situ* remediation was accomplished during two periods, September 13-21, 1999 and April 11-13, 2000. The injection had almost immediate results. Since that time, there has been a significant decrease in the dissolved chromium contamination in the saturated zone.

Table 3 provides water-quality data by date and well across the CWP site for the period January 1996 to December 2000. Appendix A provides the entire ground water monitoring database. The water-quality improvement is clearly shown by Figure 4, which is a plot of chromium concentration in selected wells, as function of time, from the original detection of chromium in the ground water through the approval and initiation of the *in-situ* fixation approach in September 1999. As described in the Remedial Design, the dissolved chromium concentration in well CWP-6, near the drip pad, ranged up to 89,000 ug/1 during the period from January 1986 through January 1998. The highest concentration of chromium during 1999, immediately prior to the first program of reductant injection, was 28,000 ug/1. As shown on Figure 4, dissolved chromium concentrations exhibited a sharp drop almost immediately after direct-push injection, in contrast to the lesser change that resulted from earlier efforts at ground-water remediation through withdrawal. During 2000, no sample has exceeded the MCL for chromium in well CWP-6. Similar behavior is shown for other wells at locations throughout the plume.

Examination of the data presented in Table 3 shows that virtually all the monitoring wells yielded samples with dissolved chromium concentrations less than the California MCL of 0.05 mg/1 for chromium during the October 2000 annual sampling event. The exceptions include well CWP-102, a deeper well, and wells CWP-2 A& B, that have apparently not been influenced by reductant injections, as well as wells CWP-103, CWP-104, and CWP-6, all of which have elevated pH and obvious polysulfide influence. The chromium in the high pH wells is likely due to the elevated pH, and the solubility of trivalent chromium at such pH values. The November and December monthly sampling of well CWP-6 yielded chromium results less than the detection limit of 0.01 mg/1.

Both arsenic and manganese show greatest mobility under slightly reduced conditions (Lawrence, Goody, Kanatharana, Meesilp, and Ramnarong, 2000). Thus, the generation of a reduced environment, required for the *in-situ* reduction of hexavalent chromium, often results in the temporary increase of these two elements in solution, as they are leached from the aquifer solid material. These elements may not be from site contamination, but rather from the native soil materials. This effect is primarily noted in those wells with high pH and obvious polysulfide presence, described in the chromium discussion above. Geochemical data



and experience at other sites shows the mobilization of these two elements is a temporary feature, and that concentrations decline rapidly after the geochemical conditions become more stabilized.

The data (Table 3) show that both arsenic and manganese was, in fact, mobilized in the ground water as a result of the generation of a reduced environment. In some cases (e.g., wells CWP-8, CWP-14, CWP-18, HL-7) the concentrations have already shown a significant decline, with arsenic showing the first decline, followed by manganese. This pattern of immobilization is anticipated to continue with time. No off-site migration is anticipated, as the geochemistry at the perimeter of the treated area will result in the immobilization of both elements.

### **4.3 Soil Contamination Evaluation**

Evaluation of soil contamination was accomplished by means of core sampling at a number of sites (Esmaili, 1981, Kleinfelder, 1982, D'Appolonia /IT, May 1984). During these efforts, core samples were collected and submitted to the analytical laboratory for determination of chromium content. Such an evaluation includes a total of three components of soil concentration:

1. Metals initially present at the time of soil deposition,
2. Metals sorbed onto soil material, of varying mobility, and
3. Metals dissolved in the interstitial moisture of the core.

Typical laboratory analyses dry the soil sample, resulting in the metals in soil moisture being coated onto the soil material, followed by a digestion process to dissolve the total metal content of the solid material. In the subsurface environment, only the metal dissolved in the interstitial fluids is readily available for migration into the ground water. The D'Appolonia effort also included a synthetic leaching protocol on select samples, to attempt to determine the leachability of the metals from the core material.

Work at similar wood preservation sites in other locations (Rouse and Davies, December 2000) has shown there is poor correlation between total core results and the concentration of metals in interstitial fluids, as determined by collection and analysis of pore-water samples collected by means of pressure-vacuum lysimeters.

To evaluate the mobility of chromium in the subsurface, three clusters of pressure/vacuum lysimeters were installed. Two of these clusters (LY-2 and LY-3) were located outside the area of known ground-water contamination, but as described above were within an area previously shown to exhibit elevated chromium contamination in shallow soil, while cluster LY-1 was adjacent to the drip pad in an area of known ground-water contamination. Analysis of core collected at the time of lysimeter installation revealed that the soil contained chromium concentrations ranging from 41 to 73 milligrams per kilogram (mg/kg) at locations LY-2 and LY-3. Near the drip pad area, soil samples contained marginally higher concentrations ranging from 65 to 91 mg/kg. Table 4 summarizes the results of soil core samples collected during lysimeter installation. Table 5 provides data on samples collected from the pressure/vacuum lysimeters. The data show there is mobile chromium contamination in unsaturated material at sites LY-1 and LY-2, but not at location LY-3.



## 5.0 ASSESSMENT OF REMEDY PROTECTIVENESS

Five-year review documents are for the purpose of assessing the protection of human health and the environment afforded by a remedial program. Such assessment may be accomplished by answering three questions (U.S. Environmental Protection Agency, October 1999):

1. *Is the remedy functioning as intended by the decision documents?*
2. *Are the assumptions used at the time of remedy selection still valid?*
3. *Has any other information come to light that could call into question the protectiveness of the remedy?*

Each of these questions is addressed below.

***Is the remedy functioning as intended by the decision documents?*** The original RAP anticipated that pumping could be accomplished from the saturated zone at sufficient rate to accomplish removal of contaminated ground water and replacement with clean ground water from surrounding areas. In fact, there was insufficient flow, and chromium contamination, which had previously sorbed onto aquifer solids, desorbed in response to equilibrium conditions. Typical sites commonly require the exchange of many pore volumes of water before the result is acceptable. Low permeability material limits the ability to achieve such exchange of multiple (commonly up to 50) pore volumes.

The amended remedial activities, involving in-situ reduction, were designed to overcome the limitation on permeability by the generation of secondary permeability, in the form of sub-horizontal fractures, to allow the migration of reductant solution to areas radially distant from the injection points. The reductant then diffuses between the fractures, and the generation of reduced conditions promotes the growth of micro-organisms capable of reducing chromium and other reducible ions such as sulfate and ferric iron.

***Are the assumptions used at the time of remedy selection still valid?*** *In-situ* remediation was dismissed by Geosystem as unproven at the time of the RAP preparation, but has since been used in a number of sites, with varying geohydrological conditions. These modified assumptions were used in the design of the RAP Amendment, and are still valid.

***Has any other information come to light that could call into question the protectiveness of the remedy?*** The information on the mobility of arsenic and manganese was recognized at the time of the RAP Amendment. Since that time, experience at other sites and at the CWP site demonstrates the temporal nature of the mobilization. No off-site migration is anticipated, and the on-site mobility is expected to decline with adjustments to site geochemistry. The only wells with significant arsenic or manganese mobility, and with continued high chromium concentrations, are those wells with the obvious presence of high concentrations of polysulfide reductant.

In summary, the original design of the RAP was valid for remediation and control of off-site contamination of the shallow ground water, but was unable to address the remediation of the on-site ground-water contamination. The RAP Amendment activities have resulted in significant improvement to on-site ground-water quality and appear valid for long-term remediation.



## **6.0 RECOMMENDATIONS**

### **6.1 Monitoring**

The monitoring well network at the CWP site consists of numerous wells, installed by CWP and its consultants, in addition to wells installed by state agencies, over the period from 1981 to 1999. Table 1 provides information on the depth, diameter, and construction of the existing wells. The means of drilling, the depths of completion, and the materials of construction vary widely, with some of the "wells" actually pipes installed into gravel-filled back-hoe trenches. Many of the wells were constructed before there was a complete understanding of site geohydrology and contaminant distribution. As a result, there are wells currently in existence which are not needed or are redundant for monitoring the ground-water conditions at the site. Since pumping has ceased, the existing ground-water gradients, and hence ground-water velocities, have decreased, which reduces the need for such frequent sample collection. Table 6 contains a recommended program of future ground-water monitoring to assure the protection of human health and the environment, at the same time providing a more focused monitoring program to monitor future remedial progress.

### **6.2 Well Abandonment and Construction**

Certain wells, especially those that are off site, offer a possibility for ground-water contamination, either by accidental releases or by activities of vandals, and are not needed for future monitoring. Table 6 provides a listing of wells that are not presently required for monitoring to protect human health and the environment and should be abandoned in accord with applicable agency requirements. The table also provides rationale for the recommendation. As noted above, several of these wells are presently on the approved schedule for monitoring, which must be modified before well abandonment.

An additional cluster of 2 monitoring wells is recommended in the area of lysimeter cluster LY-2, south of the western tank farm, to evaluate the Impact of existing soil contamination on ground-water quality in this area. Prior soil sampling indicates the presence of possible deep soil contamination from a past pipeline rupture. A single well is also recommended midway between the LY-2 location and existing wells CWP-101 and CWP-102.

### **6.3 Additional Ground-Water Remediation**

The most recent monitoring data, as contained in the 2000 annual report and one-year review document (Montgomery Watson, January 12, 2001) show a significant reduction in the extent and magnitude in chromium concentration, as a result of the two events of reductant injection, with only wells CWP-2 A& B, CWP-102, CWP-103, and CWP-104 in excess of the chromium remediation goal of 0.05 mg/l in the most recent samples. The injection has resulted in the mobilization of manganese and arsenic from the native soils, but this is anticipated to be a temporary feature and not to move off site. Based on these data, no further active ground-water remediation is recommended at this time. Rather, it is recommended that ground-water monitoring be continued, at the revised frequency and locations specified in Table 6. Monitoring will include chromium, manganese and arsenic as potentially mobile metals.



## 6.4 Soil Remediation

No remediation of soil contamination was anticipated until after closure of the wood treating activities at the CWP site, at which time treatability studies are to be conducted by CWP for the selection of technologies. The RAP recognized that such closure was at least 10 years from the 1989 date of the document.

The *in-situ* remediation of chromium in the saturated zone is anticipated to have beneficial results on soil contamination, by contacting contaminated soil with reductant solution during periods of high water-table elevations, and by generation of reduced conditions in the saturated zone, to reduce hexavalent chromium which might be mobilized by infiltration of precipitation. In addition, additional paving, and routine pavement repairs, conducted over the past 5 years, are anticipated to reduce the potential migration of chromium from the soil into the ground water.

CWP has recently conducted additional sampling activities which aids in understanding the nature of chromium mobility in the unsaturated soil. This involves the installation and sampling of a series of pressure-vacuum lysimeters at three locations within the area of soil contamination, to determine the true mobility of chromium. Experience at other CCA wood treating sites (Rouse and Davies, December, 2000) has shown such lysimeters to be effective in evaluating the mobility of chromium in soil, as well as the effectiveness of in-situ soil remediation approaches. Future investigations of soil contamination and remediation should include additional lysimeter sampling to supplement conventional core sampling.

Treatability studies, as required in the RAP, should largely be on a field pilot scale, and should evaluate the feasibility of *in-situ* reduction of chromium in the unsaturated zone. Such reduction does not alter the total contaminant concentration in core, but does minimize the component actually mobile under real-world conditions. Such soil reclamation has been conducted at wood-preservation sites in Granger, Indiana and Mt Gambier, South Australia by the percolation of reductant solution from the surface and the immobilization of chromium in the soil above the water table, combined with paving to reduce infiltration of precipitation.

## 7.0 PROTECTIVENESS STATEMENTS

Based on monitoring data collected over the past five years, it appears the remedial efforts at the CWP site have been and are protective of human health and the environment.

The pump and treat efforts, which continued until September 1999, prevented the off-site migration of chromium and reduced the concentration of chromium in the ground water on site. Subsequent *in-situ* reduction has been highly effective in reducing hexavalent chromium to the trivalent form and causing the fixation of the trivalent chromium hydroxide onto subsurface material, except in areas where concentrated calcium polysulfide remains in the subsurface. In these areas, elevated pH values cause trivalent chromium to be soluble and be detected in monitoring wells. Arsenic and manganese are also soluble under such conditions. No off-site migration of manganese or arsenic is anticipated, due to geochemical interactions with subsurface material and the consumption of excess polysulfide.

The existing monitoring program is more than is required to assure the continued protection of human health and the environment, and is recommended for reduction by the appropriate agencies.



## 8.0 NEXT REVIEW

The next 5-year review is currently scheduled for submission in January 2006. Based on the present success at the site, it is anticipated the ground water will all meet cleanup goals before that date. Soil remediation will not be conducted until after the closure of the CWP site, unless it is shown that such remediation can be achieved through in-situ techniques while the plant is operating.

## 9.0 REFERENCES

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Rouse, Jim V. and Ian N. Davies, December, 2000, "Improved Chromium Source Area Assessment and Remediation in Varied Geohydrological Regimes", Proceedings, 2000 Contaminated Site Remediation Conference, ' From Source Zones to Ecosystems', Centre for Groundwater Studies, Melbourne, Australia

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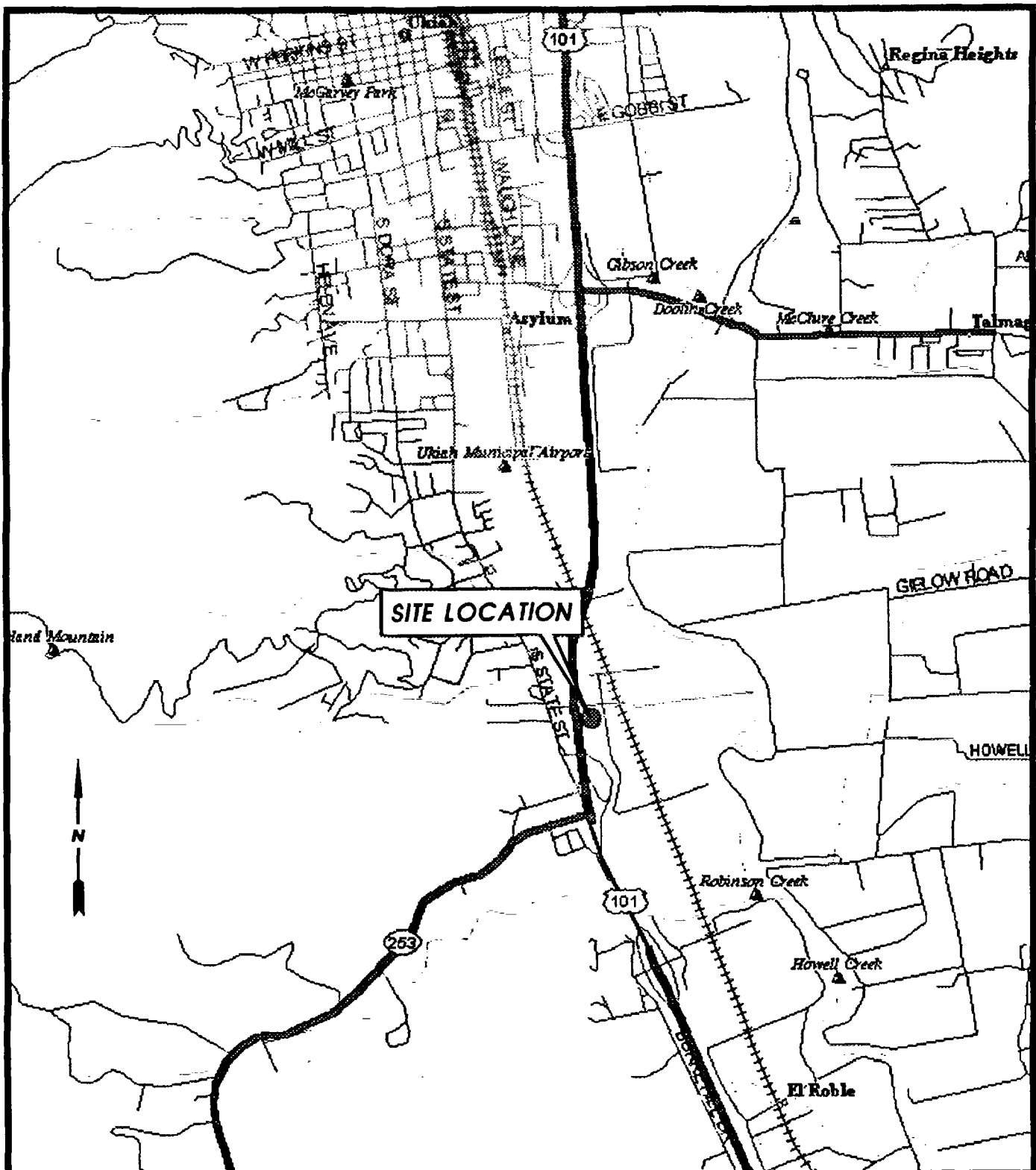
## **FIGURES**



## FIGURES

Figure 1	Site Location Map
Figure 2	Site Plan
Figure 3	<i>In-Situ</i> Reduction Program Injection Transect Locations
Figure 4	Dissolved Chromium vs. Time in Representative Wells





**MONTGOMERY WATSON**

SOURCE: SELECT STREET ATLAS  
UKIAH, CALIFORNIA

SCALE:

0 FEET 2000

## SITE LOCATION MAP

CLIENT:

COAST WOOD  
PRESERVING, INC.

DATE:

7/30/99

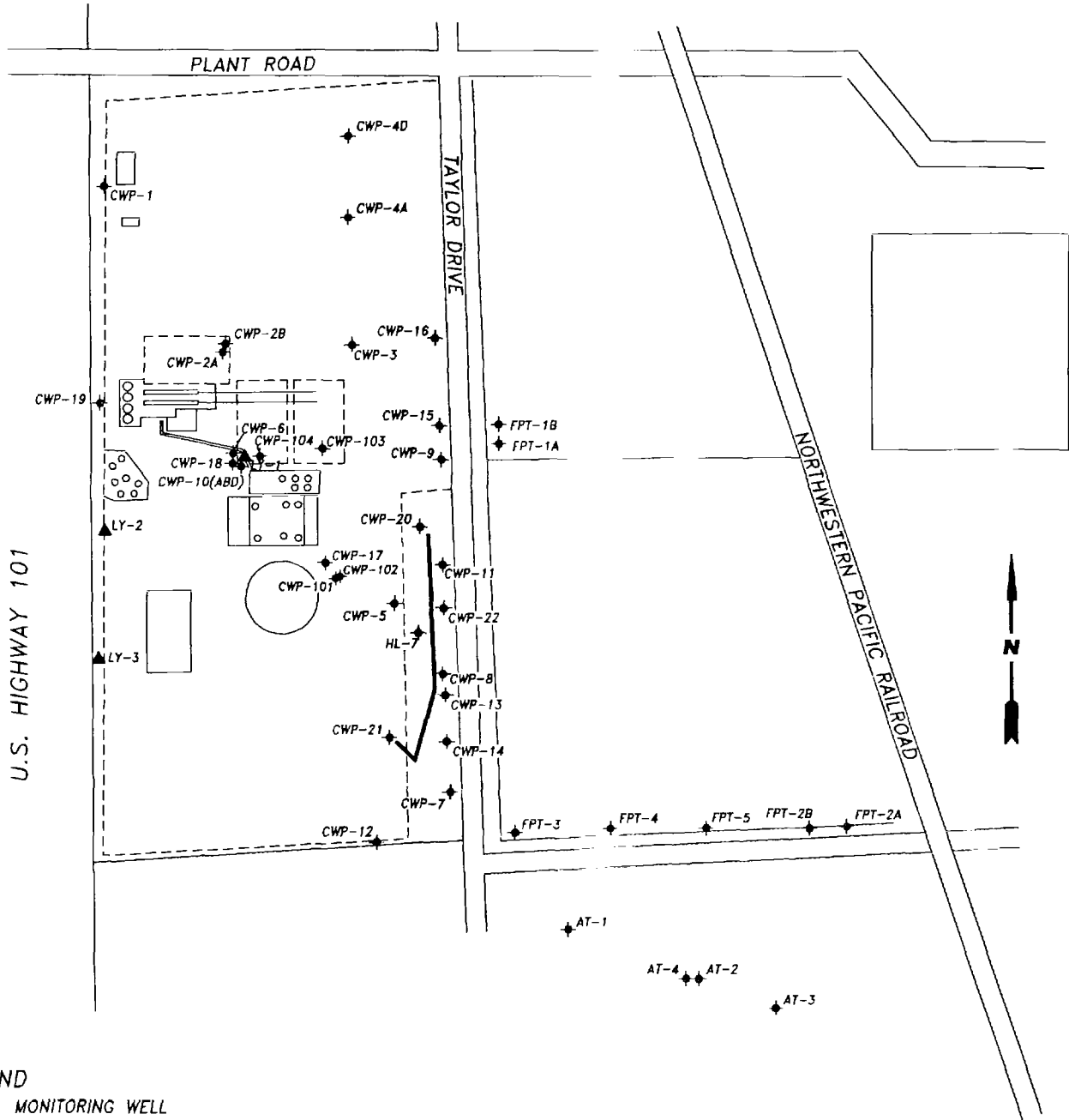
LOCATION:

UKIAH, CALIFORNIA

FIGURE:

**I**





**LEGEND**

- ◆ MONITORING WELL
- ▲ LYSIMETER CLUSTER
- CUT OFF WALL



**MONTGOMERY WATSON**

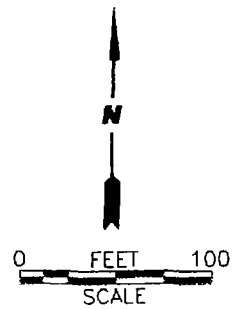
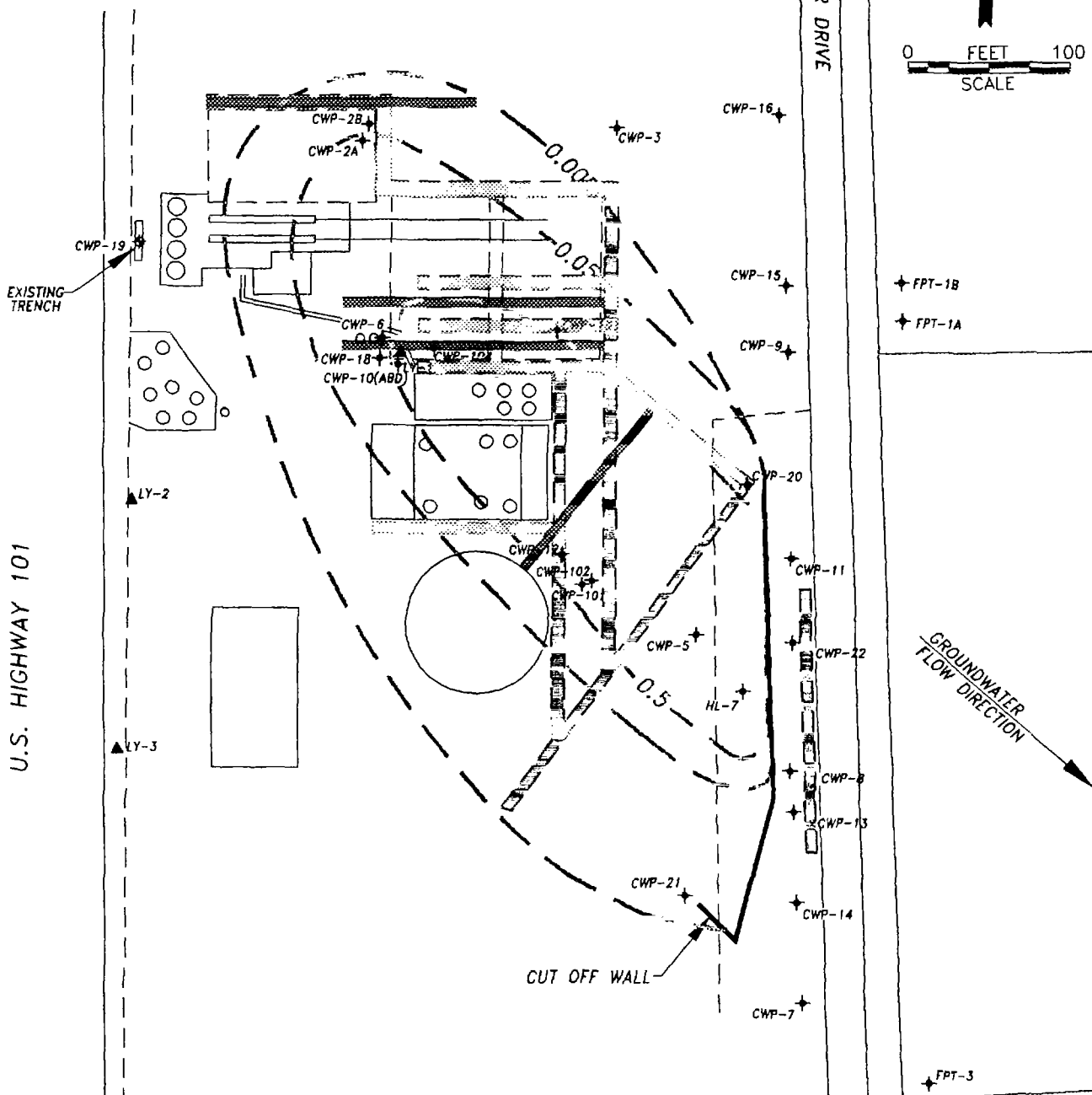
**SITE PLAN**

CLIENT:	COAST WOOD PRESERVING, INC.		FILE:	SP12000	PROJECT NO:	1196170	PM	RG/PE
	LOCATION:		REV:		DATE:		FIGURE:	
UKIAH, CALIFORNIA		DES:	TJ	DET:	ML	1/19/2000	2	



# LEGEND

- MONITORING WELL
- LYSIMETER CLUSTER
- INITIAL INJECTION TRANSECT (POINTS AT 20 FT SPACING)  
(SEPTEMBER, 1999)
- ADDITIONAL INJECTION TRANSECT (APRIL, 2000)
- COMPLETED INJECTION POINT
- DISSOLVED CHROMIUM CONCENTRATION CONTOUR (mg/L) 11/98
- EXISTING SHALLOW WELL/INFILTRATION TRENCH



FPT-1B  
FPT-1A

GROUNDWATER  
FLOW DIRECTION

FPT-3



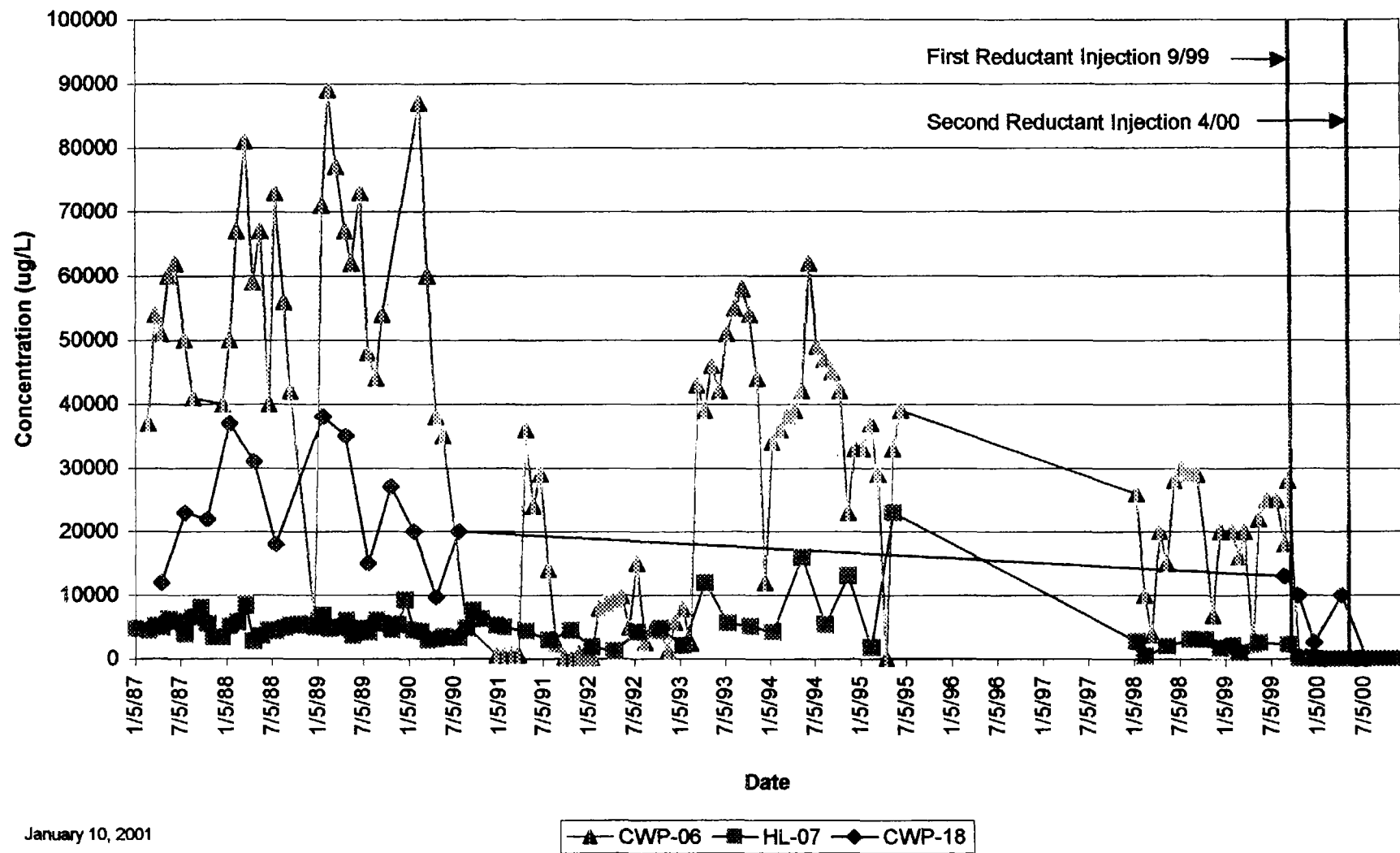
**MONTGOMERY WATSON**

## IN-SITU REDUCTION PROGRAM INJECTION TRANSECT LOCATIONS

CLIENT:	COAST WOOD PRESERVING, INC.		FILE:	SHLWGWREMDZ	PROJECT NO:	1196170	PM	RG/PE
	LOCATION:		REV:	4	DES:	RT	DET:	ML
		UKIAH, CALIFORNIA	DATE:	1/11/01	FIGURE:		3	



**Figure 4**  
**Dissolved Chromium vs. Time in Representative Wells**



January 10, 2001



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Table 1

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**MWH**  
MONTGOMERY WATSON HARZA



## **TABLES**

Table 1	Well Construction Details
Table 2	Ground Water Monitoring Program
Table 3	Ground Water Quality Data
Table 4	Lysimeter Soil Results
Table 5	Lysimeter Water Results
Table 6	Existing and Proposed Ground Water Monitoring Program



**TABLE 1**  
Well Construction Details

Coast Wood Preserving, Inc.  
Ukiah, CA

Well No.	Ground Surface Elevation (ft. above MSL)	Elevation of Reference Point (ft. above MSL)	Boring Depth (ft.)	Perforated Interval (ft. below ground surface)	Zone Monitored	Casing Diameter (inches)
CWP-1	582.2	582.99	20.0	17-19	1	6
CWP-2A	582.6	582.08	17.1	13.5-15.5	1	6
CWP-2B	582.6	582.08	11.0	9-11	1	6
CWP-3	580.1	580.37	20.0	9-12	1 <sup>(1)</sup>	6
CWP-4A	579.2	578.83	12.0	10-12	1	6
CWP-4D	579.6	578.76	14.5	10-14	1	6
CWP-5	578.2	578.10	20.0	7.5-10	1	6
CWP-6	582.5	582.02	14.8	8-12	1	6
CWP-7	576.1	576.75	25.0	6-25	1&2	12
CWP-8	576.7	577.09	23.0	4-23	1&2	12
CWP-9	578.8	579.21	26.0	6-26	1&2	12
CWP-11	578.0	579.76	12.0	6-11	1	4
CWP-12	576.9	579.29	26.5	13-23	1	4
CWP-13	576.4	579.19	41.5	28-38	2&3	4
CWP-14	576.2	577.65	31.5	18-28	1&2	4
CWP-15	578.1	579.96	41.5	22-32	2	4
CWP-16	578.3	581.84	12.0	7-12	1	4
CWP-17	580.0	581.19	46.5	35-45	4	4
CWP-18	582.3	582.69	14.0	5-14	1	8
CWP-19	584.2	583.37	24.0	6-24	1&2	8
CWP-20	578.9	578.52	23.0	5-23	1	2
CWP-21	576.6	579.39	22.0	5-20	1	2
CWP-22	577.3	580.02	28.0	21.8-26.8	2	4
CWP-101	579.2	578.90	25.0	20-25	2	2
CWP-102	579.1	578.75	16.0	11-16	1	2
CWP-103	NM	582.73	16.0	6-11	1	2
CWP-104	NM	582.80	13.5	7.5-12.5	1	2
HL-7	577.5	578.36	19.0	9-19	1	12
FPT-1A	NM	574.89	20.0	13-18	1	2
FPT-1B	575.3	575.23	9.0	6-9	1	2
FPT-2A	569.1	568.68	14.5	10-14.5	1	2
FPT-2B	568.9	568.81	8.0	5-8	1	2
FPT-3	574.5	575.57	20.0	11-16	1 <sup>(1)</sup>	2
FPT-4	572.2	573.30	18.0	4-18	1	2
FPT-5	570.0	571.90	17.0	5-17	1	2
AT-1	571.8	572.95	16.5	7-16	1	4
AT-2	569.9	571.10	17.0	7-15.5	1	4
AT-3	568.9	571.04	22.0	9-22	1	4
AT-4	570.1	571.33	30.0	17.5-27	2	4
AT-5	568.6	569.33	41.0	10.3-14.7	1	4

<sup>(1)</sup> Well construction may cause communication between Zones 1 and 2  
NM denotes Not Measured



**TABLE 2**  
**GROUNDWATER MONITORING PROGRAM**  
(Revised 7/15/00)

WELL ID	SAMPLING FREQUENCY
AT-1	QUARTERLY
AT-2	QUARTERLY
AT-3	ANNUALLY
AT-4	ANNUALLY
AT-5	ANNUALLY
CWP-2A	QUARTERLY
CWP-2B	SEMI-ANNUALLY
CWP-3	SEMI-ANNUALLY
CWP-4D	ANNUALLY
CWP-5	QUARTERLY
CWP-6	MONTHLY
CWP-7	SEMI-ANNUALLY
CWP-8	MONTHLY
CWP-9	SEMI-ANNUALLY
CWP-11	SEMI-ANNUALLY
CWP-12	SEMI-ANNUALLY
CWP-13	QUARTERLY
CWP-14	SEMI-ANNUALLY
CWP-15	SEMI-ANNUALLY
CWP-16	SEMI-ANNUALLY
CWP-17	SEMI-ANNUALLY
CWP-18	QUARTERLY
CWP-20	MONTHLY
CWP-21	MONTHLY
CWP-22	SEMI-ANNUALLY
CWP-101	QUARTERLY
CWP-102	QUARTERLY
CWP-103	QUARTERLY
CWP-104	QUARTERLY
FPT-3	QUARTERLY*
FPT-4	ANNUALLY
HL-7	MONTHLY

Annual Event – October

Semi-Annual - April & October

Quarterly – January, April, July & October

Monthly – February, March, May, June, August, September, November & December

\*The frequency of FPT-3 sampling has been revised to quarterly per Monitoring and Reporting Program 99-45.



TABLE 3

Groundwater Quality Data  
1996 through 2000Coast Wood Preserving  
Turlock, CA

SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
AT-01	12/15/1996	<5	---	---	---	---	---
AT-01	07/15/1997	<5	---	---	---	---	---
AT-01	01/15/1998	---	---	<5	---	---	---
AT-01	02/15/1998	---	---	<5	---	---	---
AT-01	03/15/1998	---	---	<5	---	---	---
AT-01	04/15/1998	---	---	<5	---	---	---
AT-01	05/15/1998	---	---	7.8	---	---	---
AT-01	06/15/1998	---	---	<5	---	---	---
AT-01	07/15/1998	---	---	<5	---	---	---
AT-01	08/15/1998	---	---	<5	---	---	---
AT-01	09/15/1998	---	---	<5	---	---	---
AT-01	10/15/1998	---	---	<5	---	---	---
AT-01	11/15/1998	---	---	5.4	---	---	---
AT-01	12/15/1998	---	---	5	---	---	---
AT-01	01/30/1999	---	---	<5	---	---	---
AT-01	02/27/1999	---	---	<5	---	---	---
AT-01	03/20/1999	---	---	<5	---	---	---
AT-01	04/24/1999	---	---	<5	---	---	---
AT-01	05/17/1999	---	---	<5	---	---	---
AT-01	06/19/1999	---	---	<5	---	---	---
AT-01	07/26/1999	---	---	6.8	---	---	---
AT-01	12/10/1999	<10	---	<10	<10	19	45
AT-01	04/10/2000	<10	---	<10	16	23	35.5
AT-01	07/17/2000	<10	---	<10	11	19	37.67
AT-01	10/04/2000	<10	---	<10	100	19	47.29
AT-02	01/15/1998	---	---	<5	---	---	---
AT-02	02/15/1998	---	---	<5	---	---	---
AT-02	05/15/1998	---	---	<5	---	---	---
AT-02	08/15/1998	---	---	<5	---	---	---
AT-02	10/15/1998	---	---	<5	---	---	---
AT-02	01/30/1999	---	---	<5	---	---	---
AT-02	02/27/1999	---	---	<5	---	---	---
AT-02	05/17/1999	---	---	<5	---	---	---
AT-02	12/10/1999	<10	---	<10	90	28	33
AT-02	04/10/2000	<10	---	<10	<10	24	45.75
AT-02	07/17/2000	<10	---	<10	14	18	29.38
AT-02	10/04/2000	<10	---	<10	94	30	22.94
AT-03	01/15/1998	---	---	<5	---	---	---
AT-03	01/30/1999	---	---	<5	---	---	---
AT-03	12/10/1999	<10	---	<10	<10	25	85
AT-03	10/04/2000	<10	---	<10	92	15	18.92
AT-04	01/15/1998	---	---	<5	---	---	---
AT-04	10/15/1998	---	---	<5	---	---	---
AT-04	01/30/1999	---	---	<5	---	---	---
AT-04	12/10/1999	<10	---	<10	<10	16	5.3
AT-04	10/04/2000	<10	---	<10	390	14	7.85
AT-05	01/15/1998	---	---	<5	---	---	---
AT-05	01/30/1999	---	---	<5	---	---	---
AT-05	12/10/1999	<10	---	<10	21	22	103
AT-05	10/04/2000	<10	---	<10	23	21	84.73



TABLE 3

Groundwater Quality Data  
1996 through 2000Coast Wood Preserving  
Turlock, CA

SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
CWP-02A	08/27/1999	57	---	4700	230	16	---
CWP-02A	12/21/1999	93	---	23	720	29	101
CWP-02A	04/08/2000	500	---	330	130	7.9	2.53
CWP-02A	07/18/2000	440	---	<10	540	16	43
CWP-02A	10/05/2000	440	---	340	510	22	4.84
CWP-02B	10/15/1998	---	---	34	---	---	---
CWP-02B	08/27/1999	12	---	10	79	3.9	---
CWP-02B	10/22/1999	---	---	410	---	7800	1050
CWP-02B	12/21/1999	50	---	300	26000	550	1618
CWP-02B	04/08/2000	210	---	220	6800	150	355.4
CWP-02B	10/05/2000	390	---	470	1400	150	201.6
CWP-03	12/10/1999	28	---	42	<10	14	3.6
CWP-03	04/10/2000	14	---	<10	94	13	5.13
CWP-04D	01/15/1998	---	---	<5	---	---	---
CWP-04D	01/30/1999	---	---	<5	---	---	---
CWP-04D	08/27/1999	<5	---	<5	<30	25	---
CWP-04D	12/10/1999	<10	---	<10	24	29	101
CWP-04D	04/10/2000	<10	---	<10	25	30	94.24
CWP-04D	10/04/2000	<10	---	<10	170	25	73.22
CWP-05	04/10/2000	<10	---	12000	<100	66	336.86
CWP-05	07/17/2000	<10	---	920	2200	240	891
CWP-06	12/15/1996	13	---	---	---	---	---
CWP-06	07/15/1997	<5	---	---	---	---	---
CWP-06	01/15/1998	---	---	26000	---	---	---
CWP-06	02/15/1998	---	---	10000	---	---	---
CWP-06	03/15/1998	---	---	3800	---	---	---
CWP-06	04/15/1998	---	---	20000	---	---	---
CWP-06	05/15/1998	---	---	15000	---	---	---
CWP-06	06/15/1998	---	---	28000	---	---	---
CWP-06	07/15/1998	---	---	30000	---	---	---
CWP-06	08/15/1998	---	---	29000	---	---	---
CWP-06	09/15/1998	---	---	29000	---	---	---
CWP-06	11/15/1998	---	---	6800	---	---	---
CWP-06	12/15/1998	---	---	20000	---	---	---
CWP-06	01/30/1999	---	---	20000	---	---	---
CWP-06	02/27/1999	---	---	16000	---	---	---
CWP-06	03/20/1999	---	---	20000	---	---	---
CWP-06	04/24/1999	---	---	2200	---	---	---
CWP-06	05/17/1999	---	---	22000	---	---	---
CWP-06	06/19/1999	---	---	25000	---	---	---
CWP-06	07/26/1999	---	---	25000	---	---	---
CWP-06	08/27/1999	<5	---	18000	270	22	---
CWP-06	09/11/1999	<5	---	28000	420	35	---
CWP-06	10/22/1999	---	---	400	---	30	12.85
CWP-06	11/19/1999	220	---	230	80	5.7	8.4
CWP-06	12/21/1999	<10	---	<50	140	3000	863
CWP-06	01/21/2000	<10	---	<10	32	1890	11
CWP-06	02/14/2000	378	---	<10	54	3440	915
CWP-06	03/17/2000	14	---	26	130	2200	914
CWP-06	04/08/2000	430	---	48	130	2850	1106.95



TABLE 3

Groundwater Quality Data  
1996 through 2000Coast Wood Preserving  
Turlock, CA

SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
CWP-06	05/20/2000	<10	---	28	140	210	9.68
CWP-06	06/17/2000	170	---	<500	<500	3100	1718.5
CWP-06	07/17/2000	12	---	<150	285	1200	1965
CWP-06	08/15/2000	260	---	20	220	1900	2503.015
CWP-06	09/15/2000	340	---	<50	52	3000	2590.09
CWP-06	10/05/2000	450	---	<500	<500	3700	1850.25
CWP-06	11/14/2000	460	---	<10	110	3300	741.59
CWP-06	12/07/2000	320	---	<500	<500	2300	1591
CWP-07	01/15/1998	---	---	<5	---	---	---
CWP-07	10/15/1998	---	---	9	<10	---	---
CWP-07	01/30/1999	---	---	<5	---	---	---
CWP-07	12/17/1999	<10	---	<10	15	18	35
CWP-07	04/10/2000	<10	---	<10	38	20	40
CWP-07	10/04/2000	<10	---	<10	49	18	31.21
CWP-08	12/15/1996	<5	---	---	---	---	---
CWP-08	06/15/1997	<5	---	---	---	---	---
CWP-08	07/15/1997	<5	---	---	---	---	---
CWP-08	01/15/1998	---	---	450	---	---	---
CWP-08	02/15/1998	---	---	410	---	---	---
CWP-08	03/15/1998	---	---	110	---	---	---
CWP-08	04/15/1998	---	---	160	---	---	---
CWP-08	05/15/1998	---	---	140	---	---	---
CWP-08	06/15/1998	---	---	1300	---	---	---
CWP-08	07/15/1998	---	---	49	---	---	---
CWP-08	08/15/1998	---	---	61	---	---	---
CWP-08	09/15/1998	---	---	62	---	---	---
CWP-08	10/15/1998	---	---	94	---	---	---
CWP-08	11/15/1998	---	---	300	---	---	---
CWP-08	12/15/1998	---	---	350	---	---	---
CWP-08	01/30/1999	---	---	270	---	---	---
CWP-08	02/27/1999	---	---	250	---	---	---
CWP-08	03/20/1999	---	---	110	---	---	---
CWP-08	04/24/1999	---	---	100	---	---	---
CWP-08	05/17/1999	---	---	44	---	---	---
CWP-08	06/19/1999	---	---	49	---	---	---
CWP-08	07/26/1999	---	---	44	---	---	---
CWP-08	08/27/1999	<5	---	62	<30	46	---
CWP-08	09/11/1999	<5	---	44	<30	28	---
CWP-08	10/22/1999	---	---	7600	---	400	119
CWP-08	11/19/1999	<10	---	1200	170	2.5	51
CWP-08	12/08/1999	<10	---	310	1400	28	94.4
CWP-08	12/21/1999	82	---	<50	96	1200	243
CWP-08	01/21/2000	24	---	<10	7200	215	7
CWP-08	02/14/2000	66	---	<10	7770	198	541
CWP-08	03/17/2000	29	---	<10	6100	220	523
CWP-08	04/08/2000	130	---	<10	1500	260	703.32
CWP-08	05/20/2000	68	---	<10	12000	200	5.79
CWP-08	06/17/2000	200	---	<250	3300	490	1255
CWP-08	07/17/2000	320	---	<10	8800	630	1567
CWP-08	08/15/2000	230	---	<10	6200	960	2616.13
CWP-08	09/15/2000	83	---	<10	8000	65	1904.84
CWP-08	10/04/2000	140	---	<10	7500	1500	3016.24
CWP-08	11/14/2000	<10	---	<10	29000	400	885.78
CWP-08	12/07/2000	28	---	<10	17000	300	664.3



TABLE 3

Groundwater Quality Data  
1996 through 2000Coast Wood Preserving  
Turlock, CA

SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
CWP-09	10/15/1998	--	--	<5	--	--	--
CWP-09	08/27/1999	<5	--	<5	<30	17	--
CWP-09	12/17/1999	<10	--	<10	<10	17	28
CWP-09	04/10/2000	<10	--	11	<10	19	28.39
CWP-09	10/04/2000	<10	--	17	180	18	29
CWP-101	12/21/1999	<10	--	120	860	12	30.87
CWP-101	04/08/2000	<10	--	<10	1100	15	21.04
CWP-101	07/17/2000	<10	--	77	1300	15	30.75
CWP-101	10/05/2000	<10	--	<10	1600	530	1845.17
CWP-102	09/13/1999	--	--	50	--	--	--
CWP-102	12/21/1999	<10	--	<10	110	150	363
CWP-102	04/08/2000	<10	--	<10	1000	190	679.78
CWP-102	07/18/2000	<10	--	<10	600	200	867.5
CWP-102	10/05/2000	<10	--	81	840	14	35.72
CWP-103	07/19/1999	2.6	--	1100	120	34	--
CWP-103	07/20/1999	3.5	--	3600	79	30	--
CWP-103	08/27/1999	12	--	560	<30	2.8	--
CWP-103	12/21/1999	93	--	600	5700	620	1600
CWP-103	04/08/2000	1100	--	140000	5600	100	585.13
CWP-103	07/18/2000	160	--	<10	0.52	1.8	1490
CWP-103	10/05/2000	210	--	<500	<500	2000	3238.07
CWP-104	07/19/1999	<2	--	9600	<30	26	--
CWP-104	07/20/1999	<2	--	10000	<30	22	--
CWP-104	08/27/1999	<5	--	9900	<30	23	--
CWP-104	12/21/1999	460	--	<500	<500	17000	4900
CWP-104	04/08/2000	330	--	<10	<10	4260	1449
CWP-104	07/18/2000	54	--	<10	0.086	1.6	3300
CWP-104	10/05/2000	13500	--	1200	340	480	938.52
CWP-11	01/15/1998	--	--	<5	--	--	--
CWP-11	08/15/1998	--	--	<5	--	--	--
CWP-11	10/15/1998	--	--	<5	--	--	--
CWP-11	01/30/1999	--	--	<5	--	--	--
CWP-11	08/27/1999	<5	--	<5	<30	30	--
CWP-11	12/17/1999	<10	--	<10	41	34	26
CWP-11	04/10/2000	<10	--	<10	<10	21	32.68
CWP-11	10/04/2000	<10	--	<10	290	29	11.32
CWP-12	10/15/1998	--	--	<5	--	--	--
CWP-12	08/27/1999	<5	--	7.5	<30	18	--
CWP-12	12/17/1999	<10	--	18	<10	18	76
CWP-12	04/10/2000	<10	--	14	<10	17	78.72
CWP-12	10/04/2000	<10	--	<10	<10	20	74.76



TABLE 3

Groundwater Quality Data  
1996 through 2000Coast Wood Preserving  
Turlock, CA

SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
CWP-13	09/20/1982	<4	<20	20	---	---	---
CWP-13	06/16/1983	---	---	<20	---	---	---
CWP-13	12/08/1983	<50	<10	<50	---	---	---
CWP-13	01/24/1984	<5	<10	<10	---	---	---
CWP-13	03/01/1984	<4	<20	<20	---	---	---
CWP-13	03/21/1984	---	---	81	---	---	---
CWP-13	01/30/1985	---	---	<20	---	---	---
CWP-13	03/01/1985	---	---	<20	---	---	---
CWP-13	04/01/1985	---	---	<20	---	---	---
CWP-13	05/03/1985	---	---	<20	---	---	---
CWP-13	07/02/1985	---	---	<20	---	---	---
CWP-13	08/01/1985	---	---	<20	---	---	---
CWP-13	09/09/1985	---	---	<20	---	---	---
CWP-13	10/01/1985	---	---	<20	---	---	---
CWP-13	10/21/1985	---	---	<20	---	---	---
CWP-13	12/04/1985	---	---	<20	---	---	---
CWP-13	01/02/1986	---	---	<20	---	---	---
CWP-13	02/13/1986	---	---	<20	---	---	---
CWP-13	03/14/1986	---	---	<20	---	---	---
CWP-13	04/03/1986	---	---	<20	---	---	---
CWP-13	05/01/1986	---	---	<20	---	---	---
CWP-13	08/13/1986	---	---	<20	---	---	---
CWP-13	09/03/1986	---	---	<20	---	---	---
CWP-13	10/06/1986	---	---	<20	---	---	---
CWP-13	12/03/1986	---	---	<20	---	---	---
CWP-13	01/05/1987	---	---	<20	---	---	---
CWP-13	02/25/1987	---	---	<20	---	---	---
CWP-13	03/27/1987	---	---	<20	---	---	---
CWP-13	04/20/1987	---	---	<20	---	---	---
CWP-13	05/19/1987	---	---	<20	---	---	---
CWP-13	05/20/1987	---	---	<20	---	---	---
CWP-13	06/06/1987	---	---	<20	---	---	---
CWP-13	07/21/1987	---	---	<20	---	---	---
CWP-13	08/24/1987	---	---	<20	---	---	---
CWP-13	09/23/1987	---	---	<20	---	---	---
CWP-13	10/19/1987	---	---	<20	---	---	---
CWP-13	11/13/1987	---	---	<20	---	---	---
CWP-13	12/18/1987	---	---	<20	---	---	---
CWP-13	01/18/1988	---	---	<20	---	---	---
CWP-13	02/18/1988	---	---	<20	---	---	---
CWP-13	03/21/1988	---	---	<20	---	---	---
CWP-13	04/22/1988	---	---	<20	---	---	---
CWP-13	05/23/1988	---	---	<20	---	---	---
CWP-13	06/23/1988	---	---	<20	---	---	---
CWP-13	07/19/1988	---	---	<20	---	---	---
CWP-13	08/23/1988	---	---	<20	---	---	---
CWP-13	09/19/1988	---	---	<20	---	---	---
CWP-13	10/24/1988	---	---	<20	---	---	---
CWP-13	11/21/1988	---	---	<20	---	---	---
CWP-13	12/23/1988	---	---	<20	---	---	---
CWP-13	01/24/1989	---	---	<20	---	---	---
CWP-13	02/20/1989	---	---	<20	---	---	---
CWP-13	03/21/1989	---	---	<20	---	---	---
CWP-13	04/28/1989	---	---	<20	---	---	---
CWP-13	05/22/1989	---	---	<20	---	---	---



TABLE 3

Groundwater Quality Data  
1996 through 2000Coast Wood Preserving  
Turlock, CA

SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		( $\mu\text{g/l}$ )	( $\mu\text{g/l}$ )	( $\mu\text{g/l}$ )	( $\mu\text{g/l}$ )	(mg/L)	(mg/L)
CWP-13	06/28/1989	---	---	<20	---	---	---
CWP-13	07/25/1989	---	---	<20	---	---	---
CWP-13	08/29/1989	---	---	<20	---	---	---
CWP-13	09/22/1989	---	---	<20	---	---	---
CWP-13	10/25/1989	---	---	<20	---	---	---
CWP-13	11/21/1989	---	---	<20	---	---	---
CWP-13	12/21/1989	---	---	<20	---	---	---
CWP-13	01/23/1990	---	---	<20	---	---	---
CWP-13	02/21/1990	---	---	<20	---	---	---
CWP-13	03/21/1990	---	---	<20	---	---	---
CWP-13	04/23/1990	---	---	<20	---	---	---
CWP-13	05/23/1990	---	---	<20	---	---	---
CWP-13	06/22/1990	---	---	<20	---	---	---
CWP-13	07/26/1990	---	---	<20	---	---	---
CWP-13	08/23/1990	---	---	<20	---	---	---
CWP-13	08/24/1990	---	---	<20	---	---	---
CWP-13	09/20/1990	---	---	<20	---	---	---
CWP-13	10/23/1990	---	---	<20	---	---	---
CWP-13	12/27/1990	---	---	5	---	---	---
CWP-13	01/23/1991	---	---	5	---	---	---
CWP-13	04/26/1991	---	---	5	---	---	---
CWP-13	07/29/1991	---	---	5	---	---	---
CWP-13	10/24/1991	---	---	5	---	---	---
CWP-13	01/15/1992	---	---	5	---	---	---
CWP-13	04/15/1992	---	---	5	---	---	---
CWP-13	07/15/1992	---	---	5	---	---	---
CWP-13	10/15/1992	---	---	5	---	---	---
CWP-13	01/15/1993	---	---	5	---	---	---
CWP-13	04/15/1993	---	---	5	---	---	---
CWP-13	07/15/1993	---	---	5	---	---	---
CWP-13	10/15/1993	---	---	5	---	---	---
CWP-13	01/15/1994	---	---	5	---	---	---
CWP-13	05/15/1994	---	---	5	---	---	---
CWP-13	08/15/1994	---	---	5	---	---	---
CWP-13	11/15/1994	---	---	5	---	---	---
CWP-13	02/15/1995	---	---	5	---	---	---
CWP-13	05/15/1995	---	---	5	---	---	---
CWP-13	01/15/1998	---	---	5	---	---	---
CWP-13	02/15/1998	---	---	5	---	---	---
CWP-13	05/15/1998	---	---	5	---	---	---
CWP-13	08/15/1998	---	---	5	---	---	---
CWP-13	10/15/1998	---	---	5	---	---	---
CWP-13	01/30/1999	---	---	5	---	---	---
CWP-13	02/27/1999	---	---	5	---	---	---
CWP-13	05/17/1999	---	---	5	---	---	---
CWP-13	08/27/1999	<5	---	5	1600	22	---
CWP-13	12/17/1999	<10	---	<10	2100	85	194
CWP-13	04/10/2000	<10	---	<10	2600	49	100.01
CWP-13	07/17/2000	<10	---	<10	2400	54	119.4
CWP-13	10/04/2000	<10	---	<10	5100	190	305.49
CWP-14	09/20/1982	<4	<20	<20	---	---	---
CWP-14	06/16/1983	---	---	<20	---	---	---
CWP-14	10/04/1983	64	<50	50	---	---	---
CWP-14	12/08/1983	<50	<10	<50	---	---	---
CWP-14	03/01/1984	<4	<20	<20	---	---	---



TABLE 3

Groundwater Quality Data  
1996 through 2000Coast Wood Preserving  
Turlock, CA

SITE	DATE	Arsenic	Chromium	Chromium	Manganese	Calcium	Sulfate
		Dissolved ( $\mu\text{g/l}$ )	(Hexavalent) ( $\mu\text{g/l}$ )	Dissolved ( $\mu\text{g/l}$ )	Dissolved ( $\mu\text{g/l}$ )	Dissolved ( $\text{mg/L}$ )	( $\text{mg/L}$ )
CWP-14	03/21/1984	---	---	<10	---	---	---
CWP-14	01/30/1985	---	---	<50	---	---	---
CWP-14	05/03/1985	---	---	<20	---	---	---
CWP-14	08/01/1985	---	---	<20	---	---	---
CWP-14	10/31/1985	---	---	<20	---	---	---
CWP-14	02/13/1986	---	---	<20	---	---	---
CWP-14	05/01/1986	---	---	<20	---	---	---
CWP-14	08/13/1986	---	---	<20	---	---	---
CWP-14	04/20/1987	---	---	<20	---	---	---
CWP-14	07/21/1987	---	---	<20	---	---	---
CWP-14	10/01/1987	---	---	<20	---	---	---
CWP-14	01/18/1988	---	---	<20	---	---	---
CWP-14	04/22/1988	---	---	<20	---	---	---
CWP-14	07/19/1988	---	---	<20	---	---	---
CWP-14	10/24/1988	---	---	<20	---	---	---
CWP-14	01/24/1989	---	---	<20	---	---	---
CWP-14	04/28/1989	---	---	<20	---	---	---
CWP-14	07/25/1989	---	---	<20	---	---	---
CWP-14	10/25/1989	---	---	<20	---	---	---
CWP-14	01/23/1990	---	---	<20	---	---	---
CWP-14	04/24/1990	---	---	<20	---	---	---
CWP-14	07/25/1990	---	---	<20	---	---	---
CWP-14	07/26/1990	---	---	<20	---	---	---
CWP-14	10/24/1990	---	---	<20	---	---	---
CWP-14	01/23/1991	---	---	<5	---	---	---
CWP-14	01/15/1992	---	---	<5	---	---	---
CWP-14	01/15/1993	---	---	<5	---	---	---
CWP-14	01/15/1994	---	---	<5	---	---	---
CWP-14	10/15/1998	---	---	<5	---	---	---
CWP-14	08/27/1999	<5	---	<5	840	22	---
CWP-14	12/17/1999	<10	---	<10	2000	49	161
CWP-14	04/10/2000	17	---	<10	2900	400	1190
CWP-14	10/04/2000	<10	---	<10	1800	34	61.3
CWP-15	09/20/1982	<4	<20	<20	---	---	---
CWP-15	03/21/1984	---	---	<10	---	---	---
CWP-15	01/18/1988	---	---	<20	---	---	---
CWP-15	01/24/1990	---	---	<20	---	---	---
CWP-15	01/25/1990	---	---	<20	---	---	---
CWP-15	12/17/1999	<10	---	<10	44	20	31
CWP-15	04/10/2000	<10	---	<10	15	22	25.72
CWP-15	10/04/2000	<10	---	<10	150	17	16.96
CWP-16	12/17/1999	<10	---	<10	43	23	26
CWP-16	04/10/2000	<10	---	<10	34	26	24.72
CWP-16	10/04/2000	<10	---	<10	<10	5.9	3.25
CWP-17	10/15/1998	---	---	<5	---	---	---
CWP-17	08/27/1999	7.9	---	<5	<30	19	---
CWP-17	12/17/1999	<10	---	<10	430	13	5
CWP-17	04/10/2000	<10	---	<10	870	24	5.02
CWP-17	10/04/2000	<10	---	<10	1200	29	3.14



TABLE 3

Groundwater Quality Data  
1996 through 2000Coast Wood Preserving  
Turlock, CA

SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
CWP-18	08/27/1999	11	---	13000	<30	14	---
CWP-18	10/22/1999	---	---	10000	---	21	110
CWP-18	12/21/1999	<10	---	2600	930	24	146
CWP-18	04/08/2000	<10	---	10000	220	18	206
CWP-18	07/17/2000	15	---	<10	4900	46	265.12
CWP-18	10/05/2000	<10	---	<10	3600	32	188.13
CWP-20	12/15/1996	8	---	---	---	---	---
CWP-20	06/15/1997	7	---	---	---	---	---
CWP-20	07/15/1997	6	---	---	---	---	---
CWP-20	01/15/1998	---	---	23	---	---	---
CWP-20	02/15/1998	---	---	9.7	---	---	---
CWP-20	03/15/1998	---	---	16	---	---	---
CWP-20	04/15/1998	---	---	<5	---	---	---
CWP-20	05/15/1998	---	---	140	---	---	---
CWP-20	06/15/1998	---	---	260	---	---	---
CWP-20	07/15/1998	---	---	340	---	---	---
CWP-20	08/15/1998	---	---	1900	---	---	---
CWP-20	09/15/1998	---	---	2000	---	---	---
CWP-20	10/15/1998	---	---	480	---	---	---
CWP-20	11/15/1998	---	---	5.5	---	---	---
CWP-20	12/15/1998	---	---	88	---	---	---
CWP-20	01/30/1999	---	---	18	---	---	---
CWP-20	02/27/1999	---	---	13	---	---	---
CWP-20	03/20/1999	---	---	19	---	---	---
CWP-20	04/24/1999	---	---	26	---	---	---
CWP-20	05/17/1999	---	---	<5	---	---	---
CWP-20	06/19/1999	---	---	<5	---	---	---
CWP-20	07/26/1999	---	---	8.2	---	---	---
CWP-20	08/27/1999	<5	---	520	160	7.6	---
CWP-20	09/11/1999	<5	---	450	150	7.3	---
CWP-20	10/22/1999	---	---	7	---	67	0.031
CWP-20	11/19/1999	<10	---	<10	49	2.2	2.5
CWP-20	12/21/1999	<10	---	<10	28	8.1	16.92
CWP-20	01/21/2000	<10	---	<10	56	3	2
CWP-20	02/14/2000	<10	---	<10	100	3	2
CWP-20	03/17/2000	<10	---	<10	110	1	2
CWP-20	04/08/2000	<10	---	<10	150	4.9	10.88
CWP-20	05/20/2000	<10	---	<10	57	3.6	<1000
CWP-20	06/17/2000	<10	---	<250	<250	<50000	22
CWP-20	07/17/2000	<10	---	<10	140	11	26.14
CWP-20	08/15/2000	<10	---	<10	200	13	49.025
CWP-20	09/15/2000	<10	---	<50	71	21	28.63
CWP-20	10/04/2000	<10	---	16	170	19	25.42
CWP-20	11/14/2000	<10	---	<10	29	<1000	3.22
CWP-20	12/07/2000	<10	---	<10	110	6	4.94
CWP-21	12/15/1996	11	---	---	---	---	---
CWP-21	06/15/1997	23	---	---	---	---	---
CWP-21	07/15/1997	<5	---	---	---	---	---
CWP-21	01/15/1998	---	---	<5	---	---	---
CWP-21	02/15/1998	---	---	7.3	---	---	---
CWP-21	03/15/1998	---	---	6	---	---	---
CWP-21	04/15/1998	---	---	<5	---	---	---
CWP-21	05/15/1998	---	---	8.8	---	---	---



TABLE 3

Groundwater Quality Data  
1996 through 2000Coast Wood Preserving  
Turlock, CA

SITE	DATE	Arsenic	Chromium	Chromium	Manganese	Calcium	Sulfate
		Dissolved	(Hexavalent)	Dissolved	Dissolved	Dissolved	
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
CWP-21	06/15/1998	---	---	8.4	---	---	---
CWP-21	07/15/1998	---	---	<5	---	---	---
CWP-21	08/15/1998	---	---	<5	---	---	---
CWP-21	09/15/1998	---	---	17	---	---	---
CWP-21	10/15/1998	---	---	8.5	---	---	---
CWP-21	11/15/1998	---	---	16	---	---	---
CWP-21	12/15/1998	---	---	<5	---	---	---
CWP-21	01/30/1999	---	---	<5	---	---	---
CWP-21	02/27/1999	---	---	5.9	---	---	---
CWP-21	03/20/1999	---	---	5.9	---	---	---
CWP-21	04/24/1999	---	---	<5	---	---	---
CWP-21	05/17/1999	---	---	<5	---	---	---
CWP-21	06/19/1999	---	---	<5	---	---	---
CWP-21	07/26/1999	---	---	5.8	---	---	---
CWP-21	08/27/1999	<5	---	<5	48	12	---
CWP-21	09/11/1999	<5	---	7.2	<30	12	---
CWP-21	10/22/1999	---	---	<5	---	18	28
CWP-21	11/19/1999	33	---	<10	<10	5.4	18
CWP-21	12/21/1999	<10	---	<10	48	23	36.69
CWP-21	01/21/2000	18	---	<10	<10	32	7
CWP-21	02/14/2000	67	---	84	19	20	3
CWP-21	03/17/2000	<10	---	<10	38	21	33
CWP-21	04/08/2000	<10	---	<10	270	29	93.32
CWP-21	05/20/2000	18	---	<10	<10	48	<1000
CWP-21	06/17/2000	14	---	<10	53	28	94.08
CWP-21	07/17/2000	<10	---	<10	320	27	80.39
CWP-21	08/15/2000	<10	---	<10	270	28	68.825
CWP-21	09/15/2000	19	---	<10	150	21	50.075
CWP-21	10/04/2000	<10	---	<10	130	20	44.94
CWP-21	11/14/2000	57	---	20	500	39	33.29
CWP-21	12/07/2000	18	---	18	330	26	34.19
CWP-22	10/15/1998	---	---	28	---	---	---
CWP-22	08/27/1999	<5	---	14	<30	22	---
CWP-22	12/17/1999	40	---	16	17000	150	577
CWP-22	04/10/2000	17	---	<100	13000	480	1448.16
CWP-22	10/04/2000	<10	---	41	18000	190	586.5
FPT-03	12/15/1996	<5	---	---	---	---	---
FPT-03	07/15/1997	<5	---	---	---	---	---
FPT-03	01/15/1998	---	---	6.9	---	---	---
FPT-03	02/15/1998	---	---	9.6	---	---	---
FPT-03	03/15/1998	---	---	24	---	---	---
FPT-03	04/15/1998	---	---	16	---	---	---
FPT-03	05/15/1998	---	---	17	---	---	---
FPT-03	06/15/1998	---	---	7.9	---	---	---
FPT-03	07/15/1998	---	---	<5	---	---	---
FPT-03	08/15/1998	---	---	12	---	---	---
FPT-03	09/15/1998	---	---	<5	---	---	---
FPT-03	10/15/1998	---	---	15	---	---	---
FPT-03	11/15/1998	---	---	<5	---	---	---
FPT-03	12/15/1998	---	---	7.5	---	---	---
FPT-03	01/30/1999	---	---	9.4	---	---	---
FPT-03	02/27/1999	---	---	<5	---	---	---
FPT-03	03/20/1999	---	---	27	---	---	---
FPT-03	04/24/1999	---	---	24	---	---	---



TABLE 3

Groundwater Quality Data  
1996 through 2000Coast Wood Preserving  
Turlock, CA

SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
FPT-03	05/17/1999	---	---	13	---	---	---
FPT-03	06/19/1999	---	---	9.3	---	---	---
FPT-03	07/26/1999	---	---	6.4	---	---	---
FPT-03	12/10/1999	<10	---	18	<10	23	46
FPT-03	06/26/2000	<10	---	<10	58	28	<1000
FPT-03	10/04/2000	<10	---	<10	42	21	64.45
FPT-04	01/15/1998	---	---	5.1	---	---	---
FPT-04	05/15/1998	---	---	<5	---	---	---
FPT-04	12/10/1999	<10	---	<10	95	24	48
FPT-04	10/04/2000	<10	---	<10	65	21	69.87
HL-07	01/15/1998	---	---	2800	---	---	---
HL-07	02/15/1998	---	---	450	---	---	---
HL-07	05/15/1998	---	---	2000	---	---	---
HL-07	08/15/1998	---	---	3100	---	---	---
HL-07	10/15/1998	---	---	3000	---	---	---
HL-07	12/15/1998	---	---	1700	---	---	---
HL-07	01/30/1999	---	---	2100	---	---	---
HL-07	02/27/1999	---	---	1000	---	---	---
HL-07	05/17/1999	---	---	2600	---	---	---
HL-07	09/11/1999	<5	---	2300	<30	16	---
HL-07	10/22/1999	---	---	9	---	30	94
HL-07	11/19/1999	<10	---	110	600	1.6	64
HL-07	12/21/1999	<10	---	<50	550	400	176
HL-07	01/21/2000	32	---	<10	970	91	3
HL-07	02/14/2000	29	---	<10	1580	102	265
HL-07	03/14/2000	<10	---	<10	2400	54	221
HL-07	04/08/2000	<10	---	<10	1000	133	391.99
HL-07	05/20/2000	<10	---	<10	1900	96	4
HL-07	06/17/2000	<10	---	<10	2600	200	635
HL-07	07/17/2000	50	---	<10	4200	130	320.5
HL-07	08/15/2000	<10	---	10	3200	270	77.95
HL-07	09/15/2000	<10	---	<10	2900	190	662.49
HL-07	10/04/2000	<10	---	<10	2500	160	496.47
HL-07	11/14/2000	<10	---	<10	3600	170	481.07
HL-07	12/07/2000	<10	---	<10	2900	140	416.21



**TABLE 4**  
**Lysimeter Soil Results**  
Dissolved Arsenic, Dissolved Chromium, Dissolved Copper  
September 1999  
Coast Wood Preserving, Inc.  
Ukiah, CA.

SITE	DEPTH (feet)	DATE	Dissolved Arsenic	Dissolved Chromium (mg/kg)	Dissolved Copper
LY-1	3.5	9/15/99	10	65	33
LY-1	7.5	9/15/99	6.8	91	2.7
LY-2	7.5	9/15/99	15	73	23
LY-3	3.5	9/15/99	6.6	45	24
LY-3	7.5	9/15/99	5.5	41	25



**TABLE 5**  
**Lysimeter Water Results**  
Dissolved Chromium  
October 1999 - October 2000  
Coast Wood Preserving, Inc.  
Ukiah, CA.

SITE	DEPTH (feet)	DATE	Dissolved Chromium, Comments (ug/L)
LY-1	3.5	10/22/99	180
LY-1	3.5	1/29/00	Flooded, polysulfide
LY-1	3.5	4/11/00	<10
LT-1	3.5	7/28/00	Dry
LY-1	7.5	10/22/99	16000
LY-1	7.5	1/29/00	Flooded, polysulfide
LY-1	7.5	4/11/00	12000
LY-1	7.5	7/28/00	Dry
LY-1	7.5	10/18/00	12000
LY-2	3.5	10/22/99	Dry
LY-2	3.5	1/29/00	Flooded
LY-2	3.5	4/11/00	5900
LT-2	3.5	7/28/00	Dry
LY-2	7.5	10/22/99	Dry
LY-2	7.5	1/29/00	Flooded
LY-2	7.5	4/11/00	4000
LY-2	7.5	7/28/00	Dry
LY-2	7.5	10/18/00	10000
LY-3	3.5	10/22/99	Dry
LY-3	3.5	1/29/00	Flooded
LY-3	3.5	4/11/00	<10
LY-3	3.5	7/28/00	Dry
LY-3	7.5	10/22/99	<5
LY-3	7.5	1/29/00	Flooded
LY-3	7.5	4/11/00	<10
LY-3	7.5	07/28/00	Dry
LY-3	7.5	10/18/00	<10



**Table 6**  
**Coast Wood Preserving**  
**Existing and Proposed Ground-Water Monitoring program**

WELL ID	PRESENT FREQUENCY	PROPOSED FREQUENCY	REASONING FOR CHANGE
AT-1	QUARTERLY	DELETE, ABANDON WELL	Off Site, Downgradient, Vandalism Potential
AT-2	QUARTERLY	DELETE, ABANDON WELL	Off Site, Downgradient, Vandalism Potential
AT-3	ANNUALLY	DELETE, ABANDON WELL	Off Site, Downgradient, Vandalism Potential
AT-4	ANNUALLY	DELETE, ABANDON WELL	Off Site, Downgradient, Vandalism Potential
AT-5	ANNUALLY	DELETE, ABANDON WELL	Off Site, Downgradient, Vandalism Potential
CWP-1	NONE	NONE, ABANDON WELL	Up Gradient, Not Required
CWP-2A	QUARTERLY	SEMI-ANNUALLY	Consistent with CWP-2B Frequency
CWP-2B	SEMI-ANNUALLY	SEMI-ANNUALLY	No Change
CWP-3	SEMI-ANNUALLY	DELETE, ABANDON WELL	Potential Pathway, Questionable Construction
CWP-4A	NONE	NONE, ABANDON WELL	Not Presently Used For Monitoring
CWP-4D	ANNUALLY	NONE, ABANDON WELL	Northeast Corner of Property, Not Needed
CWP-5	QUARTERLY	QUARTERLY	No Change, Shallow Well, Often Dry
CWP-6	MONTHLY	QUARTERLY	
CWP-7	SEMI-ANNUALLY	NONE, ABANDON WELL	Well Southeast of Slurry Wall, no Contamination
CWP-8	MONTHLY	QUARTERLY	
CWP-9	SEMI-ANNUALLY	SEMI-ANNUALLY	
CWP-11	SEMI-ANNUALLY	NONE, ABANDON WELL	Long Screen Interval, East of Slurry Wall
CWP-12	SEMI-ANNUALLY	NONE, ABANDON WELL	Southeast Corner of Site, Not Needed
CWP-13	QUARTERLY	QUARTERLY	
CWP-14	SEMI-ANNUALLY	NONE, ABANDON WELL	East of Slurry Wall, Long Screen
CWP-15	SEMI-ANNUALLY	SEMI-ANNUALLY	
CWP-16	SEMI-ANNUALLY	SEMI-ANNUALLY	
CWP-17	SEMI-ANNUALLY	SEMI-ANNUALLY	
CWP-18	QUARTERLY	NONE, ABANDON WELL	Potential Pathway Through Large Well Casing
CWP-19	NONE	NONE, ABANDON TRENCH	Potential Pathway into Upgradient Trench
CWP-20	MONTHLY	QUARTERLY	
CWP-21	MONTHLY	QUARTERLY	
CWP-22	SEMI-ANNUALLY	SEMI-ANNUALLY	
CWP-101	QUARTERLY	QUARTERLY	
CWP-102	QUARTERLY	QUARTERLY	
CWP-103	QUARTERLY	QUARTERLY	
CWP-104	QUARTERLY	QUARTERLY	
FPT-1A	NONE	NONE, ABANDON WELL	Off Site, Vandalism Potential
FPT-1B	NONE	NONE, ABANDON WELL	Off Site, Vandalism Potential
FPT-2A	NONE	NONE, ABANDON WELL	Off Site, Vandalism Potential
FPT-2B	NONE	NONE, ABANDON WELL	Off Site, Vandalism Potential
FPT-3	QUARTERLY	NONE, ABANDON WELL	Off Site, Vandalism Potential
FPT-4	ANNUALLY	NONE, ABANDON WELL	Off Site, Vandalism Potential
FPT-5	NONE	NONE, ABANDON WELL	Off Site, Vandalism Potential
HL-7	MONTHLY	QUARTERLY	

Annual Event – October

Semi-Annual - April & October

Quarterly – January, April, July & October

Monthly – February, March, May, June, August, September, November & December

Abandon- Wells to be abandoned in accord with applicable agency requirements



## APPENDIX A



# APPENDIX A

## Historical Groundwater Monitoring Results

Coast Wood Preserving  
Turlock, CA

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SITE	DATE	Arsenic Dissolved (µg/l)	Chromium (Hexavalent) (µg/l)	Chromium Dissolved (µg/l)	Manganese Dissolved (µg/l)	Calcium Dissolved (mg/L)	Sulfate (mg/L)
AT-01	10/30/1983	3	<50	<5	---	---	---
AT-01	01/18/1984	<50	<10	<50	---	---	---
AT-01	01/24/1984	---	10	12	---	---	---
AT-01	02/01/1984	---	30	<50	---	---	---
AT-01	03/01/1984	<4	<20	<20	---	---	---
AT-01	03/21/1984	---	30	60	---	---	---
AT-01	04/02/1984	---	40	50	---	---	---
AT-01	12/04/1984	<4	<20	<20	---	---	---
AT-01	01/03/1985	---	30	30	---	---	---
AT-01	01/30/1985	---	---	40	---	---	---
AT-01	03/01/1985	---	---	30	---	---	---
AT-01	05/03/1985	---	---	20	---	---	---
AT-01	07/02/1985	---	---	<20	---	---	---
AT-01	08/01/1985	---	---	<20	---	---	---
AT-01	09/09/1985	---	---	30	---	---	---
AT-01	10/01/1985	---	---	<20	---	---	---
AT-01	10/31/1985	---	---	<20	---	---	---
AT-01	12/04/1985	---	---	<20	---	---	---
AT-01	01/02/1986	---	---	<20	---	---	---
AT-01	04/03/1986	---	---	<20	---	---	---
AT-01	05/01/1986	---	---	<20	---	---	---
AT-01	08/13/1986	---	---	<20	---	---	---
AT-01	09/03/1986	---	---	<20	---	---	---
AT-01	10/06/1986	---	---	<20	---	---	---
AT-01	12/03/1986	---	---	<20	---	---	---
AT-01	01/05/1987	---	---	<20	---	---	---
AT-01	02/25/1987	---	---	<20	---	---	---
AT-01	03/26/1987	---	---	<20	---	---	---
AT-01	04/20/1987	---	---	<20	---	---	---
AT-01	05/19/1987	---	---	<20	---	---	---
AT-01	05/20/1987	---	---	<20	---	---	---
AT-01	06/16/1987	---	---	<20	---	---	---
AT-01	07/23/1987	---	---	<20	---	---	---
AT-01	08/24/1987	---	---	<20	---	---	---
AT-01	09/23/1987	---	---	<20	---	---	---
AT-01	10/20/1987	---	---	<20	---	---	---
AT-01	11/13/1987	---	---	<20	---	---	---
AT-01	12/18/1987	---	---	<20	---	---	---
AT-01	01/19/1988	---	---	<20	---	---	---
AT-01	02/18/1988	---	---	<20	---	---	---
AT-01	03/21/1988	---	---	<20	---	---	---
AT-01	04/25/1988	---	---	<20	---	---	---
AT-01	05/23/1988	---	---	<20	---	---	---
AT-01	06/24/1988	---	---	<20	---	---	---
AT-01	07/20/1988	---	---	<20	---	---	---
AT-01	08/23/1988	---	---	<20	---	---	---
AT-01	09/20/1988	---	---	<20	---	---	---
AT-01	10/25/1988	---	---	<20	---	---	---
AT-01	11/21/1988	---	---	<20	---	---	---
AT-01	12/29/1988	---	---	<20	---	---	---
AT-01	01/26/1989	---	---	<20	---	---	---
AT-01	02/20/1989	---	---	<20	---	---	---
AT-01	03/21/1989	---	---	<20	---	---	---
AT-01	04/27/1989	---	---	<20	---	---	---
AT-01	05/22/1989	---	---	<20	---	---	---
AT-01	06/28/1989	---	---	<20	---	---	---
AT-01	07/26/1989	---	---	<20	---	---	---
AT-01	08/29/1989	---	---	<20	---	---	---
AT-01	09/22/1989	---	---	<20	---	---	---
AT-01	10/26/1989	---	---	<20	---	---	---
AT-01	11/21/1989	---	---	<20	---	---	---
AT-01	12/20/1989	---	---	<20	---	---	---
AT-01	01/22/1990	---	---	<20	---	---	---
AT-01	02/21/1990	---	---	<20	---	---	---
AT-01	03/21/1990	---	---	<20	---	---	---



# APPENDIX A

## Historical Groundwater Monitoring Results

Coast Wood Preserving  
Turlock, CA

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SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
AT-01	04/24/1990	---	---	<20	---	---	---
AT-01	05/23/1990	---	---	<20	---	---	---
AT-01	06/22/1990	---	---	<20	---	---	---
AT-01	07/25/1990	---	---	<20	---	---	---
AT-01	08/23/1990	---	---	<20	---	---	---
AT-01	09/21/1990	---	---	<20	---	---	---
AT-01	10/23/1990	---	---	<20	---	---	---
AT-01	11/26/1990	---	---	<20	---	---	---
AT-01	12/26/1990	---	---	<5	---	---	---
AT-01	01/23/1991	---	---	<5	---	---	---
AT-01	02/25/1991	---	---	<5	---	---	---
AT-01	03/26/1991	---	---	<5	---	---	---
AT-01	04/26/1991	---	---	<5	---	---	---
AT-01	05/28/1991	---	---	<5	---	---	---
AT-01	06/25/1991	---	---	<5	---	---	---
AT-01	07/29/1991	---	---	<5	---	---	---
AT-01	08/26/1991	---	---	<5	---	---	---
AT-01	09/27/1991	---	---	<5	---	---	---
AT-01	10/24/1991	---	---	<5	---	---	---
AT-01	11/25/1991	---	---	<5	---	---	---
AT-01	12/23/1991	---	---	<5	---	---	---
AT-01	01/15/1992	---	---	5	---	---	---
AT-01	02/15/1992	---	---	<5	---	---	---
AT-01	03/15/1992	---	---	<5	---	---	---
AT-01	04/15/1992	---	---	<5	---	---	---
AT-01	05/15/1992	---	---	<5	---	---	---
AT-01	06/15/1992	---	---	<5	---	---	---
AT-01	07/15/1992	---	---	<5	---	---	---
AT-01	08/15/1992	---	---	<5	---	---	---
AT-01	09/15/1992	---	---	<5	---	---	---
AT-01	10/15/1992	---	---	<5	---	---	---
AT-01	11/15/1992	---	---	<5	---	---	---
AT-01	12/15/1992	---	---	<5	---	---	---
AT-01	01/15/1993	---	---	<5	---	---	---
AT-01	02/15/1993	---	---	<5	---	---	---
AT-01	03/15/1993	---	---	<5	---	---	---
AT-01	04/15/1993	---	---	5	---	---	---
AT-01	05/15/1993	---	---	5.2	---	---	---
AT-01	06/15/1993	---	---	<5	---	---	---
AT-01	07/15/1993	---	---	<5	---	---	---
AT-01	08/15/1993	---	---	<5	---	---	---
AT-01	09/15/1993	---	---	<5	---	---	---
AT-01	10/15/1993	1	---	<5	---	---	---
AT-01	11/15/1993	---	---	<5	---	---	---
AT-01	12/15/1993	---	---	5.7	---	---	---
AT-01	01/15/1994	---	---	5.6	---	---	---
AT-01	02/15/1994	---	---	5.7	---	---	---
AT-01	03/15/1994	---	---	<5	---	---	---
AT-01	05/15/1994	---	---	<5	---	---	---
AT-01	08/15/1994	---	---	<5	---	---	---
AT-01	11/15/1994	---	---	<5	---	---	---
AT-01	02/15/1995	---	---	<5	---	---	---
AT-01	05/15/1995	---	---	<5	---	---	---
AT-01	12/15/1996	<5	---	---	---	---	---
AT-01	07/15/1997	<5	---	---	---	---	---
AT-01	01/15/1998	---	---	<5	---	---	---
AT-01	02/15/1998	---	---	<5	---	---	---
AT-01	03/15/1998	---	---	<5	---	---	---
AT-01	04/15/1998	---	---	<5	---	---	---
AT-01	05/15/1998	---	---	7.8	---	---	---
AT-01	06/15/1998	---	---	<5	---	---	---
AT-01	07/15/1998	---	---	<5	---	---	---
AT-01	08/15/1998	---	---	<5	---	---	---
AT-01	09/15/1998	---	---	<5	---	---	---
AT-01	10/15/1998	---	---	<5	---	---	---



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## Historical Groundwater Monitoring Results

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SITE	DATE	Arsenic Dissolved (µg/l)	Chromium (Hexavalent) (µg/l)	Chromium Dissolved (µg/l)	Manganese Dissolved (µg/l)	Calcium Dissolved (mg/L)	Sulfate (mg/L)
AT-01	11/15/1998	---	---	5.4	---	---	---
AT-01	12/15/1998	---	---	5	---	---	---
AT-01	01/30/1999	---	---	<5	---	---	---
AT-01	02/27/1999	---	---	<5	---	---	---
AT-01	03/20/1999	---	---	<5	---	---	---
AT-01	04/24/1999	---	---	<5	---	---	---
AT-01	05/17/1999	---	---	<5	---	---	---
AT-01	06/19/1999	---	---	<5	---	---	---
AT-01	07/26/1999	---	---	6.8	---	---	---
AT-01	12/10/1999	<10	---	<10	<10	19	45
AT-01	04/10/2000	<10	---	<10	16	23	35.5
AT-01	07/17/2000	<10	---	<10	11	19	37.67
AT-01	10/04/2000	<10	---	<10	100	19	47.29
AT-02	10/03/1983	46	<50	420	---	---	---
AT-02	01/24/1984	---	70	90	---	---	---
AT-02	01/25/1984	<50	<10	<50	---	---	---
AT-02	02/01/1984	---	30	<50	---	---	---
AT-02	03/12/1984	---	40	40	---	---	---
AT-02	03/21/1984	---	70	100	---	---	---
AT-02	04/02/1984	---	40	50	---	---	---
AT-02	01/30/1985	---	---	120	---	---	---
AT-02	03/01/1985	---	---	110	---	---	---
AT-02	05/03/1985	---	---	<20	---	---	---
AT-02	07/02/1985	---	---	<20	---	---	---
AT-02	08/01/1985	---	---	<20	---	---	---
AT-02	09/09/1985	---	---	18	---	---	---
AT-02	09/20/1985	---	---	110	---	---	---
AT-02	10/01/1985	---	---	100	---	---	---
AT-02	12/04/1985	---	---	110	---	---	---
AT-02	01/02/1986	---	---	130	---	---	---
AT-02	05/01/1986	---	---	60	---	---	---
AT-02	08/13/1986	---	---	50	---	---	---
AT-02	09/03/1986	---	---	130	---	---	---
AT-02	10/06/1986	---	---	90	---	---	---
AT-02	12/03/1986	---	---	80	---	---	---
AT-02	01/05/1987	---	---	90	---	---	---
AT-02	02/25/1987	---	---	50	---	---	---
AT-02	03/26/1987	---	---	<20	---	---	---
AT-02	04/20/1987	---	---	<20	---	---	---
AT-02	05/19/1987	---	---	<20	---	---	---
AT-02	05/20/1987	---	---	<20	---	---	---
AT-02	06/16/1987	---	---	50	---	---	---
AT-02	07/23/1987	---	---	<20	---	---	---
AT-02	08/24/1987	---	---	<20	---	---	---
AT-02	09/23/1987	---	---	90	---	---	---
AT-02	10/20/1987	---	30	30	---	---	---
AT-02	11/13/1987	---	---	50	---	---	---
AT-02	12/18/1987	---	---	40	---	---	---
AT-02	01/19/1988	---	---	<20	---	---	---
AT-02	02/18/1988	---	---	<20	---	---	---
AT-02	03/21/1988	---	---	<20	---	---	---
AT-02	04/25/1988	---	---	50	---	---	---
AT-02	05/23/1988	---	---	50	---	---	---
AT-02	06/24/1988	---	---	<20	---	---	---
AT-02	07/20/1988	---	---	<20	---	---	---
AT-02	08/23/1988	---	---	40	---	---	---
AT-02	09/20/1988	---	---	<20	---	---	---
AT-02	10/25/1988	---	---	30	---	---	---
AT-02	11/21/1988	---	---	<20	---	---	---
AT-02	12/29/1988	---	---	<20	---	---	---
AT-02	01/25/1989	---	---	40	---	---	---
AT-02	02/20/1989	---	---	<20	---	---	---
AT-02	03/21/1989	---	---	<20	---	---	---
AT-02	04/27/1989	---	---	<20	---	---	---



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SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
AT-02	05/22/1989	---	---	<20	---	---	---
AT-02	06/28/1989	---	---	<20	---	---	---
AT-02	07/26/1989	---	---	<20	---	---	---
AT-02	08/29/1989	---	---	20	---	---	---
AT-02	09/22/1989	---	---	<20	---	---	---
AT-02	10/26/1989	---	---	60	---	---	---
AT-02	11/21/1989	---	---	60	---	---	---
AT-02	12/20/1989	---	---	<20	---	---	---
AT-02	01/22/1990	---	---	50	---	---	---
AT-02	02/21/1990	---	---	39	---	---	---
AT-02	03/21/1990	---	---	27	---	---	---
AT-02	04/24/1990	---	---	28	---	---	---
AT-02	05/23/1990	---	---	<20	---	---	---
AT-02	06/22/1990	---	---	33	---	---	---
AT-02	07/25/1990	---	---	<20	---	---	---
AT-02	08/23/1990	---	---	<20	---	---	---
AT-02	09/21/1990	---	---	22	---	---	---
AT-02	10/23/1990	---	---	20	---	---	---
AT-02	11/26/1990	---	---	<20	---	---	---
AT-02	12/26/1990	---	---	<5	---	---	---
AT-02	01/23/1991	---	---	<5	---	---	---
AT-02	02/25/1991	---	---	<5	---	---	---
AT-02	03/26/1991	---	---	<5	---	---	---
AT-02	04/26/1991	---	---	<5	---	---	---
AT-02	05/28/1991	---	---	<5	---	---	---
AT-02	06/25/1991	---	---	<5	---	---	---
AT-02	07/29/1991	---	---	<5	---	---	---
AT-02	08/26/1991	---	---	<5	---	---	---
AT-02	09/27/1991	---	---	<5	---	---	---
AT-02	10/24/1991	---	---	<5	---	---	---
AT-02	11/25/1991	---	---	<5	---	---	---
AT-02	12/23/1991	---	---	<5	---	---	---
AT-02	01/15/1992	---	---	19	---	---	---
AT-02	02/15/1992	---	---	<5	---	---	---
AT-02	03/15/1992	---	---	<5	---	---	---
AT-02	04/15/1992	---	---	<5	---	---	---
AT-02	05/15/1992	---	---	<5	---	---	---
AT-02	06/15/1992	---	---	<5	---	---	---
AT-02	07/15/1992	---	---	<5	---	---	---
AT-02	08/15/1992	---	---	<5	---	---	---
AT-02	09/15/1992	---	---	<5	---	---	---
AT-02	10/15/1992	---	---	<5	---	---	---
AT-02	11/15/1992	---	---	<5	---	---	---
AT-02	12/15/1992	---	---	<5	---	---	---
AT-02	01/15/1993	---	---	<5	---	---	---
AT-02	02/15/1993	---	---	<5	---	---	---
AT-02	03/15/1993	---	---	<5	---	---	---
AT-02	04/15/1993	---	---	<5	---	---	---
AT-02	05/15/1993	---	---	8.8	---	---	---
AT-02	06/15/1993	---	---	10	---	---	---
AT-02	07/15/1993	---	---	<5	---	---	---
AT-02	08/15/1993	---	---	8	---	---	---
AT-02	09/15/1993	---	---	8.1	---	---	---
AT-02	10/15/1993	---	---	<5	---	---	---
AT-02	11/15/1993	---	---	<5	---	---	---
AT-02	12/15/1993	---	---	6.7	---	---	---
AT-02	01/15/1994	---	---	14	---	---	---
AT-02	02/15/1994	---	---	10	---	---	---
AT-02	03/15/1994	---	---	<5	---	---	---
AT-02	05/15/1994	---	---	9.9	---	---	---
AT-02	08/15/1994	---	---	<5	---	---	---
AT-02	11/15/1994	---	---	<5	---	---	---
AT-02	02/15/1995	---	---	<5	---	---	---
AT-02	05/15/1995	---	---	<5	---	---	---
AT-02	01/15/1998	---	---	<5	---	---	---



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SITE	DATE	Arsenic	Chromium	Chromium	Manganese	Calcium	Sulfate
		Dissolved (µg/l)	(Hexavalent) (µg/l)	Dissolved (µg/l)	Dissolved (µg/l)	Dissolved (mg/L)	(mg/L)
AT-02	02/15/1998	—	—	<5	—	—	—
AT-02	05/15/1998	—	—	<5	—	—	—
AT-02	08/15/1998	—	—	<5	—	—	—
AT-02	10/15/1998	—	—	<5	—	—	—
AT-02	01/30/1999	—	—	<5	—	—	—
AT-02	02/27/1999	—	—	<5	—	—	—
AT-02	05/17/1999	—	—	<5	—	—	—
AT-02	12/10/1999	<10	—	<10	90	28	33
AT-02	04/10/2000	<10	—	<10	<10	24	45.75
AT-02	07/17/2000	<10	—	<10	14	18	29.38
AT-02	10/04/2000	<10	—	<10	94	30	22.94
AT-03	01/24/1984	<5	<5	<5	—	—	—
AT-03	02/08/1984	<50	<10	<50	—	—	—
AT-03	03/21/1984	<5	<5	<10	—	—	—
AT-03	01/18/1985	<4	<20	<20	—	—	—
AT-03	03/01/1985	—	—	<20	—	—	—
AT-03	05/03/1985	—	—	<20	—	—	—
AT-03	07/02/1985	—	—	<20	—	—	—
AT-03	08/01/1985	—	—	<20	—	—	—
AT-03	09/09/1985	—	—	<20	—	—	—
AT-03	10/01/1985	—	—	<20	—	—	—
AT-03	10/31/1985	—	<20	<20	—	—	—
AT-03	01/02/1986	—	—	<20	—	—	—
AT-03	08/13/1986	—	—	<20	—	—	—
AT-03	09/03/1986	—	—	<20	—	—	—
AT-03	10/06/1986	—	—	<20	—	—	—
AT-03	12/03/1986	—	—	<20	—	—	—
AT-03	01/05/1987	—	—	<20	—	—	—
AT-03	02/25/1987	—	—	<20	—	—	—
AT-03	03/26/1987	—	—	<20	—	—	—
AT-03	04/20/1987	—	—	<20	—	—	—
AT-03	05/19/1987	—	—	<20	—	—	—
AT-03	05/20/1987	—	—	<20	—	—	—
AT-03	06/16/1987	—	—	<20	—	—	—
AT-03	07/23/1987	—	—	<20	—	—	—
AT-03	08/24/1987	—	—	<20	—	—	—
AT-03	09/23/1987	—	—	<20	—	—	—
AT-03	10/20/1987	—	—	<20	—	—	—
AT-03	11/13/1987	—	—	<20	—	—	—
AT-03	12/18/1987	—	—	<20	—	—	—
AT-03	01/19/1988	—	—	<20	—	—	—
AT-03	02/18/1988	—	—	<20	—	—	—
AT-03	03/21/1988	—	—	40	—	—	—
AT-03	04/25/1988	—	—	<20	—	—	—
AT-03	05/23/1988	—	—	<20	—	—	—
AT-03	06/24/1988	—	—	<20	—	—	—
AT-03	07/20/1988	—	—	<20	—	—	—
AT-03	08/23/1988	—	—	<20	—	—	—
AT-03	09/20/1988	—	—	<20	—	—	—
AT-03	10/25/1988	—	—	<20	—	—	—
AT-03	11/21/1988	—	—	<20	—	—	—
AT-03	12/29/1988	—	—	<20	—	—	—
AT-03	01/26/1989	—	—	<20	—	—	—
AT-03	02/20/1989	—	—	<20	—	—	—
AT-03	03/21/1989	—	—	<20	—	—	—
AT-03	04/27/1989	—	—	<20	—	—	—
AT-03	05/22/1989	—	—	<20	—	—	—
AT-03	06/28/1989	—	—	<20	—	—	—
AT-03	07/26/1989	—	—	<20	—	—	—
AT-03	08/29/1989	—	—	<20	—	—	—
AT-03	09/22/1989	—	—	<20	—	—	—
AT-03	10/26/1989	—	—	<20	—	—	—
AT-03	11/21/1989	—	—	<20	—	—	—
AT-03	12/20/1989	—	—	<20	—	—	—



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SITE	DATE	Arsenic Dissolved (µg/l)	Chromium (Hexavalent) (µg/l)	Chromium: Dissolved (µg/l)	Manganese Dissolved (µg/l)	Calcium Dissolved (mg/L)	Sulfate (mg/L)
AT-03	02/21/1990	---	---	<20	---	---	---
AT-03	03/21/1990	---	---	<20	---	---	---
AT-03	04/24/1990	---	---	<20	---	---	---
AT-03	05/23/1990	---	---	<20	---	---	---
AT-03	06/22/1990	---	---	<20	---	---	---
AT-03	07/25/1990	---	---	<20	---	---	---
AT-03	08/23/1990	---	---	<20	---	---	---
AT-03	09/21/1990	---	---	<20	---	---	---
AT-03	10/23/1990	---	---	<20	---	---	---
AT-03	11/26/1990	---	---	<20	---	---	---
AT-03	12/26/1990	---	---	Δ	---	---	---
AT-03	01/23/1991	---	---	Δ	---	---	---
AT-03	02/25/1991	---	---	Δ	---	---	---
AT-03	03/26/1991	---	---	Δ	---	---	---
AT-03	04/26/1991	---	---	Δ	---	---	---
AT-03	05/28/1991	---	---	Δ	---	---	---
AT-03	06/25/1991	---	---	Δ	---	---	---
AT-03	07/29/1991	---	---	Δ	---	---	---
AT-03	08/26/1991	---	---	Δ	---	---	---
AT-03	09/27/1991	---	---	Δ	---	---	---
AT-03	10/24/1991	---	---	Δ	---	---	---
AT-03	11/25/1991	---	---	Δ	---	---	---
AT-03	12/23/1991	---	---	Δ	---	---	---
AT-03	01/15/1992	---	---	Δ	---	---	---
AT-03	02/15/1992	---	---	Δ	---	---	---
AT-03	03/15/1992	---	---	Δ	---	---	---
AT-03	04/15/1992	---	---	Δ	---	---	---
AT-03	05/15/1992	---	---	Δ	---	---	---
AT-03	06/15/1992	---	---	Δ	---	---	---
AT-03	07/15/1992	---	---	Δ	---	---	---
AT-03	08/15/1992	---	---	Δ	---	---	---
AT-03	09/15/1992	---	---	Δ	---	---	---
AT-03	10/15/1992	---	---	Δ	---	---	---
AT-03	11/15/1992	---	---	Δ	---	---	---
AT-03	12/15/1992	---	---	Δ	---	---	---
AT-03	01/15/1993	---	---	Δ	---	---	---
AT-03	02/15/1993	---	---	Δ	---	---	---
AT-03	03/15/1993	---	---	Δ	---	---	---
AT-03	04/15/1993	---	---	Δ	---	---	---
AT-03	05/15/1993	---	---	Δ	---	---	---
AT-03	06/15/1993	---	---	Δ	---	---	---
AT-03	07/15/1993	---	---	Δ	---	---	---
AT-03	08/15/1993	---	---	Δ	---	---	---
AT-03	09/15/1993	---	---	Δ	---	---	---
AT-03	10/15/1993	---	---	Δ	---	---	---
AT-03	11/15/1993	---	---	Δ	---	---	---
AT-03	12/15/1993	---	---	Δ	---	---	---
AT-03	01/15/1994	---	---	Δ	---	---	---
AT-03	02/15/1994	---	---	Δ	---	---	---
AT-03	03/15/1994	---	---	Δ	---	---	---
AT-03	01/15/1998	---	---	Δ	---	---	---
AT-03	01/30/1999	---	---	Δ	---	---	---
AT-03	12/10/1999	<10	---	<10	<10	25	85
AT-03	10/04/2000	<10	---	<10	92	15	18.92
AT-04	01/05/1987	---	---	<20	---	---	---
AT-04	02/25/1987	---	---	<20	---	---	---
AT-04	03/26/1987	---	---	<20	---	---	---
AT-04	04/20/1987	---	---	<20	---	---	---
AT-04	05/19/1987	---	---	<20	---	---	---
AT-04	05/20/1987	---	---	<20	---	---	---
AT-04	07/23/1987	---	---	<20	---	---	---
AT-04	10/20/1987	---	---	<20	---	---	---
AT-04	01/19/1988	---	---	<20	---	---	---
AT-04	04/25/1988	---	---	<20	---	---	---



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SITE	DATE	Arsenic Dissolved (µg/l)	Chromium (Hexavalent) (µg/l)	Chromium Dissolved (µg/l)	Manganese Dissolved (µg/l)	Calcium Dissolved (mg/L)	Sulfate (mg/L)
AT-04	07/20/1988	---	---	<20	---	---	---
AT-04	10/25/1988	---	---	<20	---	---	---
AT-04	01/26/1989	---	---	<20	---	---	---
AT-04	04/27/1989	---	---	<20	---	---	---
AT-04	07/26/1989	---	---	<20	---	---	---
AT-04	10/26/1989	---	---	<20	---	---	---
AT-04	01/22/1990	---	---	<20	---	---	---
AT-04	04/24/1990	---	---	<20	---	---	---
AT-04	07/25/1990	---	---	<20	---	---	---
AT-04	10/23/1990	---	---	<20	---	---	---
AT-04	12/26/1990	---	---	<5	---	---	---
AT-04	01/23/1991	---	---	<5	---	---	---
AT-04	04/26/1991	---	---	<5	---	---	---
AT-04	07/29/1991	---	---	<5	---	---	---
AT-04	10/24/1991	---	---	<5	---	---	---
AT-04	01/15/1992	---	---	<5	---	---	---
AT-04	04/15/1992	---	---	<5	---	---	---
AT-04	07/15/1992	---	---	<5	---	---	---
AT-04	10/15/1992	---	---	<5	---	---	---
AT-04	01/15/1993	---	---	<5	---	---	---
AT-04	04/15/1993	---	---	<5	---	---	---
AT-04	07/15/1993	---	---	<5	---	---	---
AT-04	10/15/1993	---	---	<5	---	---	---
AT-04	01/15/1994	---	---	<5	---	---	---
AT-04	01/15/1995	---	---	<5	---	---	---
AT-04	01/15/1998	---	---	<5	---	---	---
AT-04	10/15/1998	---	---	<5	---	---	---
AT-04	01/30/1999	---	---	<5	---	---	---
AT-04	12/10/1999	<10	---	<10	<10	16	5.3
AT-04	10/04/2000	<10	---	<10	390	14	7.85
AT-05	01/05/1987	---	---	<20	---	---	---
AT-05	02/25/1987	---	---	<20	---	---	---
AT-05	03/26/1987	---	---	<20	---	---	---
AT-05	04/20/1987	---	---	<20	---	---	---
AT-05	05/19/1987	---	---	<20	---	---	---
AT-05	06/16/1987	---	---	<20	---	---	---
AT-05	07/23/1987	---	---	<20	---	---	---
AT-05	08/24/1987	---	---	<20	---	---	---
AT-05	09/23/1987	---	---	<20	---	---	---
AT-05	10/20/1987	---	---	<20	---	---	---
AT-05	11/13/1987	---	---	<20	---	---	---
AT-05	12/18/1987	---	---	<20	---	---	---
AT-05	01/19/1988	---	---	<20	---	---	---
AT-05	02/18/1988	---	---	<20	---	---	---
AT-05	03/21/1988	---	---	<20	---	---	---
AT-05	04/25/1988	---	---	<20	---	---	---
AT-05	05/23/1988	---	---	<20	---	---	---
AT-05	06/24/1988	---	---	<20	---	---	---
AT-05	07/20/1988	---	---	<20	---	---	---
AT-05	08/23/1988	---	---	<20	---	---	---
AT-05	09/20/1988	---	---	<20	---	---	---
AT-05	10/25/1988	---	---	<20	---	---	---
AT-05	11/21/1988	---	---	<20	---	---	---
AT-05	12/29/1988	---	---	<20	---	---	---
AT-05	01/26/1989	---	---	<20	---	---	---
AT-05	02/20/1989	---	---	<20	---	---	---
AT-05	03/21/1989	---	---	<20	---	---	---
AT-05	04/27/1989	---	---	<20	---	---	---
AT-05	05/22/1989	---	---	<20	---	---	---
AT-05	06/28/1989	---	---	<20	---	---	---
AT-05	07/26/1989	---	---	<20	---	---	---
AT-05	08/29/1989	---	---	<20	---	---	---
AT-05	09/22/1989	---	---	<20	---	---	---
AT-05	10/26/1989	---	---	<20	---	---	---



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SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
AT-05	11/21/1989	---	---	<20	---	---	---
AT-05	12/20/1989	---	---	<20	---	---	---
AT-05	02/21/1990	---	---	<20	---	---	---
AT-05	03/21/1990	---	---	<20	---	---	---
AT-05	04/24/1990	---	---	<20	---	---	---
AT-05	05/23/1990	---	---	<20	---	---	---
AT-05	07/25/1990	---	---	<20	---	---	---
AT-05	08/23/1990	---	---	<20	---	---	---
AT-05	09/21/1990	---	---	<20	---	---	---
AT-05	10/23/1990	---	---	<20	---	---	---
AT-05	12/26/1990	---	---	<5	---	---	---
AT-05	01/23/1991	---	---	<5	---	---	---
AT-05	04/26/1991	---	---	<5	---	---	---
AT-05	07/29/1991	---	---	<5	---	---	---
AT-05	10/24/1991	---	---	<5	---	---	---
AT-05	01/15/1992	---	---	<5	---	---	---
AT-05	04/15/1992	---	---	<5	---	---	---
AT-05	07/15/1992	---	---	<5	---	---	---
AT-05	10/15/1992	---	---	<5	---	---	---
AT-05	01/15/1993	---	---	<5	---	---	---
AT-05	04/15/1993	---	---	<5	---	---	---
AT-05	07/15/1993	---	---	<5	---	---	---
AT-05	10/15/1993	---	---	<5	---	---	---
AT-05	01/15/1994	---	---	<5	---	---	---
AT-05	01/15/1995	---	---	<5	---	---	---
AT-05	01/15/1998	---	---	<5	---	---	---
AT-05	01/30/1999	---	---	<5	---	---	---
AT-05	12/10/1999	<10	---	<10	21	22	103
AT-05	10/04/2000	<10	---	<10	23	21	84.73
CWP-01	04/02/1981	---	---	<10	---	---	---
CWP-01	05/08/1981	---	---	<10	---	---	---
CWP-01	06/09/1981	4	---	10	---	---	---
CWP-01	09/28/1982	<4	<20	<20	90	7.8	14
CWP-01	03/20/1984	---	---	<10	---	---	---
CWP-01	01/18/1988	---	---	<20	---	---	---
CWP-01	01/24/1989	---	---	<20	---	---	---
CWP-02A	9/28/1982	92	5180	5950	120	6.25	15
CWP-02A	10/04/1983	1800	390	3600	---	---	---
CWP-02A	12/08/1983	260	2400	2400	---	---	---
CWP-02A	03/01/1984	360	11000	11000	---	---	---
CWP-02A	03/25/1984	58	---	560	---	---	---
CWP-02A	01/30/1985	---	---	240	---	---	---
CWP-02A	05/03/1985	---	---	1900	---	---	---
CWP-02A	08/01/1985	---	---	40	---	---	---
CWP-02A	10/31/1985	---	---	6600	---	---	---
CWP-02A	02/19/1986	---	---	6500	---	---	---
CWP-02A	05/01/1986	---	---	2800	---	---	---
CWP-02A	08/13/1986	---	---	310	---	---	---
CWP-02A	04/20/1987	---	---	1400	---	---	---
CWP-02A	07/22/1987	---	---	380	---	---	---
CWP-02A	01/20/1988	---	---	940	---	---	---
CWP-02A	04/25/1988	---	---	400	---	---	---
CWP-02A	07/20/1988	---	---	590	---	---	---
CWP-02A	10/25/1988	---	---	1300	---	---	---
CWP-02A	01/24/1989	---	---	810	---	---	---
CWP-02A	04/28/1989	---	---	730	---	---	---
CWP-02A	07/26/1989	---	---	3900	---	---	---
CWP-02A	10/26/1989	---	---	3600	---	---	---
CWP-02A	04/24/1990	---	---	5260	---	---	---
CWP-02A	07/25/1990	---	---	2420	---	---	---
CWP-02A	04/26/1991	---	---	22	---	---	---
CWP-02A	07/29/1991	---	---	3240	---	---	---
CWP-02A	01/15/1992	---	---	<5	---	---	---



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SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
CWP-02A	04/15/1992	---	---	6150	---	---	---
CWP-02A	07/15/1992	---	---	360	---	---	---
CWP-02A	10/15/1992	---	---	3350	---	---	---
CWP-02A	01/15/1993	---	---	154	---	---	---
CWP-02A	04/15/1993	---	---	649	---	---	---
CWP-02A	07/15/1993	---	---	185	---	---	---
CWP-02A	10/15/1993	---	---	21	---	---	---
CWP-02A	01/15/1994	---	---	190	---	---	---
CWP-02A	05/15/1994	---	---	1785	---	---	---
CWP-02A	08/15/1994	---	---	6100	---	---	---
CWP-02A	11/15/1994	---	---	<5	---	---	---
CWP-02A	02/15/1995	---	---	964	---	---	---
CWP-02A	05/15/1995	---	---	7.1	---	---	---
CWP-02A	01/15/1998	---	---	250	---	---	---
CWP-02A	02/15/1998	---	---	110	---	---	---
CWP-02A	05/15/1998	---	---	230	---	---	---
CWP-02A	08/15/1998	---	---	110	---	---	---
CWP-02A	10/15/1998	---	---	110	---	---	---
CWP-02A	01/30/1999	---	---	370	---	---	---
CWP-02A	02/27/1999	---	---	1600	---	---	---
CWP-02A	05/17/1999	---	---	8100	---	---	---
CWP-02A	08/27/1999	57	---	4700	230	16	---
CWP-02A	12/21/1999	93	---	23	720	29	101
CWP-02A	04/08/2000	500	---	330	130	7.9	2.53
CWP-02A	07/18/2000	440	---	<10	540	16	43
CWP-02A	10/05/2000	440	---	340	510	22	4.84
CWP-02B	04/02/1981	---	---	14000	---	---	---
CWP-02B	06/09/1981	4	---	16000	---	---	---
CWP-02B	09/28/1982	<4	12000	13100	10	16.4	59
CWP-02B	06/16/1983	41	---	3700	---	---	---
CWP-02B	10/04/1983	320	4000	9200	---	---	---
CWP-02B	12/08/1983	---	8500	9000	---	---	---
CWP-02B	03/01/1984	15	11000	11000	---	---	---
CWP-02B	03/21/1984	10	2400	2400	---	---	---
CWP-02B	01/30/1985	---	---	1400	---	---	---
CWP-02B	05/03/1985	---	---	1000	---	---	---
CWP-02B	08/01/1985	---	---	790	---	---	---
CWP-02B	02/19/1986	---	---	6000	---	---	---
CWP-02B	05/01/1986	---	---	1700	---	---	---
CWP-02B	08/13/1986	---	---	6300	---	---	---
CWP-02B	04/20/1987	---	---	3800	---	---	---
CWP-02B	01/19/1988	---	---	2700	---	---	---
CWP-02B	01/24/1989	---	---	7400	---	---	---
CWP-02B	01/15/1992	---	---	7850	---	---	---
CWP-02B	01/15/1993	---	---	6800	---	---	---
CWP-02B	01/15/1994	---	---	2700	---	---	---
CWP-02B	10/15/1998	---	---	34	---	---	---
CWP-02B	08/27/1999	12	---	10	79	3.9	---
CWP-02B	10/22/1999	---	---	410	---	7800	1050
CWP-02B	12/21/1999	50	---	300	26000	550	1618
CWP-02B	04/08/2000	210	---	220	6800	150	355.4
CWP-02B	10/05/2000	390	---	470	1400	150	201.6
CWP-03	04/02/1981	---	---	20	---	---	---
CWP-03	06/09/1981	4	---	20	---	---	---
CWP-03	06/16/1983	21	---	50	---	---	---
CWP-03	12/08/1983	---	70	90	---	---	---
CWP-03	03/01/1984	650	20	160	---	---	---
CWP-03	03/21/1984	28	---	<10	---	---	---
CWP-03	01/30/1985	---	---	40	---	---	---
CWP-03	05/03/1985	---	---	180	---	---	---
CWP-03	02/19/1986	---	---	40	---	---	---
CWP-03	05/01/1986	---	---	<20	---	---	---
CWP-03	04/20/1987	---	---	70	---	---	---



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SITE	DATE	Arsenic	Chromium	Chromium	Manganese	Calcium	Sulfate
		Dissolved (µg/l)	(Hexavalent) (µg/l)	Dissolved (µg/l)	Dissolved (µg/l)	Dissolved (mg/L)	(mg/L)
CWP-03	01/18/1988	---	---	<20	---	---	---
CWP-03	01/24/1989	---	---	<20	---	---	---
CWP-03	04/27/1989	---	---	<20	---	---	---
CWP-03	04/26/1991	---	---	130	---	---	---
CWP-03	04/15/1992	---	---	<5	---	---	---
CWP-03	12/10/1999	28	---	42	<10	14	3.6
CWP-03	04/10/2000	14	---	<10	94	13	5.13
CWP-04A	04/02/1981	---	---	40	---	---	---
CWP-04A	09/28/1982	<4	<20	<20	2240	65.6	47
CWP-04A	03/25/1984	60	---	57	---	---	---
CWP-04D	04/02/1981	---	---	<10	---	---	---
CWP-04D	06/09/1981	4	---	20	---	---	---
CWP-04D	09/28/1982	<4	<20	<20	30	27.6	88
CWP-04D	03/20/1984	---	---	<10	---	---	---
CWP-04D	01/18/1988	---	---	<20	---	---	---
CWP-04D	01/24/1989	---	---	<20	---	---	---
CWP-04D	01/23/1990	---	---	<20	---	---	---
CWP-04D	01/15/1992	---	---	<5	---	---	---
CWP-04D	01/15/1993	---	---	<5	---	---	---
CWP-04D	01/15/1994	---	---	<5	---	---	---
CWP-04D	01/15/1995	---	---	<5	---	---	---
CWP-04D	01/15/1998	---	---	<5	---	---	---
CWP-04D	01/30/1999	---	---	<5	---	---	---
CWP-04D	08/27/1999	<5	---	<5	<30	25	---
CWP-04D	12/10/1999	<10	---	<10	24	29	101
CWP-04D	04/10/2000	<10	---	<10	25	30	94.24
CWP-04D	10/04/2000	<10	---	<10	170	25	73.22
CWP-05	04/02/1981	---	---	43000	---	---	---
CWP-05	06/09/1981	4	---	31000	---	---	---
CWP-05	06/16/1983	---	---	24000	---	---	---
CWP-05	12/08/1983	---	19000	19000	---	---	---
CWP-05	03/01/1984	---	15000	15000	---	---	---
CWP-05	03/21/1984	---	---	14000	---	---	---
CWP-05	02/19/1986	---	---	14000	---	---	---
CWP-05	04/20/1987	---	---	12000	---	---	---
CWP-05	01/20/1988	---	---	12000	---	---	---
CWP-05	01/24/1989	---	---	14000	---	---	---
CWP-05	04/27/1989	---	---	13000	---	---	---
CWP-05	04/26/1991	---	---	1960	---	---	---
CWP-05	04/10/2000	<10	---	12000	<100	66	336.86
CWP-05	07/17/2000	<10	---	920	2200	240	891
CWP-06	04/02/1981	---	---	125000	---	---	---
CWP-06	05/08/1981	6	---	120000	---	---	---
CWP-06	06/09/1981	(2)	---	120000	---	---	---
CWP-06	06/16/1983	---	---	75000	---	---	---
CWP-06	08/13/1983	<50	78000	78000	---	---	---
CWP-06	12/08/1983	800	72000	75000	---	---	---
CWP-06	01/06/1984	---	23000	22000	---	---	---
CWP-06	01/24/1984	---	64000	72000	---	---	---
CWP-06	02/01/1984	---	36000	73000	---	---	---
CWP-06	03/01/1984	---	70000	70000	---	---	---
CWP-06	03/21/1984	10	63000	50000	---	---	---
CWP-06	04/02/1984	---	62000	63000	---	---	---
CWP-06	12/04/1984	---	59000	59000	---	---	---
CWP-06	01/03/1985	---	59000	59000	---	---	---
CWP-06	01/30/1985	---	---	65000	---	---	---
CWP-06	03/01/1985	---	---	40000	---	---	---
CWP-06	04/01/1985	---	---	57000	---	---	---
CWP-06	05/03/1985	---	---	29000	---	---	---
CWP-06	07/02/1985	---	---	42000	---	---	---
CWP-06	08/01/1985	---	---	48000	---	---	---



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SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
CWP-06	09/09/1985	---	---	50000	---	---	---
CWP-06	10/31/1985	---	---	12000	---	---	---
CWP-06	12/04/1985	---	---	12000	---	---	---
CWP-06	01/02/1986	---	---	34000	---	---	---
CWP-06	02/19/1986	---	---	13000	---	---	---
CWP-06	03/04/1986	---	---	14000	---	---	---
CWP-06	04/03/1986	---	---	26000	---	---	---
CWP-06	05/01/1986	---	---	48000	---	---	---
CWP-06	08/13/1986	---	---	35000	---	---	---
CWP-06	09/03/1986	---	---	<20	---	---	---
CWP-06	10/06/1986	---	---	17000	---	---	---
CWP-06	02/25/1987	---	---	37000	---	---	---
CWP-06	03/27/1987	---	---	54000	---	---	---
CWP-06	04/20/1987	---	---	51000	---	---	---
CWP-06	05/19/1987	---	---	60000	---	---	---
CWP-06	05/20/1987	---	---	60000	---	---	---
CWP-06	06/16/1987	---	---	62000	---	---	---
CWP-06	07/22/1987	---	---	50000	---	---	---
CWP-06	08/24/1987	---	---	41000	---	---	---
CWP-06	12/21/1987	---	---	40000	---	---	---
CWP-06	01/20/1988	---	---	50000	---	---	---
CWP-06	02/18/1988	---	---	67000	---	---	---
CWP-06	03/21/1988	---	---	81000	---	---	---
CWP-06	04/22/1988	---	---	59000	---	---	---
CWP-06	05/23/1988	---	---	67000	---	---	---
CWP-06	06/24/1988	---	---	40000	---	---	---
CWP-06	07/19/1988	---	---	73000	---	---	---
CWP-06	08/24/1988	---	---	56000	---	---	---
CWP-06	09/19/1988	---	---	42000	---	---	---
CWP-06	12/23/1988	---	---	6900	---	---	---
CWP-06	01/25/1989	---	---	71000	---	---	---
CWP-06	02/21/1989	---	---	89000	---	---	---
CWP-06	03/21/1989	---	---	77000	---	---	---
CWP-06	04/28/1989	---	---	67000	---	---	---
CWP-06	05/22/1989	---	---	62000	---	---	---
CWP-06	06/28/1989	---	---	73000	---	---	---
CWP-06	07/26/1989	---	---	48000	---	---	---
CWP-06	08/29/1989	---	---	44000	---	---	---
CWP-06	09/22/1989	---	---	54000	---	---	---
CWP-06	02/21/1990	---	---	87000	---	---	---
CWP-06	03/21/1990	---	---	60000	---	---	---
CWP-06	04/24/1990	---	---	38000	---	---	---
CWP-06	05/23/1990	---	---	35000	---	---	---
CWP-06	08/24/1990	---	---	5100	---	---	---
CWP-06	12/26/1990	---	---	610	---	---	---
CWP-06	01/23/1991	---	---	523	---	---	---
CWP-06	02/25/1991	---	---	552	---	---	---
CWP-06	03/26/1991	---	---	632	---	---	---
CWP-06	04/26/1991	---	---	36000	---	---	---
CWP-06	05/28/1991	---	---	24100	---	---	---
CWP-06	06/25/1991	---	---	29000	---	---	---
CWP-06	07/26/1991	---	---	13500	---	---	---
CWP-06	08/26/1991	---	---	2360	---	---	---
CWP-06	09/27/1991	---	---	209	---	---	---
CWP-06	10/24/1991	---	---	88	---	---	---
CWP-06	11/25/1991	---	---	833	---	---	---
CWP-06	12/23/1991	---	---	145	---	---	---
CWP-06	01/15/1992	---	---	253	---	---	---
CWP-06	02/15/1992	---	---	8020	---	---	---
CWP-06	03/15/1992	---	---	8700	---	---	---
CWP-06	04/15/1992	---	---	9320	---	---	---
CWP-06	05/15/1992	---	---	9900	---	---	---
CWP-06	06/15/1992	---	---	4980	---	---	---
CWP-06	08/15/1992	---	---	2630	---	---	---



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SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
CWP-06	09/15/1992	---	---	4850	---	---	---
CWP-06	10/15/1992	---	---	4380	---	---	---
CWP-06	11/15/1992	---	---	1250	---	---	---
CWP-06	12/15/1992	---	---	5850	---	---	---
CWP-06	01/15/1993	---	---	7880	---	---	---
CWP-06	02/15/1993	---	---	2460	---	---	---
CWP-06	03/15/1993	---	---	43100	---	---	---
CWP-06	04/15/1993	---	---	38800	---	---	---
CWP-06	05/15/1993	---	---	46000	---	---	---
CWP-06	06/15/1993	---	---	42200	---	---	---
CWP-06	07/15/1993	---	---	50900	---	---	---
CWP-06	08/15/1993	---	---	54800	---	---	---
CWP-06	09/15/1993	---	---	57800	---	---	---
CWP-06	10/15/1993	---	---	54200	---	---	---
CWP-06	11/15/1993	---	---	43500	---	---	---
CWP-06	12/15/1993	---	---	11950	---	---	---
CWP-06	01/15/1994	---	---	34300	---	---	---
CWP-06	02/15/1994	---	---	35900	---	---	---
CWP-06	03/15/1994	---	---	38200	---	---	---
CWP-06	04/15/1994	---	---	38600	---	---	---
CWP-06	05/15/1994	---	---	41800	---	---	---
CWP-06	06/15/1994	---	---	62500	---	---	---
CWP-06	07/15/1994	---	---	48900	---	---	---
CWP-06	08/15/1994	---	---	46800	---	---	---
CWP-06	09/15/1994	---	---	44600	---	---	---
CWP-06	10/15/1994	---	---	42000	---	---	---
CWP-06	11/15/1994	---	---	22600	---	---	---
CWP-06	12/15/1994	---	---	32900	---	---	---
CWP-06	01/15/1995	---	---	33000	---	---	---
CWP-06	02/15/1995	---	---	37400	---	---	---
CWP-06	03/15/1995	---	---	29000	---	---	---
CWP-06	04/15/1995	---	---	21	---	---	---
CWP-06	05/15/1995	---	---	33000	---	---	---
CWP-06	06/15/1995	---	---	39000	---	---	---
CWP-06	07/15/1995	25400	---	---	---	---	---
CWP-06	12/15/1996	13	---	---	---	---	---
CWP-06	07/15/1997	<5	---	---	---	---	---
CWP-06	01/15/1998	---	---	26000	---	---	---
CWP-06	02/15/1998	---	---	10000	---	---	---
CWP-06	03/15/1998	---	---	3800	---	---	---
CWP-06	04/15/1998	---	---	20000	---	---	---
CWP-06	05/15/1998	---	---	15000	---	---	---
CWP-06	06/15/1998	---	---	28000	---	---	---
CWP-06	07/15/1998	---	---	30000	---	---	---
CWP-06	08/15/1998	---	---	29000	---	---	---
CWP-06	09/15/1998	---	---	29000	---	---	---
CWP-06	11/15/1998	---	---	6800	---	---	---
CWP-06	12/15/1998	---	---	20000	---	---	---
CWP-06	01/30/1999	---	---	20000	---	---	---
CWP-06	02/27/1999	---	---	16000	---	---	---
CWP-06	03/20/1999	---	---	20000	---	---	---
CWP-06	04/24/1999	---	---	2200	---	---	---
CWP-06	05/17/1999	---	---	22000	---	---	---
CWP-06	06/19/1999	---	---	25000	---	---	---
CWP-06	07/26/1999	---	---	25000	---	---	---
CWP-06	08/27/1999	<5	---	18000	270	22	---
CWP-06	09/11/1999	<5	---	28000	420	35	---
CWP-06	10/22/1999	---	---	400	---	30	12.85
CWP-06	11/19/1999	220	---	230	80	5.7	8.4
CWP-06	12/21/1999	<10	---	<50	140	3000	863
CWP-06	01/21/2000	<10	---	<10	32	1890	11
CWP-06	02/14/2000	378	---	<10	54	3440	915
CWP-06	03/17/2000	14	---	26	130	2200	914
CWP-06	04/08/2000	430	---	48	130	2850	1106.95
CWP-06	05/20/2000	<10	---	28	140	210	9.68



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SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
CWP-06	06/17/2000	170	---	<500	<500	3100	1718.5
CWP-06	07/17/2000	12	---	<150	285	1200	1965
CWP-06	08/15/2000	260	---	20	220	1900	2503.015
CWP-06	09/15/2000	340	---	<50	52	3000	2590.09
CWP-06	10/05/2000	450	---	<500	<500	3700	1850.25
CWP-06	11/14/2000	460	---	<10	110	3300	741.59
CWP-06	12/07/2000	320	---	<500	<500	2300	1591
CWP-07	09/20/1982	<4	<20	<20	210	19.4	15
CWP-07	12/08/1983	<50	<10	<50	---	---	---
CWP-07	03/01/1984	<4	<10	200	---	---	---
CWP-07	03/20/1984	---	---	<10	---	---	---
CWP-07	03/21/1984	<5	<5	<5	---	---	---
CWP-07	01/30/1985	---	---	<20	---	---	---
CWP-07	05/03/1985	---	---	<20	---	---	---
CWP-07	08/01/1985	---	---	<20	---	---	---
CWP-07	10/31/1985	---	---	<20	---	---	---
CWP-07	02/13/1986	---	---	<20	---	---	---
CWP-07	05/01/1986	---	---	<20	---	---	---
CWP-07	08/13/1986	---	---	<20	---	---	---
CWP-07	04/20/1987	---	---	<20	---	---	---
CWP-07	07/21/1987	---	---	<20	---	---	---
CWP-07	10/19/1987	---	---	<20	---	---	---
CWP-07	01/18/1988	---	---	<20	---	---	---
CWP-07	04/25/1988	---	---	<20	---	---	---
CWP-07	10/24/1988	---	---	<20	---	---	---
CWP-07	01/24/1989	---	---	<20	---	---	---
CWP-07	04/28/1989	---	---	<20	---	---	---
CWP-07	07/25/1989	---	---	<20	---	---	---
CWP-07	10/25/1989	---	---	<20	---	---	---
CWP-07	01/22/1990	---	---	<20	---	---	---
CWP-07	04/23/1990	---	---	<20	---	---	---
CWP-07	07/25/1990	---	---	<20	---	---	---
CWP-07	10/23/1990	---	---	<20	---	---	---
CWP-07	12/27/1990	---	---	<5	---	---	---
CWP-07	01/23/1991	---	---	<5	---	---	---
CWP-07	04/26/1991	---	---	<5	---	---	---
CWP-07	07/26/1991	---	---	<5	---	---	---
CWP-07	10/24/1991	---	---	<5	---	---	---
CWP-07	01/15/1992	---	---	<5	---	---	---
CWP-07	04/15/1992	---	---	<5	---	---	---
CWP-07	07/15/1992	---	---	<5	---	---	---
CWP-07	10/15/1992	---	---	<5	---	---	---
CWP-07	01/15/1993	---	---	<5	---	---	---
CWP-07	04/15/1993	---	---	<5	---	---	---
CWP-07	07/15/1993	---	---	<5	---	---	---
CWP-07	10/15/1993	---	---	<5	---	---	---
CWP-07	01/15/1994	---	---	8.3	---	---	---
CWP-07	02/15/1994	---	---	5.5	---	---	---
CWP-07	01/15/1995	---	---	<5	---	---	---
CWP-07	01/15/1998	---	---	<5	---	---	---
CWP-07	10/15/1998	---	---	9	<10	---	---
CWP-07	01/30/1999	---	---	<5	---	---	---
CWP-07	12/17/1999	<10	---	<10	15	18	35
CWP-07	04/10/2000	<10	---	<10	38	20	40
CWP-07	10/04/2000	<10	---	<10	49	18	31.21
CWP-08	09/20/1982	<4	13100	14000	620	44.3	44
CWP-08	06/16/1983	---	---	22000	---	---	---
CWP-08	07/19/1983	---	12000	12000	---	---	---
CWP-08	07/20/1983	---	11000	11000	---	---	---
CWP-08	07/21/1983	---	11000	11000	---	---	---
CWP-08	07/22/1983	---	11000	11000	---	---	---
CWP-08	07/23/1983	---	10000	10000	---	---	---
CWP-08	07/28/1983	---	8750	9600	---	---	---



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SITE	DATE	Arsenic	Chromium	Chromium	Manganese	Calcium	Sulfate
		Dissolved (µg/l)	(Hexavalent) (µg/l)	Dissolved (µg/l)	Dissolved (µg/l)	Dissolved (mg/L)	(mg/L)
CWP-08	08/02/1983	---	6900	7300	---	---	---
CWP-08	08/04/1983	---	6800	6900	---	---	---
CWP-08	08/09/1983	---	6600	6900	---	---	---
CWP-08	08/11/1983	4	<50	<50	---	---	---
CWP-08	08/12/1983	---	6600	6800	---	---	---
CWP-08	08/13/1983	4	6600	6900	---	---	---
CWP-08	10/04/1983	5	7800	8800	---	---	---
CWP-08	12/08/1983	---	740	1100	---	---	---
CWP-08	12/12/1983	---	---	530	---	---	---
CWP-08	12/13/1983	---	---	940	---	---	---
CWP-08	01/06/1984	---	1000	1000	---	---	---
CWP-08	01/24/1984	---	900	900	---	---	---
CWP-08	02/01/1984	---	900	900	---	---	---
CWP-08	03/01/1984	---	1200	1200	---	---	---
CWP-08	03/20/1984	---	---	1100	---	---	---
CWP-08	03/21/1984	---	1200	1300	---	---	---
CWP-08	04/02/1984	---	1300	1400	---	---	---
CWP-08	12/04/1984	---	470	470	---	---	---
CWP-08	01/03/1985	---	520	520	---	---	---
CWP-08	01/31/1985	---	520	520	---	---	---
CWP-08	03/01/1985	---	---	400	---	---	---
CWP-08	04/01/1985	---	---	110	---	---	---
CWP-08	05/03/1985	---	---	100	---	---	---
CWP-08	07/02/1985	---	---	150	---	---	---
CWP-08	08/01/1985	---	---	50	---	---	---
CWP-08	09/09/1985	---	---	<20	---	---	---
CWP-08	10/01/1985	---	---	<20	---	---	---
CWP-08	10/31/1985	---	---	(20)	---	---	---
CWP-08	12/04/1985	---	---	<20	---	---	---
CWP-08	01/02/1986	---	---	<20	---	---	---
CWP-08	02/19/1986	---	---	100	---	---	---
CWP-08	03/14/1986	---	---	60	---	---	---
CWP-08	04/03/1986	---	---	50	---	---	---
CWP-08	05/01/1986	---	---	<20	---	---	---
CWP-08	08/13/1986	---	---	<20	---	---	---
CWP-08	09/03/1986	---	---	<20	---	---	---
CWP-08	10/06/1986	---	---	<20	---	---	---
CWP-08	12/03/1986	---	---	<20	---	---	---
CWP-08	01/05/1987	---	---	90	---	---	---
CWP-08	02/25/1987	---	---	50	---	---	---
CWP-08	03/27/1987	---	---	90	---	---	---
CWP-08	04/20/1987	---	---	30	---	---	---
CWP-08	05/19/1987	---	---	<20	---	---	---
CWP-08	05/20/1987	---	---	<20	---	---	---
CWP-08	06/16/1987	---	---	<20	---	---	---
CWP-08	07/21/1987	---	---	<20	---	---	---
CWP-08	08/24/1987	---	---	<20	---	---	---
CWP-08	09/23/1987	---	---	<20	---	---	---
CWP-08	10/19/1987	---	---	<20	---	---	---
CWP-08	11/13/1987	---	---	150	---	---	---
CWP-08	12/18/1987	---	---	40	---	---	---
CWP-08	01/18/1988	---	---	140	---	---	---
CWP-08	02/18/1988	---	---	<20	---	---	---
CWP-08	03/21/1988	---	---	<20	---	---	---
CWP-08	04/22/1988	---	---	20	---	---	---
CWP-08	05/23/1988	---	---	<20	---	---	---
CWP-08	06/23/1988	---	---	<20	---	---	---
CWP-08	07/19/1988	---	---	<20	---	---	---
CWP-08	08/23/1988	---	---	<20	---	---	---
CWP-08	09/19/1988	---	---	<20	---	---	---
CWP-08	10/24/1988	---	---	<20	---	---	---
CWP-08	11/21/1988	---	---	<20	---	---	---
CWP-08	12/23/1988	---	---	190	---	---	---
CWP-08	01/25/1989	---	---	84	---	---	---
CWP-08	02/20/1989	---	---	<20	---	---	---



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SITE	DATE	Arsenic	Chromium	Chromium	Manganese	Calcium	Sulfate
		Dissolved (µg/l)	(Hexavalent) (µg/l)	Dissolved (µg/l)	Dissolved (µg/l)	Dissolved (mg/L)	(mg/L)
CWP-08	03/21/1989	---	---	190	---	---	---
CWP-08	04/28/1989	---	---	60	---	---	---
CWP-08	05/22/1989	---	---	70	---	---	---
CWP-08	06/28/1989	---	---	<20	---	---	---
CWP-08	07/25/1989	---	---	<20	---	---	---
CWP-08	08/29/1989	---	---	<20	---	---	---
CWP-08	09/22/1989	---	---	<20	---	---	---
CWP-08	10/26/1989	---	---	<20	---	---	---
CWP-08	11/21/1989	---	---	<20	---	---	---
CWP-08	12/21/1989	---	---	(20)	---	---	---
CWP-08	01/23/1990	---	---	<20	---	---	---
CWP-08	02/21/1990	---	---	30	---	---	---
CWP-08	03/21/1990	---	---	20	---	---	---
CWP-08	04/23/1990	---	---	<20	---	---	---
CWP-08	05/23/1990	---	---	<20	---	---	---
CWP-08	06/22/1990	---	---	20	---	---	---
CWP-08	07/25/1990	---	---	30	---	---	---
CWP-08	08/24/1990	---	---	<20	---	---	---
CWP-08	09/20/1990	---	---	<20	---	---	---
CWP-08	10/23/1990	---	---	<20	---	---	---
CWP-08	11/26/1990	---	---	<20	---	---	---
CWP-08	12/27/1990	---	---	140	---	---	---
CWP-08	01/23/1991	---	---	52	---	---	---
CWP-08	02/25/1991	---	---	13	---	---	---
CWP-08	03/26/1991	---	---	112	---	---	---
CWP-08	04/26/1991	---	---	17	---	---	---
CWP-08	05/28/1991	---	---	15	---	---	---
CWP-08	06/25/1991	---	---	26	---	---	---
CWP-08	07/26/1991	---	---	14	---	---	---
CWP-08	08/26/1991	---	---	3630	---	---	---
CWP-08	09/27/1991	---	---	2170	---	---	---
CWP-08	10/24/1991	---	---	<5	---	---	---
CWP-08	11/25/1991	---	---	17	---	---	---
CWP-08	12/23/1991	---	---	19	---	---	---
CWP-08	01/15/1992	---	---	5	---	---	---
CWP-08	02/15/1992	---	---	27	---	---	---
CWP-08	03/15/1992	---	---	51	---	---	---
CWP-08	04/15/1992	---	---	53	---	---	---
CWP-08	05/15/1992	---	---	20	---	---	---
CWP-08	06/15/1992	---	---	19	---	---	---
CWP-08	07/15/1992	---	---	30	---	---	---
CWP-08	08/15/1992	---	---	<5	---	---	---
CWP-08	09/15/1992	---	---	25	---	---	---
CWP-08	10/15/1992	---	---	35	---	---	---
CWP-08	11/15/1992	---	---	42	---	---	---
CWP-08	12/15/1992	---	---	42	---	---	---
CWP-08	01/15/1993	---	---	126	---	---	---
CWP-08	02/15/1993	---	---	320	---	---	---
CWP-08	03/15/1993	---	---	135	---	---	---
CWP-08	04/15/1993	---	---	198	---	---	---
CWP-08	05/15/1993	---	---	67	---	---	---
CWP-08	06/15/1993	---	---	110	---	---	---
CWP-08	07/15/1993	---	---	39	---	---	---
CWP-08	08/15/1993	---	---	33	---	---	---
CWP-08	09/15/1993	---	---	70	---	---	---
CWP-08	10/15/1993	---	---	66	---	---	---
CWP-08	11/15/1993	---	---	37	---	---	---
CWP-08	12/15/1993	---	---	190	---	---	---
CWP-08	01/15/1994	---	---	39	---	---	---
CWP-08	02/15/1994	---	---	100	---	---	---
CWP-08	03/15/1994	---	---	61	---	---	---
CWP-08	04/15/1994	---	---	80	---	---	---
CWP-08	05/15/1994	---	---	65	---	---	---
CWP-08	06/15/1994	---	---	57	---	---	---
CWP-08	07/15/1994	---	---	87	---	---	---



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SITE	DATE	Arsenic	Chromium	Chromium	Manganese	Calcium	Sulfate
		Dissolved (µg/l)	(Hexavalent) (µg/l)	Dissolved (µg/l)	Dissolved (µg/l)	Dissolved (mg/L)	(mg/L)
CWP-08	08/15/1994	---	---	155	---	---	---
CWP-08	09/15/1994	---	---	<5	---	---	---
CWP-08	10/15/1994	---	---	<5	---	---	---
CWP-08	11/15/1994	---	---	58	---	---	---
CWP-08	12/15/1994	---	---	150	---	---	---
CWP-08	01/15/1995	---	---	640	---	---	---
CWP-08	02/15/1995	---	---	647	---	---	---
CWP-08	03/15/1995	---	---	710	---	---	---
CWP-08	04/15/1995	---	---	<5	---	---	---
CWP-08	05/15/1995	---	---	1600	---	---	---
CWP-08	06/15/1995	---	---	250	---	---	---
CWP-08	07/15/1995	473	---	---	---	---	---
CWP-08	12/15/1996	<5	---	---	---	---	---
CWP-08	06/15/1997	<5	---	---	---	---	---
CWP-08	07/15/1997	<5	---	---	---	---	---
CWP-08	01/15/1998	---	---	450	---	---	---
CWP-08	02/15/1998	---	---	410	---	---	---
CWP-08	03/15/1998	---	---	110	---	---	---
CWP-08	04/15/1998	---	---	160	---	---	---
CWP-08	05/15/1998	---	---	140	---	---	---
CWP-08	06/15/1998	---	---	1300	---	---	---
CWP-08	07/15/1998	---	---	49	---	---	---
CWP-08	08/15/1998	---	---	61	---	---	---
CWP-08	09/15/1998	---	---	62	---	---	---
CWP-08	10/15/1998	---	---	94	---	---	---
CWP-08	11/15/1998	---	---	300	---	---	---
CWP-08	12/15/1998	---	---	350	---	---	---
CWP-08	01/30/1999	---	---	270	---	---	---
CWP-08	02/27/1999	---	---	250	---	---	---
CWP-08	03/20/1999	---	---	110	---	---	---
CWP-08	04/24/1999	---	---	100	---	---	---
CWP-08	05/17/1999	---	---	44	---	---	---
CWP-08	06/19/1999	---	---	49	---	---	---
CWP-08	07/26/1999	---	---	44	---	---	---
CWP-08	08/27/1999	<5	---	62	<30	46	---
CWP-08	09/11/1999	<5	---	44	<30	28	---
CWP-08	10/22/1999	---	---	7600	---	400	119
CWP-08	11/19/1999	<10	---	1200	170	2.5	51
CWP-08	12/08/1999	<10	---	310	1400	28	94.4
CWP-08	12/21/1999	82	---	<50	96	1200	243
CWP-08	01/21/2000	24	---	<10	7200	215	7
CWP-08	02/14/2000	66	---	<10	7770	198	541
CWP-08	03/17/2000	29	---	<10	6100	220	523
CWP-08	04/08/2000	130	---	<10	1500	260	703.32
CWP-08	05/20/2000	68	---	<10	12000	200	5.79
CWP-08	06/17/2000	200	---	<250	3300	490	1255
CWP-08	07/17/2000	320	---	<10	8800	630	1567
CWP-08	08/15/2000	230	---	<10	6200	960	2616.13
CWP-08	09/15/2000	83	---	<10	8000	65	1904.84
CWP-08	10/04/2000	140	---	<10	7500	1500	3016.24
CWP-08	11/14/2000	<10	---	<10	29000	400	885.78
CWP-08	12/07/2000	28	---	<10	17000	300	664.3
CWP-09	09/20/1982	<4	<20	<20	160	32	18
CWP-09	03/20/1984	53	---	<10	---	---	---
CWP-09	03/21/1984	<5	<5	<5	---	---	---
CWP-09	01/20/1988	---	---	<20	---	---	---
CWP-09	01/24/1989	---	---	<20	---	---	---
CWP-09	01/25/1990	---	---	<20	---	---	---
CWP-09	01/23/1991	---	---	<5	---	---	---
CWP-09	01/15/1992	---	---	<5	---	---	---
CWP-09	01/15/1993	---	---	<5	---	---	---
CWP-09	01/15/1994	---	---	<5	---	---	---
CWP-09	10/15/1998	---	---	<5	---	---	---
CWP-09	08/27/1999	<5	---	<5	<30	17	---



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SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
CWP-09	12/17/1999	<10	---	<10	<10	17	28
CWP-09	04/10/2000	<10	---	11	<10	19	28.39
CWP-09	10/04/2000	<10	---	17	180	18	29
CWP-10	09/20/1982	<4	<20	<20	700	16.4	18
CWP-10	06/16/1983	---	---	70	---	---	---
CWP-10	12/08/1983	---	5700	5800	---	---	---
CWP-10	01/24/1984	15	170	170	---	---	---
CWP-10	03/01/1984	42	18000	18000	---	---	---
CWP-10	03/21/1984	1800	41000	50000	---	---	---
CWP-101	12/21/1999	<10	---	120	860	12	30.87
CWP-101	04/08/2000	<10	---	<10	1100	15	21.04
CWP-101	07/17/2000	<10	---	77	1300	15	30.75
CWP-101	10/05/2000	<10	---	<10	1600	530	1845.17
CWP-102	09/13/1999	---	---	50	---	---	---
CWP-102	12/21/1999	<10	---	<10	110	150	363
CWP-102	04/08/2000	<10	---	<10	1000	190	679.78
CWP-102	07/18/2000	<10	---	<10	600	200	867.5
CWP-102	10/05/2000	<10	---	81	840	14	35.72
CWP-103	07/19/1999	2.6	---	1100	120	34	---
CWP-103	07/20/1999	3.5	---	3600	79	30	---
CWP-103	08/27/1999	12	---	560	<30	2.8	---
CWP-103	12/21/1999	93	---	600	5700	620	1600
CWP-103	04/08/2000	1100	---	140000	5600	100	585.13
CWP-103	07/18/2000	160	---	<10	-0.52	1.8	1490
CWP-103	10/05/2000	210	---	<500	<500	2000	3238.07
CWP-104	07/19/1999	<2	---	9600	<30	26	---
CWP-104	07/20/1999	<2	---	10000	<30	22	---
CWP-104	08/27/1999	<5	---	9900	<30	23	---
CWP-104	12/21/1999	460	---	<500	<500	17000	4900
CWP-104	04/08/2000	330	---	<10	<10	4260	1449
CWP-104	07/18/2000	54	---	<10	-0.086	1.6	3300
CWP-104	10/05/2000	13500	---	1200	340	480	938.52
CWP-11	09/28/1982	<4	<20	50	10	53.6	31
CWP-11	06/16/1983	---	---	40	---	---	---
CWP-11	08/13/1983	18	50	50	---	---	---
CWP-11	10/04/1983	950	70	1900	---	---	---
CWP-11	12/08/1983	---	40	50	---	---	---
CWP-11	01/06/1984	---	30	50	---	---	---
CWP-11	01/24/1984	---	30	30	---	---	---
CWP-11	02/01/1984	---	40	<50	---	---	---
CWP-11	03/01/1984	---	30	30	---	---	---
CWP-11	03/21/1984	---	---	16	---	---	---
CWP-11	04/02/1984	---	40	40	---	---	---
CWP-11	06/16/1984	---	---	40	---	---	---
CWP-11	12/04/1984	10	<20	<20	---	---	---
CWP-11	01/03/1985	---	20	20	---	---	---
CWP-11	01/30/1985	---	---	<20	---	---	---
CWP-11	03/01/1985	---	---	<20	---	---	---
CWP-11	04/01/1985	---	---	20	---	---	---
CWP-11	05/03/1985	---	---	<20	---	---	---
CWP-11	07/02/1985	---	---	<20	---	---	---
CWP-11	12/04/1985	---	---	<20	---	---	---
CWP-11	01/02/1986	---	---	<20	---	---	---
CWP-11	02/13/1986	---	---	<20	---	---	---
CWP-11	03/14/1986	---	---	<20	---	---	---
CWP-11	04/03/1986	---	---	<20	---	---	---
CWP-11	05/01/1986	---	---	<20	---	---	---
CWP-11	08/13/1986	---	---	<20	---	---	---
CWP-11	09/03/1986	---	---	<20	---	---	---



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SITE	DATE	Arsenic	Chromium	Chromium	Manganese	Calcium	Sulfate
		Dissolved (µg/l)	(Hexavalent) (µg/l)	Dissolved (µg/l)	Dissolved (µg/l)	Dissolved (mg/L)	(mg/L)
CWP-11	10/06/1986	---	---	<20	---	---	---
CWP-11	01/05/1987	---	---	<20	---	---	---
CWP-11	02/25/1987	---	---	<20	---	---	---
CWP-11	03/27/1987	---	---	<20	---	---	---
CWP-11	04/20/1987	---	---	<20	---	---	---
CWP-11	05/19/1987	---	---	<20	---	---	---
CWP-11	05/20/1987	---	---	<20	---	---	---
CWP-11	06/16/1987	---	---	<20	---	---	---
CWP-11	07/21/1987	---	---	<20	---	---	---
CWP-11	08/24/1987	---	---	<20	---	---	---
CWP-11	09/23/1987	---	---	<20	---	---	---
CWP-11	12/18/1987	---	---	<20	---	---	---
CWP-11	01/18/1988	---	---	<20	---	---	---
CWP-11	02/18/1988	---	---	<20	---	---	---
CWP-11	03/21/1988	---	---	<20	---	---	---
CWP-11	04/22/1988	---	---	<20	---	---	---
CWP-11	05/23/1988	---	---	<20	---	---	---
CWP-11	06/23/1988	---	---	<20	---	---	---
CWP-11	07/19/1988	---	---	<20	---	---	---
CWP-11	08/23/1988	---	---	<20	---	---	---
CWP-11	09/19/1988	---	---	<20	---	---	---
CWP-11	11/21/1988	---	---	<20	---	---	---
CWP-11	12/23/1988	---	---	<20	---	---	---
CWP-11	01/24/1989	---	---	<20	---	---	---
CWP-11	02/20/1989	---	---	<20	---	---	---
CWP-11	03/21/1989	---	---	<20	---	---	---
CWP-11	04/28/1989	---	---	<20	---	---	---
CWP-11	05/22/1989	---	---	<20	---	---	---
CWP-11	06/28/1989	---	---	<20	---	---	---
CWP-11	07/25/1989	---	---	<20	---	---	---
CWP-11	10/26/1989	---	---	<20	---	---	---
CWP-11	01/23/1990	---	---	<20	---	---	---
CWP-11	02/21/1990	---	---	<20	---	---	---
CWP-11	03/21/1990	---	---	<20	---	---	---
CWP-11	04/23/1990	---	---	<20	---	---	---
CWP-11	05/23/1990	---	---	<20	---	---	---
CWP-11	06/22/1990	---	---	<20	---	---	---
CWP-11	07/26/1990	---	---	<20	---	---	---
CWP-11	08/23/1990	---	---	<20	---	---	---
CWP-11	12/27/1990	---	---	<5	---	---	---
CWP-11	01/23/1991	---	---	<5	---	---	---
CWP-11	04/26/1991	---	---	<5	---	---	---
CWP-11	07/29/1991	---	---	<5	---	---	---
CWP-11	01/15/1992	---	---	<5	---	---	---
CWP-11	04/15/1992	---	---	<5	---	---	---
CWP-11	07/15/1992	---	---	<5	---	---	---
CWP-11	10/15/1992	---	---	<5	---	---	---
CWP-11	01/15/1993	---	---	<5	---	---	---
CWP-11	04/15/1993	---	---	<5	---	---	---
CWP-11	07/15/1993	---	---	<5	---	---	---
CWP-11	10/15/1993	---	---	<5	---	---	---
CWP-11	01/15/1994	---	---	<5	---	---	---
CWP-11	01/15/1995	---	---	<5	---	---	---
CWP-11	01/15/1998	---	---	<5	---	---	---
CWP-11	08/15/1998	---	---	<5	---	---	---
CWP-11	10/15/1998	---	---	<5	---	---	---
CWP-11	01/30/1999	---	---	<5	---	---	---
CWP-11	08/27/1999	<5	---	<5	<30	30	---
CWP-11	12/17/1999	<10	---	<10	41	34	26
CWP-11	04/10/2000	<10	---	<10	<10	21	32.68
CWP-11	10/04/2000	<10	---	<10	290	29	11.32
CWP-12	09/20/1982	<4	<20	<20	560	15.4	8
CWP-12	09/28/1982	<4	<20	<20	---	---	---
CWP-12	06/16/1983	27	---	<20	---	---	---



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SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
CWP-12	10/04/1983	63	<50	47	---	---	---
CWP-12	12/08/1983	<50	<10	<50	---	---	---
CWP-12	03/01/1984	<4	<20	<20	---	---	---
CWP-12	03/20/1984	32	---	<10	---	---	---
CWP-12	01/30/1985	---	---	<20	---	---	---
CWP-12	08/01/1985	---	---	<20	---	---	---
CWP-12	10/31/1985	---	---	<20	---	---	---
CWP-12	02/13/1986	---	---	<20	---	---	---
CWP-12	05/01/1986	---	---	<20	---	---	---
CWP-12	08/13/1986	---	---	<20	---	---	---
CWP-12	04/20/1987	---	---	<20	---	---	---
CWP-12	07/21/1987	---	---	<20	---	---	---
CWP-12	10/19/1987	---	---	<20	---	---	---
CWP-12	01/18/1988	---	---	<20	---	---	---
CWP-12	04/22/1988	---	---	<20	---	---	---
CWP-12	07/18/1988	---	---	<20	---	---	---
CWP-12	10/24/1988	---	---	<20	---	---	---
CWP-12	01/24/1989	---	---	<20	---	---	---
CWP-12	04/28/1989	---	---	<20	---	---	---
CWP-12	07/25/1989	---	---	<20	---	---	---
CWP-12	10/25/1989	---	---	<20	---	---	---
CWP-12	01/23/1990	---	---	<20	---	---	---
CWP-12	04/23/1990	---	---	<20	---	---	---
CWP-12	07/25/1990	---	---	<20	---	---	---
CWP-12	07/26/1990	---	---	<20	---	---	---
CWP-12	10/24/1990	---	---	<20	---	---	---
CWP-12	01/23/1991	---	---	<5	---	---	---
CWP-12	01/15/1992	---	---	<5	---	---	---
CWP-12	01/15/1993	---	---	<5	---	---	---
CWP-12	01/15/1994	---	---	<5	---	---	---
CWP-12	10/15/1998	---	---	<5	---	---	---
CWP-12	08/27/1999	<5	---	7.5	<30	18	---
CWP-12	12/17/1999	<10	---	18	<10	18	76
CWP-12	04/10/2000	<10	---	14	<10	17	78.72
CWP-12	10/04/2000	<10	---	<10	<10	20	74.76
CWP-13	09/20/1982	<4	<20	20	3480	27.3	27
CWP-13	06/16/1983	---	---	<20	---	---	---
CWP-13	12/08/1983	<50	<10	<50	---	---	---
CWP-13	01/24/1984	<5	<10	<10	---	---	---
CWP-13	03/01/1984	<4	<20	<20	---	---	---
CWP-13	03/21/1984	---	---	81	---	---	---
CWP-13	01/30/1985	---	---	<20	---	---	---
CWP-13	03/01/1985	---	---	<20	---	---	---
CWP-13	04/01/1985	---	---	<20	---	---	---
CWP-13	05/03/1985	---	---	<20	---	---	---
CWP-13	07/02/1985	---	---	<20	---	---	---
CWP-13	08/01/1985	---	---	<20	---	---	---
CWP-13	09/09/1985	---	---	<20	---	---	---
CWP-13	10/01/1985	---	---	<20	---	---	---
CWP-13	10/21/1985	---	---	<20	---	---	---
CWP-13	12/04/1985	---	---	<20	---	---	---
CWP-13	01/02/1986	---	---	<20	---	---	---
CWP-13	02/13/1986	---	---	<20	---	---	---
CWP-13	03/14/1986	---	---	<20	---	---	---
CWP-13	04/03/1986	---	---	<20	---	---	---
CWP-13	05/01/1986	---	---	<20	---	---	---
CWP-13	08/13/1986	---	---	<20	---	---	---
CWP-13	09/03/1986	---	---	<20	---	---	---
CWP-13	10/06/1986	---	---	<20	---	---	---
CWP-13	12/03/1986	---	---	<20	---	---	---
CWP-13	01/05/1987	---	---	<20	---	---	---
CWP-13	02/25/1987	---	---	<20	---	---	---
CWP-13	03/27/1987	---	---	<20	---	---	---
CWP-13	04/20/1987	---	---	<20	---	---	---



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SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
CWP-13	05/19/1987	---	---	<20	---	---	---
CWP-13	05/20/1987	---	---	<20	---	---	---
CWP-13	06/06/1987	---	---	<20	---	---	---
CWP-13	07/21/1987	---	---	<20	---	---	---
CWP-13	08/24/1987	---	---	<20	---	---	---
CWP-13	09/23/1987	---	---	<20	---	---	---
CWP-13	10/19/1987	---	---	<20	---	---	---
CWP-13	11/13/1987	---	---	<20	---	---	---
CWP-13	12/18/1987	---	---	<20	---	---	---
CWP-13	01/18/1988	---	---	<20	---	---	---
CWP-13	02/18/1988	---	---	<20	---	---	---
CWP-13	03/21/1988	---	---	<20	---	---	---
CWP-13	04/22/1988	---	---	<20	---	---	---
CWP-13	05/23/1988	---	---	<20	---	---	---
CWP-13	06/23/1988	---	---	<20	---	---	---
CWP-13	07/19/1988	---	---	<20	---	---	---
CWP-13	08/23/1988	---	---	<20	---	---	---
CWP-13	09/19/1988	---	---	<20	---	---	---
CWP-13	10/24/1988	---	---	<20	---	---	---
CWP-13	11/21/1988	---	---	<20	---	---	---
CWP-13	12/23/1988	---	---	<20	---	---	---
CWP-13	01/24/1989	---	---	<20	---	---	---
CWP-13	02/20/1989	---	---	<20	---	---	---
CWP-13	03/21/1989	---	---	<20	---	---	---
CWP-13	04/28/1989	---	---	<20	---	---	---
CWP-13	05/22/1989	---	---	<20	---	---	---
CWP-13	06/28/1989	---	---	<20	---	---	---
CWP-13	07/25/1989	---	---	<20	---	---	---
CWP-13	08/29/1989	---	---	<20	---	---	---
CWP-13	09/22/1989	---	---	<20	---	---	---
CWP-13	10/25/1989	---	---	<20	---	---	---
CWP-13	11/21/1989	---	---	<20	---	---	---
CWP-13	12/21/1989	---	---	<20	---	---	---
CWP-13	01/23/1990	---	---	<20	---	---	---
CWP-13	02/21/1990	---	---	<20	---	---	---
CWP-13	03/21/1990	---	---	<20	---	---	---
CWP-13	04/23/1990	---	---	<20	---	---	---
CWP-13	05/23/1990	---	---	<20	---	---	---
CWP-13	06/22/1990	---	---	<20	---	---	---
CWP-13	07/26/1990	---	---	<20	---	---	---
CWP-13	08/23/1990	---	---	<20	---	---	---
CWP-13	08/24/1990	---	---	<20	---	---	---
CWP-13	09/20/1990	---	---	<20	---	---	---
CWP-13	10/23/1990	---	---	<20	---	---	---
CWP-13	12/27/1990	---	---	<5	---	---	---
CWP-13	01/23/1991	---	---	<5	---	---	---
CWP-13	04/26/1991	---	---	<5	---	---	---
CWP-13	07/29/1991	---	---	<5	---	---	---
CWP-13	10/24/1991	---	---	<5	---	---	---
CWP-13	01/15/1992	---	---	<5	---	---	---
CWP-13	04/15/1992	---	---	<5	---	---	---
CWP-13	07/15/1992	---	---	<5	---	---	---
CWP-13	10/15/1992	---	---	<5	---	---	---
CWP-13	01/15/1993	---	---	<5	---	---	---
CWP-13	04/15/1993	---	---	<5	---	---	---
CWP-13	07/15/1993	---	---	<5	---	---	---
CWP-13	10/15/1993	---	---	<5	---	---	---
CWP-13	01/15/1994	---	---	<5	---	---	---
CWP-13	05/15/1994	---	---	<5	---	---	---
CWP-13	08/15/1994	---	---	<5	---	---	---
CWP-13	11/15/1994	---	---	<5	---	---	---
CWP-13	02/15/1995	---	---	<5	---	---	---
CWP-13	05/15/1995	---	---	<5	---	---	---
CWP-13	01/15/1998	---	---	<5	---	---	---
CWP-13	02/15/1998	---	---	<5	---	---	---



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SITE	DATE	Arsenic	Chromium	Chromium	Manganese	Calcium	Sulfate
		Dissolved (µg/l)	(Hexavalent) (µg/l)	Dissolved (µg/l)	Dissolved (µg/l)	Dissolved (mg/L)	(mg/L)
CWP-13	05/15/1998	—	—	<5	—	—	—
CWP-13	08/15/1998	—	—	<5	—	—	—
CWP-13	10/15/1998	—	—	<5	—	—	—
CWP-13	01/30/1999	—	—	<5	—	—	—
CWP-13	02/27/1999	—	—	<5	—	—	—
CWP-13	05/17/1999	—	—	<5	—	—	—
CWP-13	08/27/1999	<5	—	<5	1600	22	—
CWP-13	12/17/1999	<10	—	<10	2100	85	194
CWP-13	04/10/2000	<10	—	<10	2600	49	100.01
CWP-13	07/17/2000	<10	—	<10	2400	54	119.4
CWP-13	10/04/2000	<10	—	<10	5100	190	305.49
CWP-14	09/20/1982	<4	<20	<20	2960	16.7	14
CWP-14	06/16/1983	—	—	<20	—	—	—
CWP-14	10/04/1983	64	<50	50	—	—	—
CWP-14	12/08/1983	<50	<10	<50	—	—	—
CWP-14	03/01/1984	<4	<20	<20	—	—	—
CWP-14	03/21/1984	—	—	<10	—	—	—
CWP-14	01/30/1985	—	—	<50	—	—	—
CWP-14	05/03/1985	—	—	<20	—	—	—
CWP-14	08/01/1985	—	—	<20	—	—	—
CWP-14	10/31/1985	—	—	<20	—	—	—
CWP-14	02/13/1986	—	—	<20	—	—	—
CWP-14	05/01/1986	—	—	<20	—	—	—
CWP-14	08/13/1986	—	—	<20	—	—	—
CWP-14	04/20/1987	—	—	<20	—	—	—
CWP-14	07/21/1987	—	—	<20	—	—	—
CWP-14	10/01/1987	—	—	<20	—	—	—
CWP-14	01/18/1988	—	—	<20	—	—	—
CWP-14	04/22/1988	—	—	<20	—	—	—
CWP-14	07/19/1988	—	—	<20	—	—	—
CWP-14	10/24/1988	—	—	<20	—	—	—
CWP-14	01/24/1989	—	—	<20	—	—	—
CWP-14	04/28/1989	—	—	<20	—	—	—
CWP-14	07/25/1989	—	—	<20	—	—	—
CWP-14	10/25/1989	—	—	<20	—	—	—
CWP-14	01/23/1990	—	—	<20	—	—	—
CWP-14	04/24/1990	—	—	<20	—	—	—
CWP-14	07/25/1990	—	—	<20	—	—	—
CWP-14	07/26/1990	—	—	<20	—	—	—
CWP-14	10/24/1990	—	—	<20	—	—	—
CWP-14	01/23/1991	—	—	<5	—	—	—
CWP-14	01/15/1992	—	—	<5	—	—	—
CWP-14	01/15/1993	—	—	<5	—	—	—
CWP-14	01/15/1994	—	—	<5	—	—	—
CWP-14	10/15/1998	—	—	<5	—	—	—
CWP-14	08/27/1999	<5	—	<5	840	22	—
CWP-14	12/17/1999	<10	—	<10	2000	49	161
CWP-14	04/10/2000	17	—	<10	2900	400	1190
CWP-14	10/04/2000	<10	—	<10	1800	34	61.3
CWP-15	09/20/1982	<4	<20	<20	10	41.4	35
CWP-15	03/21/1984	—	—	<10	—	—	—
CWP-15	01/18/1988	—	—	<20	—	—	—
CWP-15	01/24/1990	—	—	<20	—	—	—
CWP-15	01/25/1990	—	—	<20	—	—	—
CWP-15	12/17/1999	<10	—	<10	44	20	31
CWP-15	04/10/2000	<10	—	<10	15	22	25.72
CWP-15	10/04/2000	<10	—	<10	150	17	16.96
CWP-16	09/28/1982	<4	<20	<20	360	27.3	30
CWP-16	03/21/1984	—	—	<10	—	—	—
CWP-16	01/18/1988	—	—	<20	—	—	—
CWP-16	01/24/1989	—	—	<20	—	—	—
CWP-16	01/25/1990	—	—	<20	—	—	—



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SITE	DATE	Arsenic	Chromium	Chromium	Manganese	Calcium	Sulfate
		Dissolved (µg/l)	(Hexavalent) (µg/l)	Dissolved (µg/l)	Dissolved (µg/l)	Dissolved (mg/L)	(mg/L)
CWP-16	12/17/1999	<10	---	<10	43	23	26
CWP-16	04/10/2000	<10	---	<10	34	26	24.72
CWP-16	10/04/2000	<10	---	<10	<10	5.9	3.25
CWP-17	01/31/1985	<10	<10	<10	---	---	---
CWP-17	03/01/1985	---	---	<20	---	---	---
CWP-17	04/01/1985	---	---	<20	---	---	---
CWP-17	05/03/1985	---	---	<20	---	---	---
CWP-17	07/02/1985	---	---	<20	---	---	---
CWP-17	08/01/1985	---	---	<20	---	---	---
CWP-17	09/09/1985	---	---	<20	---	---	---
CWP-17	10/01/1985	---	---	<20	---	---	---
CWP-17	10/31/1985	---	---	<20	---	---	---
CWP-17	12/04/1985	---	---	<20	---	---	---
CWP-17	01/02/1986	---	---	<20	---	---	---
CWP-17	02/13/1986	---	---	<20	---	---	---
CWP-17	03/14/1986	---	---	<20	---	---	---
CWP-17	04/03/1986	---	---	<20	---	---	---
CWP-17	05/01/1986	---	---	<20	---	---	---
CWP-17	08/13/1986	---	---	<20	---	---	---
CWP-17	09/03/1986	---	---	<20	---	---	---
CWP-17	10/06/1986	---	---	<20	---	---	---
CWP-17	12/03/1986	---	---	<20	---	---	---
CWP-17	01/05/1987	---	---	<20	---	---	---
CWP-17	02/25/1987	---	---	<20	---	---	---
CWP-17	03/27/1987	---	---	<20	---	---	---
CWP-17	04/20/1987	---	---	<20	---	---	---
CWP-17	05/19/1987	---	---	<20	---	---	---
CWP-17	05/20/1987	---	---	<20	---	---	---
CWP-17	07/21/1987	---	---	<20	---	---	---
CWP-17	10/19/1987	---	---	<20	---	---	---
CWP-17	01/18/1988	---	---	<20	---	---	---
CWP-17	04/25/1988	---	---	<20	---	---	---
CWP-17	07/19/1988	---	---	<20	---	---	---
CWP-17	01/24/1989	---	---	<20	---	---	---
CWP-17	04/23/1989	---	---	<20	---	---	---
CWP-17	07/25/1989	---	---	<20	---	---	---
CWP-17	10/25/1989	---	---	<20	---	---	---
CWP-17	01/23/1990	---	---	<20	---	---	---
CWP-17	04/23/1990	---	---	<20	---	---	---
CWP-17	07/26/1990	---	---	<20	---	---	---
CWP-17	10/24/1990	---	---	<20	---	---	---
CWP-17	01/23/1991	---	---	<5	---	---	---
CWP-17	01/15/1992	---	---	<5	---	---	---
CWP-17	01/15/1993	---	---	<5	---	---	---
CWP-17	01/15/1994	---	---	<5	---	---	---
CWP-17	10/15/1998	---	---	<5	---	---	---
CWP-17	08/27/1999	7.9	---	<5	<30	19	---
CWP-17	12/17/1999	<10	---	<10	430	13	5
CWP-17	04/10/2000	<10	---	<10	870	24	5.02
CWP-17	10/04/2000	<10	---	<10	1200	29	3.14
CWP-18	04/20/1987	---	---	12000	---	---	---
CWP-18	07/22/1987	---	---	23000	---	---	---
CWP-18	10/20/1987	---	---	22000	---	---	---
CWP-18	01/18/1988	---	---	37000	---	---	---
CWP-18	04/25/1988	---	---	31000	---	---	---
CWP-18	07/19/1988	---	---	18000	---	---	---
CWP-18	01/26/1989	---	---	38000	---	---	---
CWP-18	04/28/1989	---	---	35000	---	---	---
CWP-18	07/26/1989	---	---	15000	---	---	---
CWP-18	10/25/1989	---	---	27000	---	---	---
CWP-18	01/25/1990	---	---	20000	---	---	---



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SITE	DATE	Arsenic Dissolved (µg/l)	Chromium (Hexavalent) (µg/l)	Chromium Dissolved (µg/l)	Manganese Dissolved (µg/l)	Calcium Dissolved (mg/L)	Sulfate (mg/L)
CWP-18	04/24/1990	---	---	9660	---	---	---
CWP-18	07/25/1990	---	---	20000	---	---	---
CWP-18	08/27/1999	11	---	13000	<30	14	---
CWP-18	10/22/1999	---	---	10000	---	21	110
CWP-18	12/21/1999	<10	---	2600	930	24	146
CWP-18	04/08/2000	<10	---	10000	220	18	206
CWP-18	07/17/2000	15	---	<10	4900	46	265 12
CWP-18	10/05/2000	<10	---	<10	3600	32	188.13
CWP-20	12/03/1986	---	---	<20	---	---	---
CWP-20	01/05/1987	---	---	<20	---	---	---
CWP-20	02/25/1987	---	---	<20	---	---	---
CWP-20	03/26/1987	---	---	20	---	---	---
CWP-20	04/20/1987	---	---	<20	---	---	---
CWP-20	05/19/1987	---	---	<20	---	---	---
CWP-20	05/20/1987	---	---	<20	---	---	---
CWP-20	06/16/1987	---	---	<20	---	---	---
CWP-20	07/21/1987	---	---	<20	---	---	---
CWP-20	08/24/1987	---	---	<20	---	---	---
CWP-20	09/23/1987	---	---	<20	---	---	---
CWP-20	10/19/1987	---	---	<20	---	---	---
CWP-20	11/13/1987	---	---	<20	---	---	---
CWP-20	12/21/1987	---	---	<20	---	---	---
CWP-20	01/18/1988	---	---	<20	---	---	---
CWP-20	02/18/1988	---	---	90	---	---	---
CWP-20	03/21/1988	---	---	<20	---	---	---
CWP-20	04/25/1988	---	---	50	---	---	---
CWP-20	05/23/1988	---	---	60	---	---	---
CWP-20	06/23/1988	---	---	20	---	---	---
CWP-20	07/19/1988	---	---	<20	---	---	---
CWP-20	08/23/1988	---	---	<20	---	---	---
CWP-20	09/19/1988	---	---	<20	---	---	---
CWP-20	10/24/1988	---	---	<20	---	---	---
CWP-20	11/21/1988	---	---	<20	---	---	---
CWP-20	12/23/1988	---	---	<20	---	---	---
CWP-20	01/25/1989	---	---	160	---	---	---
CWP-20	02/21/1989	---	---	70	---	---	---
CWP-20	03/21/1989	---	---	50	---	---	---
CWP-20	04/27/1989	---	---	430	---	---	---
CWP-20	05/22/1989	---	---	50	---	---	---
CWP-20	06/28/1989	---	---	<20	---	---	---
CWP-20	07/26/1989	---	---	3100	---	---	---
CWP-20	08/29/1989	---	---	2700	---	---	---
CWP-20	09/22/1989	---	---	1100	---	---	---
CWP-20	10/26/1989	---	---	<20	---	---	---
CWP-20	11/21/1989	---	---	710	---	---	---
CWP-20	12/21/1989	---	---	20	---	---	---
CWP-20	01/22/1990	---	---	20	---	---	---
CWP-20	02/21/1990	---	---	520	---	---	---
CWP-20	03/21/1990	---	---	700	---	---	---
CWP-20	04/23/1990	---	---	74	---	---	---
CWP-20	05/23/1990	---	---	<20	---	---	---
CWP-20	08/23/1990	---	---	32	---	---	---
CWP-20	09/20/1990	---	---	<20	---	---	---
CWP-20	12/27/1990	---	---	10	---	---	---
CWP-20	02/25/1991	---	---	<5	---	---	---
CWP-20	03/26/1991	---	---	<5	---	---	---
CWP-20	04/26/1991	---	---	101	---	---	---
CWP-20	05/28/1991	---	---	<5	---	---	---
CWP-20	06/25/1991	---	---	3130	---	---	---
CWP-20	07/29/1991	---	---	3700	---	---	---
CWP-20	08/26/1991	---	---	3750	---	---	---
CWP-20	09/27/1991	---	---	98	---	---	---
CWP-20	10/24/1991	---	---	<5	---	---	---
CWP-20	11/25/1991	---	---	<5	---	---	---



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SITE	DATE	Arsenic	Chromium	Chromium	Manganese	Calcium	Sulfate
		Dissolved (µg/l)	(Hexavalent) (µg/l)	Dissolved (µg/l)	Dissolved (µg/l)	Dissolved (mg/L)	(mg/L)
CWP-20	12/23/1991	---	---	<5	---	---	---
CWP-20	01/15/1992	---	---	194	---	---	---
CWP-20	02/15/1992	---	---	<5	---	---	---
CWP-20	03/15/1992	---	---	<5	---	---	---
CWP-20	04/15/1992	---	---	8	---	---	---
CWP-20	05/15/1992	---	---	44	---	---	---
CWP-20	06/15/1992	---	---	17	---	---	---
CWP-20	07/15/1992	---	---	8	---	---	---
CWP-20	12/15/1992	---	---	12	---	---	---
CWP-20	01/15/1993	---	---	<5	---	---	---
CWP-20	02/15/1993	---	---	19	---	---	---
CWP-20	03/15/1993	---	---	5.1	---	---	---
CWP-20	04/15/1993	---	---	6.5	---	---	---
CWP-20	05/15/1993	---	---	<5	---	---	---
CWP-20	06/15/1993	---	---	<5	---	---	---
CWP-20	07/15/1993	---	---	<5	---	---	---
CWP-20	08/15/1993	---	---	<5	---	---	---
CWP-20	09/15/1993	---	---	13	---	---	---
CWP-20	10/15/1993	---	---	47	---	---	---
CWP-20	11/15/1993	---	---	53	---	---	---
CWP-20	12/15/1993	---	---	11	---	---	---
CWP-20	01/15/1994	---	---	195	---	---	---
CWP-20	02/15/1994	---	---	22	---	---	---
CWP-20	03/15/1994	---	---	150	---	---	---
CWP-20	04/15/1994	---	---	11	---	---	---
CWP-20	05/15/1994	---	---	14	---	---	---
CWP-20	06/15/1994	---	---	7.2	---	---	---
CWP-20	07/15/1994	---	---	14	---	---	---
CWP-20	08/15/1994	---	---	13	---	---	---
CWP-20	09/15/1994	---	---	9.5	---	---	---
CWP-20	10/15/1994	---	---	8.4	---	---	---
CWP-20	11/15/1994	---	---	9.1	---	---	---
CWP-20	12/15/1994	---	---	54	---	---	---
CWP-20	01/15/1995	---	---	30	---	---	---
CWP-20	02/15/1995	---	---	5.2	---	---	---
CWP-20	03/15/1995	---	---	200	---	---	---
CWP-20	04/15/1995	---	---	<5	---	---	---
CWP-20	05/15/1995	---	---	320	---	---	---
CWP-20	06/15/1995	---	---	390	---	---	---
CWP-20	07/15/1995	27	---	---	---	---	---
CWP-20	12/15/1996	8	---	---	---	---	---
CWP-20	06/15/1997	7	---	---	---	---	---
CWP-20	07/15/1997	6	---	---	---	---	---
CWP-20	01/15/1998	---	---	23	---	---	---
CWP-20	02/15/1998	---	---	9.7	---	---	---
CWP-20	03/15/1998	---	---	16	---	---	---
CWP-20	04/15/1998	---	---	<5	---	---	---
CWP-20	05/15/1998	---	---	140	---	---	---
CWP-20	06/15/1998	---	---	260	---	---	---
CWP-20	07/15/1998	---	---	340	---	---	---
CWP-20	08/15/1998	---	---	1900	---	---	---
CWP-20	09/15/1998	---	---	2000	---	---	---
CWP-20	10/15/1998	---	---	480	---	---	---
CWP-20	11/15/1998	---	---	5.5	---	---	---
CWP-20	12/15/1998	---	---	88	---	---	---
CWP-20	01/30/1999	---	---	18	---	---	---
CWP-20	02/27/1999	---	---	13	---	---	---
CWP-20	03/20/1999	---	---	19	---	---	---
CWP-20	04/24/1999	---	---	26	---	---	---
CWP-20	05/17/1999	---	---	<5	---	---	---
CWP-20	06/19/1999	---	---	<5	---	---	---
CWP-20	07/26/1999	---	---	8.2	---	---	---
CWP-20	08/27/1999	<5	---	520	160	7.6	---
CWP-20	09/11/1999	<5	---	450	150	7.3	---
CWP-20	10/22/1999	---	---	7	---	67	-0.031



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SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
CWP-20	11/19/1999	<10	---	<10	49	2.2	2.5
CWP-20	12/21/1999	<10	---	<10	28	8.1	16.92
CWP-20	01/21/2000	<10	---	<10	56	3	2
CWP-20	02/14/2000	<10	---	<10	100	3	2
CWP-20	03/17/2000	<10	---	<10	110	1	2
CWP-20	04/08/2000	<10	---	<10	150	4.9	10.88
CWP-20	05/20/2000	<10	---	<10	57	3.6	<1000
CWP-20	06/17/2000	<10	---	<250	<250	<50000	22
CWP-20	07/17/2000	<10	---	<10	140	11	26.14
CWP-20	08/15/2000	<10	---	<10	200	13	49.025
CWP-20	09/15/2000	<10	---	<50	71	21	28.63
CWP-20	10/04/2000	<10	---	16	170	19	25.42
CWP-20	11/14/2000	<10	---	<10	29	<1000	3.22
CWP-20	12/07/2000	<10	---	<10	110	6	4.94
CWP-21	12/03/1986	---	---	<20	---	---	---
CWP-21	01/05/1987	---	---	<20	---	---	---
CWP-21	02/25/1987	---	---	<20	---	---	---
CWP-21	03/26/1987	---	---	<20	---	---	---
CWP-21	04/20/1987	---	---	<20	---	---	---
CWP-21	05/19/1987	---	---	<20	---	---	---
CWP-21	05/20/1987	---	---	<20	---	---	---
CWP-21	06/16/1987	---	---	<20	---	---	---
CWP-21	07/21/1987	---	---	<20	---	---	---
CWP-21	08/24/1987	---	---	<20	---	---	---
CWP-21	09/23/1987	---	---	<20	---	---	---
CWP-21	10/19/1987	---	---	<20	---	---	---
CWP-21	11/13/1987	---	---	<20	---	---	---
CWP-21	12/21/1987	---	---	<20	---	---	---
CWP-21	01/18/1988	---	---	<20	---	---	---
CWP-21	02/18/1988	---	---	<20	---	---	---
CWP-21	03/21/1988	---	---	<20	---	---	---
CWP-21	04/22/1988	---	---	<20	---	---	---
CWP-21	05/23/1988	---	---	<20	---	---	---
CWP-21	06/23/1988	---	---	<20	---	---	---
CWP-21	07/19/1988	---	---	<20	---	---	---
CWP-21	08/23/1988	---	---	<20	---	---	---
CWP-21	09/19/1988	---	---	<20	---	---	---
CWP-21	10/24/1988	---	---	<20	---	---	---
CWP-21	11/21/1988	---	---	<20	---	---	---
CWP-21	12/23/1988	---	---	<20	---	---	---
CWP-21	01/25/1989	---	---	<20	---	---	---
CWP-21	02/21/1989	---	---	<20	---	---	---
CWP-21	03/21/1989	---	---	<20	---	---	---
CWP-21	04/27/1989	---	---	<20	---	---	---
CWP-21	05/22/1989	---	---	<20	---	---	---
CWP-21	06/28/1989	---	---	<20	---	---	---
CWP-21	07/26/1989	---	---	<20	---	---	---
CWP-21	08/29/1989	---	---	<20	---	---	---
CWP-21	09/22/1989	---	---	<20	---	---	---
CWP-21	10/26/1989	---	---	<20	---	---	---
CWP-21	11/21/1989	---	---	<20	---	---	---
CWP-21	12/20/1989	---	---	<20	---	---	---
CWP-21	12/21/1989	---	---	<20	---	---	---
CWP-21	01/22/1990	---	---	<20	---	---	---
CWP-21	02/21/1990	---	---	<20	---	---	---
CWP-21	03/21/1990	---	---	<20	---	---	---
CWP-21	04/23/1990	---	---	<20	---	---	---
CWP-21	05/23/1990	---	---	<20	---	---	---
CWP-21	06/22/1990	---	---	<20	---	---	---
CWP-21	07/26/1990	---	---	<20	---	---	---
CWP-21	08/23/1990	---	---	<20	---	---	---
CWP-21	09/20/1990	---	---	<20	---	---	---
CWP-21	10/23/1990	---	---	<20	---	---	---
CWP-21	11/26/1990	---	---	<20	---	---	---



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SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
CWP-21	12/27/1990	---	---	<5	---	---	---
CWP-21	01/23/1991	---	---	<5	---	---	---
CWP-21	02/25/1991	---	---	<5	---	---	---
CWP-21	03/26/1991	---	---	<5	---	---	---
CWP-21	04/26/1991	---	---	<5	---	---	---
CWP-21	05/28/1991	---	---	<5	---	---	---
CWP-21	06/25/1991	---	---	<5	---	---	---
CWP-21	07/29/1991	---	---	<5	---	---	---
CWP-21	08/26/1991	---	---	<5	---	---	---
CWP-21	09/27/1991	---	---	<5	---	---	---
CWP-21	10/24/1991	---	---	<5	---	---	---
CWP-21	11/25/1991	---	---	<5	---	---	---
CWP-21	12/23/1991	---	---	<5	---	---	---
CWP-21	01/15/1992	---	---	<5	---	---	---
CWP-21	02/15/1992	---	---	<5	---	---	---
CWP-21	03/15/1992	---	---	<5	---	---	---
CWP-21	04/15/1992	---	---	<5	---	---	---
CWP-21	05/15/1992	---	---	<5	---	---	---
CWP-21	06/15/1992	---	---	<5	---	---	---
CWP-21	07/15/1992	---	---	<5	---	---	---
CWP-21	08/15/1992	---	---	<5	---	---	---
CWP-21	09/15/1992	---	---	<5	---	---	---
CWP-21	10/15/1992	---	---	<5	---	---	---
CWP-21	11/15/1992	---	---	<5	---	---	---
CWP-21	12/15/1992	---	---	<5	---	---	---
CWP-21	01/15/1993	---	---	<5	---	---	---
CWP-21	02/15/1993	---	---	<5	---	---	---
CWP-21	03/15/1993	---	---	<5	---	---	---
CWP-21	04/15/1993	---	---	<5	---	---	---
CWP-21	05/15/1993	---	---	<5	---	---	---
CWP-21	06/15/1993	---	---	<5	---	---	---
CWP-21	07/15/1993	---	---	<5	---	---	---
CWP-21	08/15/1993	---	---	<5	---	---	---
CWP-21	09/15/1993	---	---	<5	---	---	---
CWP-21	10/15/1993	---	---	<5	---	---	---
CWP-21	11/15/1993	---	---	<5	---	---	---
CWP-21	12/15/1993	---	---	8	---	---	---
CWP-21	01/15/1994	---	---	<5	---	---	---
CWP-21	02/15/1994	---	---	<5	---	---	---
CWP-21	03/15/1994	---	---	<5	---	---	---
CWP-21	04/15/1994	---	---	<5	---	---	---
CWP-21	05/15/1994	---	---	<5	---	---	---
CWP-21	06/15/1994	---	---	<5	---	---	---
CWP-21	07/15/1994	---	---	<5	---	---	---
CWP-21	08/15/1994	---	---	<5	---	---	---
CWP-21	09/15/1994	---	---	<5	---	---	---
CWP-21	10/15/1994	---	---	<5	---	---	---
CWP-21	11/15/1994	---	---	<5	---	---	---
CWP-21	12/15/1994	---	---	8	---	---	---
CWP-21	01/15/1995	---	---	93	---	---	---
CWP-21	02/15/1995	---	---	241	---	---	---
CWP-21	03/15/1995	---	---	330	---	---	---
CWP-21	04/15/1995	---	---	1284	---	---	---
CWP-21	05/15/1995	---	---	500	---	---	---
CWP-21	06/15/1995	---	---	2800	---	---	---
CWP-21	07/15/1995	<5	---	---	---	---	---
CWP-21	12/15/1996	11	---	---	---	---	---
CWP-21	06/15/1997	23	---	---	---	---	---
CWP-21	07/15/1997	<5	---	---	---	---	---
CWP-21	01/15/1998	---	---	<5	---	---	---
CWP-21	02/15/1998	---	---	7.3	---	---	---
CWP-21	03/15/1998	---	---	6	---	---	---
CWP-21	04/15/1998	---	---	<5	---	---	---
CWP-21	05/15/1998	---	---	8.8	---	---	---
CWP-21	06/15/1998	---	---	8.4	---	---	---



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SITE	DATE	Arsenic	Chromium	Chromium	Manganese	Calcium	Sulfate
		Dissolved (µg/l)	(Hexavalent) (µg/l)	Dissolved (µg/l)	Dissolved (µg/l)	Dissolved (mg/L)	(mg/L)
CWP-21	07/15/1998	---	---	<5	---	---	---
CWP-21	08/15/1998	---	---	<5	---	---	---
CWP-21	09/15/1998	---	---	17	---	---	---
CWP-21	10/15/1998	---	---	8.5	---	---	---
CWP-21	11/15/1998	---	---	16	---	---	---
CWP-21	12/15/1998	---	---	<5	---	---	---
CWP-21	01/30/1999	---	---	<5	---	---	---
CWP-21	02/27/1999	---	---	5.9	---	---	---
CWP-21	03/20/1999	---	---	5.9	---	---	---
CWP-21	04/24/1999	---	---	<5	---	---	---
CWP-21	05/17/1999	---	---	<5	---	---	---
CWP-21	06/19/1999	---	---	<5	---	---	---
CWP-21	07/26/1999	---	---	5.8	---	---	---
CWP-21	08/27/1999	<5	---	<5	48	12	---
CWP-21	09/11/1999	<5	---	7.2	<30	12	---
CWP-21	10/22/1999	---	---	<5	---	18	28
CWP-21	11/19/1999	33	---	<10	<10	5.4	18
CWP-21	12/21/1999	<10	---	<10	48	23	36.69
CWP-21	01/21/2000	18	---	<10	<10	32	7
CWP-21	02/14/2000	67	---	84	19	20	3
CWP-21	03/17/2000	<10	---	<10	38	21	33
CWP-21	04/08/2000	<10	---	<10	270	29	93.32
CWP-21	05/20/2000	18	---	<10	<10	48	<1000
CWP-21	06/17/2000	14	---	<10	53	28	94.08
CWP-21	07/17/2000	<10	---	<10	320	27	80.39
CWP-21	08/15/2000	<10	---	<10	270	28	68.825
CWP-21	09/15/2000	19	---	<10	150	21	50.075
CWP-21	10/04/2000	<10	---	<10	130	20	44.94
CWP-21	11/14/2000	57	---	20	500	39	33.29
CWP-21	12/07/2000	18	---	18	330	26	34.19
CWP-22	01/06/1987	---	---	<20	---	---	---
CWP-22	02/25/1987	---	---	<20	---	---	---
CWP-22	03/27/1987	---	---	<20	---	---	---
CWP-22	04/20/1987	---	---	<20	---	---	---
CWP-22	05/19/1987	---	---	<20	---	---	---
CWP-22	05/20/1987	---	---	<20	---	---	---
CWP-22	10/15/1998	---	---	28	---	---	---
CWP-22	08/27/1999	<5	---	14	<30	22	---
CWP-22	12/17/1999	40	---	16	17000	150	577
CWP-22	04/10/2000	17	---	<100	13000	480	1448.16
CWP-22	10/04/2000	<10	---	41	18000	190	586.5
CWP-25	9/20/1982	<4	<20	<20	10	44.5	40
CWP-26	9/20/1982	<4	<20	<20	<10	16.4	7
FPT-01A	09/28/1982	<4	<20	<20	<10	24.6	18
FPT-01A	05/18/1983	<5	<40	<40	---	---	---
FPT-01A	03/21/1984	---	---	<10	---	---	---
FPT-01B	09/28/1982	<4	<20	<20	80	22.3	16
FPT-01B	05/18/1983	<5	<40	<40	---	---	---
FPT-01B	03/21/1984	---	<40	<10	---	---	---
FPT-02A	01/22/1990	---	---	<20	---	---	---
FPT-02B	05/18/1983	<5	<40	<40	---	---	---
FPT-02B	03/21/1984	<5	<5	<5	---	---	---
FPT-02B	01/19/1988	---	---	<20	---	---	---
FPT-02B	01/26/1989	---	---	<20	---	---	---



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SITE	DATE	Arsenic	Chromium	Chromium	Manganese	Calcium	Sulfate
		Dissolved (µg/l)	(Hexavalent) (µg/l)	Dissolved (µg/l)	Dissolved (µg/l)	Dissolved (mg/L)	(mg/L)
FPT-03	09/20/1982	<4	480	480	210	22	16
FPT-03	05/18/1983	---	170	170	---	---	---
FPT-03	06/16/1983	---	---	210	---	---	---
FPT-03	08/13/1983	---	620	650	---	---	---
FPT-03	10/04/1983	41	440	1400	---	---	---
FPT-03	12/08/1983	---	110	120	---	---	---
FPT-03	01/06/1984	---	60	60	---	---	---
FPT-03	01/18/1984	---	90	120	---	---	---
FPT-03	01/24/1984	---	160	160	---	---	---
FPT-03	02/01/1984	---	200	200	---	---	---
FPT-03	03/01/1984	---	100	100	---	---	---
FPT-03	03/21/1984	---	98	120	---	---	---
FPT-03	04/02/1984	---	130	160	---	---	---
FPT-03	12/04/1984	---	80	80	---	---	---
FPT-03	01/03/1985	---	350	350	---	---	---
FPT-03	01/30/1985	---	---	120	---	---	---
FPT-03	03/01/1985	---	---	110	---	---	---
FPT-03	04/01/1985	---	---	100	---	---	---
FPT-03	05/03/1985	---	---	<20	---	---	---
FPT-03	07/02/1985	---	---	<20	---	---	---
FPT-03	08/01/1985	---	---	<20	---	---	---
FPT-03	09/09/1985	---	---	70	---	---	---
FPT-03	09/20/1985	---	---	<20	---	---	---
FPT-03	10/01/1985	---	---	<20	---	---	---
FPT-03	10/31/1985	---	---	<20	---	---	---
FPT-03	12/04/1985	---	---	20	---	---	---
FPT-03	01/02/1986	---	---	60	---	---	---
FPT-03	02/13/1986	---	---	<10	---	---	---
FPT-03	03/14/1986	---	---	<20	---	---	---
FPT-03	05/01/1986	---	---	<20	---	---	---
FPT-03	08/13/1986	---	---	<20	---	---	---
FPT-03	09/03/1986	---	---	<20	---	---	---
FPT-03	10/06/1986	---	---	<20	---	---	---
FPT-03	12/03/1986	---	---	<20	---	---	---
FPT-03	01/05/1987	---	---	<20	---	---	---
FPT-03	02/25/1987	---	---	<20	---	---	---
FPT-03	03/26/1987	---	---	<20	---	---	---
FPT-03	04/20/1987	---	---	<20	---	---	---
FPT-03	05/19/1987	---	---	<20	---	---	---
FPT-03	05/20/1987	---	---	<20	---	---	---
FPT-03	06/16/1987	---	---	<20	---	---	---
FPT-03	07/22/1987	---	---	<20	---	---	---
FPT-03	08/24/1987	---	---	<20	---	---	---
FPT-03	09/23/1987	---	---	<20	---	---	---
FPT-03	10/20/1987	---	---	<20	---	---	---
FPT-03	11/13/1987	---	---	<20	---	---	---
FPT-03	12/18/1987	---	---	40	---	---	---
FPT-03	01/19/1988	---	---	<20	---	---	---
FPT-03	02/18/1988	---	---	<20	---	---	---
FPT-03	03/21/1988	---	---	<20	---	---	---
FPT-03	04/25/1988	---	---	<20	---	---	---
FPT-03	05/23/1988	---	---	<20	---	---	---
FPT-03	06/24/1988	---	---	<20	---	---	---
FPT-03	07/20/1988	---	---	<20	---	---	---
FPT-03	08/24/1988	---	---	<20	---	---	---
FPT-03	09/19/1988	---	---	<20	---	---	---
FPT-03	10/25/1988	---	---	<20	---	---	---
FPT-03	11/21/1988	---	---	<20	---	---	---
FPT-03	12/29/1988	---	---	<20	---	---	---
FPT-03	01/26/1989	---	---	<20	---	---	---
FPT-03	02/20/1989	---	---	<20	---	---	---
FPT-03	03/21/1989	---	---	<20	---	---	---
FPT-03	04/27/1989	---	---	<20	---	---	---
FPT-03	05/22/1989	---	---	<20	---	---	---



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SITE	DATE	Arsenic Dissolved (µg/l)	Chromium (Hexavalent) (µg/l)	Chromium Dissolved (µg/l)	Manganese Dissolved (µg/l)	Calcium Dissolved (mg/L)	Sulfate (mg/L)
FPT-03	06/28/1989	---	---	<20	---	---	---
FPT-03	07/25/1989	---	---	<20	---	---	---
FPT-03	08/29/1989	---	---	<20	---	---	---
FPT-03	09/22/1989	---	---	<20	---	---	---
FPT-03	10/26/1989	---	---	<20	---	---	---
FPT-03	11/21/1989	---	---	<20	---	---	---
FPT-03	12/20/1989	---	---	<20	---	---	---
FPT-03	01/22/1990	---	---	<20	---	---	---
FPT-03	02/21/1990	---	---	<20	---	---	---
FPT-03	03/21/1990	---	---	<20	---	---	---
FPT-03	04/24/1990	---	---	<20	---	---	---
FPT-03	05/23/1990	---	---	<20	---	---	---
FPT-03	06/22/1990	---	---	<20	---	---	---
FPT-03	07/25/1990	---	---	<20	---	---	---
FPT-03	08/23/1990	---	---	<20	---	---	---
FPT-03	09/24/1990	---	---	<20	---	---	---
FPT-03	10/23/1990	---	---	<20	---	---	---
FPT-03	11/26/1990	---	---	<20	---	---	---
FPT-03	12/26/1990	---	---	5	---	---	---
FPT-03	01/23/1991	---	---	5	---	---	---
FPT-03	02/25/1991	---	---	5	---	---	---
FPT-03	03/26/1991	---	---	5	---	---	---
FPT-03	04/26/1991	---	---	5	---	---	---
FPT-03	05/28/1991	---	---	5	---	---	---
FPT-03	06/25/1991	---	---	5	---	---	---
FPT-03	07/29/1991	---	---	5	---	---	---
FPT-03	08/26/1991	---	---	5	---	---	---
FPT-03	09/27/1991	---	---	5	---	---	---
FPT-03	10/24/1991	---	---	9	---	---	---
FPT-03	11/25/1991	---	---	5	---	---	---
FPT-03	12/23/1991	---	---	5	---	---	---
FPT-03	01/15/1992	---	---	5	---	---	---
FPT-03	02/15/1992	---	---	6	---	---	---
FPT-03	03/15/1992	---	---	5	---	---	---
FPT-03	04/15/1992	---	---	5	---	---	---
FPT-03	05/15/1992	---	---	5	---	---	---
FPT-03	06/15/1992	---	---	5	---	---	---
FPT-03	07/15/1992	---	---	11	---	---	---
FPT-03	08/15/1992	---	---	18	---	---	---
FPT-03	09/15/1992	---	---	5	---	---	---
FPT-03	10/15/1992	---	---	5	---	---	---
FPT-03	11/15/1992	---	---	5	---	---	---
FPT-03	12/15/1992	---	---	5	---	---	---
FPT-03	01/15/1993	---	---	5	---	---	---
FPT-03	02/15/1993	---	---	5	---	---	---
FPT-03	03/15/1993	---	---	5	---	---	---
FPT-03	04/15/1993	---	---	12	---	---	---
FPT-03	05/15/1993	---	---	7.8	---	---	---
FPT-03	06/15/1993	---	---	5	---	---	---
FPT-03	07/15/1993	---	---	5	---	---	---
FPT-03	08/15/1993	---	---	5	---	---	---
FPT-03	09/15/1993	---	---	5	---	---	---
FPT-03	10/15/1993	---	---	5	---	---	---
FPT-03	11/15/1993	---	---	5	---	---	---
FPT-03	12/15/1993	---	---	5	---	---	---
FPT-03	01/15/1994	---	---	5	---	---	---
FPT-03	02/15/1994	---	---	5	---	---	---
FPT-03	03/15/1994	---	---	7.3	---	---	---
FPT-03	05/15/1994	---	---	5	---	---	---
FPT-03	08/15/1994	---	---	5	---	---	---
FPT-03	11/15/1994	---	---	6.6	---	---	---
FPT-03	02/15/1995	---	---	9.5	---	---	---
FPT-03	05/15/1995	---	---	5	---	---	---
FPT-03	12/15/1996	5	---	---	---	---	---
FPT-03	07/15/1997	5	---	---	---	---	---



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SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
FPT-03	01/15/1998	---	---	6.9	---	---	---
FPT-03	02/15/1998	---	---	9.6	---	---	---
FPT-03	03/15/1998	---	---	24	---	---	---
FPT-03	04/15/1998	---	---	16	---	---	---
FPT-03	05/15/1998	---	---	17	---	---	---
FPT-03	06/15/1998	---	---	7.9	---	---	---
FPT-03	07/15/1998	---	---	<5	---	---	---
FPT-03	08/15/1998	---	---	12	---	---	---
FPT-03	09/15/1998	---	---	<5	---	---	---
FPT-03	10/15/1998	---	---	15	---	---	---
FPT-03	11/15/1998	---	---	<5	---	---	---
FPT-03	12/15/1998	---	---	7.5	---	---	---
FPT-03	01/30/1999	---	---	9.4	---	---	---
FPT-03	02/27/1999	---	---	<5	---	---	---
FPT-03	03/20/1999	---	---	27	---	---	---
FPT-03	04/24/1999	---	---	24	---	---	---
FPT-03	05/17/1999	---	---	13	---	---	---
FPT-03	06/19/1999	---	---	9.3	---	---	---
FPT-03	07/26/1999	---	---	6.4	---	---	---
FPT-03	12/10/1999	<10	---	18	<10	23	46
FPT-03	06/26/2000	<10	---	<10	58	28	<1000
FPT-03	10/04/2000	<10	---	<10	42	21	64.45
FPT-04	06/16/1983	---	---	270	---	---	---
FPT-04	10/04/1983	20	<5	14	---	---	---
FPT-04	12/08/1983	---	160	200	---	---	---
FPT-04	01/24/1984	---	20	<20	---	---	---
FPT-04	03/01/1984	<20	---	<4	---	---	---
FPT-04	03/21/1984	---	37	27	---	---	---
FPT-04	01/30/1985	---	---	40	---	---	---
FPT-04	05/03/1985	---	---	<20	---	---	---
FPT-04	08/01/1985	---	---	<20	---	---	---
FPT-04	10/31/1985	---	---	<20	---	---	---
FPT-04	02/13/1986	---	---	<20	---	---	---
FPT-04	05/01/1986	---	---	<20	---	---	---
FPT-04	08/13/1986	---	---	<20	---	---	---
FPT-04	07/22/1987	---	---	<20	---	---	---
FPT-04	10/20/1987	---	---	<20	---	---	---
FPT-04	01/19/1988	---	---	<20	---	---	---
FPT-04	04/25/1988	---	---	<20	---	---	---
FPT-04	07/20/1988	---	---	<20	---	---	---
FPT-04	10/25/1988	---	---	<20	---	---	---
FPT-04	01/26/1989	---	---	<20	---	---	---
FPT-04	04/27/1989	---	---	<20	---	---	---
FPT-04	07/25/1990	---	---	<20	---	---	---
FPT-04	10/23/1990	---	---	<20	---	---	---
FPT-04	12/26/1990	---	---	<5	---	---	---
FPT-04	01/23/1991	---	---	<5	---	---	---
FPT-04	04/26/1991	---	---	<5	---	---	---
FPT-04	07/29/1991	---	---	<5	---	---	---
FPT-04	10/24/1991	---	---	<5	---	---	---
FPT-04	01/15/1992	---	---	<5	---	---	---
FPT-04	04/15/1992	---	---	<5	---	---	---
FPT-04	07/15/1992	---	---	<5	---	---	---
FPT-04	10/15/1992	---	---	<5	---	---	---
FPT-04	01/15/1993	---	---	<5	---	---	---
FPT-04	04/15/1993	---	---	<5	---	---	---
FPT-04	07/15/1993	---	---	<5	---	---	---
FPT-04	10/15/1993	---	---	<5	---	---	---
FPT-04	01/15/1994	---	---	<5	---	---	---
FPT-04	05/15/1994	---	---	<5	---	---	---
FPT-04	05/15/1995	---	---	<5	---	---	---
FPT-04	01/15/1998	---	---	5.1	---	---	---
FPT-04	05/15/1998	---	---	<5	---	---	---
FPT-04	12/10/1999	<10	---	<10	95	24	48



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SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
FPT-04	10/04/2000	<10	—	<10	65	21	69.87
FPT-05	06/16/1983	7	—	75	—	—	—
FPT-05	08/13/1983	4	580	620	—	—	—
FPT-05	10/04/1983	4	<5	<5	—	—	—
FPT-05	12/08/1983	—	900	900	—	—	—
FPT-05	01/06/1984	—	20	200	—	—	—
FPT-05	01/18/1984	10	360	510	—	—	—
FPT-05	01/24/1984	—	450	590	—	—	—
FPT-05	02/01/1984	—	200	400	—	—	—
FPT-05	03/01/1984	<4	<20	<20	—	—	—
FPT-05	03/21/1984	40	340	400	—	—	—
FPT-05	04/02/1984	<4	<20	40	—	—	—
FPT-05	12/04/1984	—	20	20	—	—	—
FPT-05	01/03/1985	—	100	100	—	—	—
FPT-05	01/30/1985	—	—	160	—	—	—
FPT-05	03/01/1985	—	—	270	—	—	—
FPT-05	04/01/1985	—	—	220	—	—	—
FPT-05	05/03/1985	—	—	<20	—	—	—
FPT-05	07/02/1985	—	—	<20	—	—	—
FPT-05	08/01/1985	—	—	<20	—	—	—
FPT-05	09/09/1985	—	—	<20	—	—	—
FPT-05	10/01/1985	—	—	<20	—	—	—
FPT-05	10/31/1985	—	—	<20	—	—	—
FPT-05	12/04/1985	—	—	<20	—	—	—
FPT-05	01/20/1986	—	—	<20	—	—	—
FPT-05	02/13/1986	—	—	<20	—	—	—
FPT-05	03/14/1986	—	—	<20	—	—	—
FPT-05	05/01/1986	—	—	<20	—	—	—
FPT-05	08/13/1986	—	—	<20	—	—	—
FPT-05	09/03/1986	—	—	<20	—	—	—
FPT-05	10/06/1986	—	—	<20	—	—	—
FPT-05	12/03/1986	—	—	<20	—	—	—
FPT-05	01/05/1987	—	—	<20	—	—	—
FPT-05	02/25/1987	—	—	<20	—	—	—
FPT-05	03/26/1987	—	—	<20	—	—	—
FPT-05	04/20/1987	—	—	<20	—	—	—
FPT-05	05/19/1987	—	—	<20	—	—	—
FPT-05	05/20/1987	—	—	<20	—	—	—
FPT-05	06/16/1987	—	—	<20	—	—	—
FPT-05	07/22/1987	—	—	<20	—	—	—
FPT-05	08/24/1987	—	—	<20	—	—	—
FPT-05	09/23/1987	—	—	<20	—	—	—
FPT-05	10/20/1987	—	—	<20	—	—	—
FPT-05	11/13/1987	—	—	<20	—	—	—
FPT-05	12/18/1987	—	—	<20	—	—	—
FPT-05	01/19/1988	—	—	<20	—	—	—
FPT-05	02/18/1988	—	—	<20	—	—	—
FPT-05	03/21/1988	—	—	<20	—	—	—
FPT-05	04/25/1988	—	—	<20	—	—	—
FPT-05	05/23/1988	—	—	<20	—	—	—
FPT-05	06/24/1988	—	—	<20	—	—	—
FPT-05	07/20/1988	—	—	<20	—	—	—
FPT-05	08/24/1988	—	—	<20	—	—	—
FPT-05	09/19/1988	—	—	<20	—	—	—
FPT-05	10/25/1988	—	—	<20	—	—	—
FPT-05	11/21/1988	—	—	<20	—	—	—
FPT-05	12/28/1988	—	—	<20	—	—	—
FPT-05	01/26/1989	—	—	<20	—	—	—
FPT-05	02/20/1989	—	—	<20	—	—	—
FPT-05	03/21/1989	—	—	<20	—	—	—
FPT-05	04/27/1989	—	—	<20	—	—	—
FPT-05	05/22/1989	—	—	<20	—	—	—
FPT-05	06/28/1989	—	—	<20	—	—	—
FPT-05	07/25/1989	—	—	<20	—	—	—



# APPENDIX A

## Historical Groundwater Monitoring Results

Coast Wood Preserving  
Turlock, CA

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SITE	DATE	Arsenic	Chromium	Chromium	Manganese	Calcium	Sulfate
		Dissolved (µg/l)	(Hexavalent) (µg/l)	Dissolved (µg/l)	Dissolved (µg/l)	Dissolved (mg/L)	(mg/L)
FPT-05	08/29/1989	---	---	<20	---	---	---
FPT-05	09/22/1989	---	---	<20	---	---	---
FPT-05	10/26/1989	---	---	<20	---	---	---
FPT-05	11/21/1989	---	---	<20	---	---	---
FPT-05	12/20/1989	---	---	<20	---	---	---
FPT-05	01/22/1990	---	---	<20	---	---	---
FPT-05	02/21/1990	---	---	<20	---	---	---
FPT-05	03/21/1990	---	---	<20	---	---	---
FPT-05	04/24/1990	---	---	<20	---	---	---
FPT-05	05/23/1990	---	---	<20	---	---	---
FPT-05	06/22/1990	---	---	<20	---	---	---
FPT-05	07/25/1990	---	---	<20	---	---	---
FPT-05	08/23/1990	---	---	<20	---	---	---
FPT-05	09/24/1990	---	---	<20	---	---	---
FPT-05	10/23/1990	---	---	<20	---	---	---
HL-07	12/03/1986	---	---	5800	---	---	---
HL-07	01/05/1987	---	---	4700	---	---	---
HL-07	02/25/1987	---	---	4400	---	---	---
HL-07	03/27/1987	---	---	5300	---	---	---
HL-07	04/20/1987	---	---	4900	---	---	---
HL-07	05/19/1987	---	---	6300	---	---	---
HL-07	05/20/1987	---	---	6300	---	---	---
HL-07	06/16/1987	---	---	5900	---	---	---
HL-07	07/21/1987	---	---	3800	---	---	---
HL-07	08/24/1987	---	---	6500	---	---	---
HL-07	09/23/1987	---	---	8100	---	---	---
HL-07	10/20/1987	---	---	5500	---	---	---
HL-07	11/13/1987	---	---	3400	---	---	---
HL-07	12/18/1987	---	---	3400	---	---	---
HL-07	01/20/1988	---	---	5100	---	---	---
HL-07	02/18/1988	---	---	5800	---	---	---
HL-07	03/21/1988	---	---	8400	---	---	---
HL-07	04/22/1988	---	---	2800	---	---	---
HL-07	05/23/1988	---	---	3600	---	---	---
HL-07	06/23/1988	---	---	4600	---	---	---
HL-07	07/19/1988	---	---	4300	---	---	---
HL-07	08/24/1988	---	---	4900	---	---	---
HL-07	09/19/1988	---	---	5300	---	---	---
HL-07	10/24/1988	---	---	5500	---	---	---
HL-07	11/21/1988	---	---	5200	---	---	---
HL-07	12/23/1988	---	---	5000	---	---	---
HL-07	01/25/1989	---	---	6800	---	---	---
HL-07	02/20/1989	---	---	4700	---	---	---
HL-07	03/21/1989	---	---	4900	---	---	---
HL-07	04/28/1989	---	---	6000	---	---	---
HL-07	05/22/1989	---	---	3700	---	---	---
HL-07	06/28/1989	---	---	4800	---	---	---
HL-07	07/26/1989	---	---	4100	---	---	---
HL-07	08/29/1989	---	---	6100	---	---	---
HL-07	09/22/1989	---	---	5500	---	---	---
HL-07	10/25/1989	---	---	4500	---	---	---
HL-07	11/21/1989	---	---	5400	---	---	---
HL-07	12/21/1989	---	---	9300	---	---	---
HL-07	01/23/1990	---	---	4500	---	---	---
HL-07	02/21/1990	---	---	4300	---	---	---
HL-07	03/21/1990	---	---	2940	---	---	---
HL-07	04/23/1990	---	---	3100	---	---	---
HL-07	05/23/1990	---	---	3500	---	---	---
HL-07	06/22/1990	---	---	3290	---	---	---
HL-07	07/25/1990	---	---	3270	---	---	---
HL-07	08/24/1990	---	---	4750	---	---	---
HL-07	09/20/1990	---	---	7570	---	---	---
HL-07	10/23/1990	---	---	6260	---	---	---
HL-07	12/27/1990	---	---	5260	---	---	---



# APPENDIX A

## Historical Groundwater Monitoring Results

Coast Wood Preserving  
Turlock, CA

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SITE	DATE	Arsenic Dissolved	Chromium (Hexavalent)	Chromium Dissolved	Manganese Dissolved	Calcium Dissolved	Sulfate
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/L)	(mg/L)
HL-07	01/23/1991	---	---	5000	---	---	---
HL-07	04/26/1991	---	---	4380	---	---	---
HL-07	07/29/1991	---	---	3030	---	---	---
HL-07	10/24/1991	---	---	4520	---	---	---
HL-07	01/15/1992	---	---	1940	---	---	---
HL-07	04/15/1992	---	---	1290	---	---	---
HL-07	07/15/1992	---	---	4200	---	---	---
HL-07	10/15/1992	---	---	4800	---	---	---
HL-07	01/15/1993	---	---	2100	---	---	---
HL-07	04/15/1993	---	---	12200	---	---	---
HL-07	07/15/1993	---	---	5600	---	---	---
HL-07	10/15/1993	---	---	5130	---	---	---
HL-07	01/15/1994	---	---	4220	---	---	---
HL-07	05/15/1994	---	---	15600	---	---	---
HL-07	08/15/1994	---	---	5400	---	---	---
HL-07	11/15/1994	---	---	12800	---	---	---
HL-07	02/15/1995	---	---	1830	---	---	---
HL-07	05/15/1995	---	---	23000	---	---	---
HL-07	07/15/1995	15500	---	---	---	---	---
HL-07	01/15/1998	---	---	2800	---	---	---
HL-07	02/15/1998	---	---	450	---	---	---
HL-07	05/15/1998	---	---	2000	---	---	---
HL-07	08/15/1998	---	---	3100	---	---	---
HL-07	10/15/1998	---	---	3000	---	---	---
HL-07	12/15/1998	---	---	1700	---	---	---
HL-07	01/30/1999	---	---	2100	---	---	---
HL-07	02/27/1999	---	---	1000	---	---	---
HL-07	05/17/1999	---	---	2600	---	---	---
HL-07	09/11/1999	<5	---	2300	<30	16	---
HL-07	10/22/1999	---	---	-9	---	30	94
HL-07	11/19/1999	<10	---	110	600	1.6	64
HL-07	12/21/1999	<10	---	<50	550	400	176
HL-07	01/21/2000	32	---	<10	970	91	3
HL-07	02/14/2000	29	---	<10	1580	102	265
HL-07	03/14/2000	<10	---	<10	2400	54	221
HL-07	04/08/2000	<10	---	<10	1000	133	391.99
HL-07	05/20/2000	<10	---	<10	1900	96	4
HL-07	06/17/2000	<10	---	<10	2600	200	635
HL-07	07/17/2000	50	---	<10	4200	130	320.5
HL-07	08/15/2000	<10	---	10	3200	270	77.95
HL-07	09/15/2000	<10	---	<10	2900	190	662.49
HL-07	10/04/2000	<10	---	<10	2500	160	496.47
HL-07	11/14/2000	<10	---	<10	3600	170	481.07
HL-07	12/07/2000	<10	---	<10	2900	140	416.21





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

SDMS# 88078323

MEMORANDUM

**SUBJECT:** Five-Year Review for the Coast Wood Preserving Superfund Site, Ukiah CA  
CAD063015887

**FROM:** David Stonby, Remedial Project Manager  
Site Cleanup Section 4

**THRU:** Loren Henning, Chief  
Site Cleanup Section 4

**THRU:** John Kemmerer, Chief  
Site Cleanup Branch

**TO:** Keith Takata, Director  
Superfund Division

I. INTRODUCTION

Attached, please find a copy of the Five-Year Review for the subject Superfund Site prepared for the California Environmental Protection Agency Department of Toxic Substances Control ("DTSC"). EPA has reviewed the Coast Wood Preserving Five-Year Review and adopts the recommendations as stated in DTSC's May 3, 2001 approval letter. The Coast Wood Preserving Five-Year Review is summarized below.

Because contaminant levels remaining on site preclude unlimited site use and unrestricted exposure, this Five-Year Review is required by CERCLA (Section 121©) and by Section 300.430(f)(4)(ii) of the NCP. This is a Statutory Review.

II. FIVE-YEAR REVIEW SUMMARY

The Coast Wood Preserving (CSP) site is located at the intersection of Taylor and Plant Roads in Ukiah, California. CSP has operated at this location since 1971 and the operations have resulted in chromium impacts to soil and groundwater underlying the facility. Since June 1980, a number of studies have been conducted to investigate the presence of chromium contamination in the subsurface environment at the site. In 1983, CWP installed a slurry wall to contain chromium-impacted groundwater and began a program of extraction and reuse of the groundwater collected upgradient of the slurry wall. These actions were formally approved as remedial actions in 1989. In 1999, amendments to the remedial action were proposed and approved as described below. This is the second 5-year review of the remedial action program at



the site.

The ROD (June 1989) set groundwater cleanup standards for the site, required ground water extraction and treatment to control the plume, groundwater monitoring, paving of exposed soils to prevent surface water infiltration, and on-site treatment of contaminated soils after the closure of the site using the best available technology to provide a permanent clean-up remedy. In July 1999, the site Remedial Action Plan (RAP) was amended to include in-situ treatment of groundwater.

CWP has implemented the required remedial actions, operating an on-site ground water extraction and treatment system. Beginning in 1999, CWP conducted a series of in-situ groundwater remediations that have decreased the dissolved chromium contamination in the saturated zone to below groundwater cleanup levels. DTSC has evaluated the in-situ remediation and approved the cessation of groundwater extraction and treatment. Groundwater monitoring at the site continues. No exposure to contaminated groundwater is occurring or expected. The site was most recently inspected by DTSC staff in July 2001.

No remediation of soil contamination was anticipated until after closure of the wood treatment activities at the CWP site, at which time treatability studies are to be conducted by CWP for the selection of technologies. At present, CWP has no plans for cessation of wood-treating activities at the site.

### III CONCLUSION

I certify that the remedy selected for this site remains protective of human health and the environment. Based on the expected continuing presence of contamination at this site at levels which preclude unlimited use and unrestricted exposure, the next Five-Year Review will be written within five years from the signature date of this review.

Approved by: Keith Takata  
Keith Takata, Director  
Superfund Division

Date: 8-31-01

Attachments: Coast Wood Preserving 5-Year Review  
DTSC 5-Year Review Approval Letter





## Department of Toxic Substances Control



Winston H. Hickox  
Agency Secretary  
California Environmental  
Protection Agency

Edwin F. Lowry, Director  
700 Heinz Avenue, Suite 200  
Berkeley, California 94710-2721

Gray Davis  
Governor

May 3, 2001

Mr. Robert A. Schmidt  
Coast Wood Preserving, Inc.  
P.O. Box 1805  
Turlock, California 95381

Dear Mr. Schmidt:

The Department of Toxic Substances Control (DTSC) has reviewed the *Second 5-Year Review*, January 15, 2001 (Five-Year Review) and the *Combined 2000 Fourth Quarter and Annual Report and One-Year Review of In-situ Chromium Reduction at the Coast Wood Preserving Site, Ukiah California*, January 11, 2001 (One-Year Evaluation). The Five-Year Review was prepared to evaluate whether the remedial actions selected in the Remedial Action Plan and Remedial Action Plan Amendment are protective of human health and the environment. The One-Year Evaluation was prepared and submitted as specified by the schedule in the final *Remedial Design for Remedial Action Plan Amendment, In-situ Geochemical Fixation* (Remedial Design) approved by DTSC.

DTSC concurs with the conclusion in the Five-Year Review that remedial efforts at the Coast Wood Preserving Site have been and are protective of human health and the environment and has determined that the objective of evaluating protectiveness has been achieved by the Five-Year Review. The One-Year Evaluation adequately evaluates the performance of the in-situ chromium reduction and satisfies the Remedial Design requirement for the submittal of this document. The Five-Year Review and One-Year Evaluation made several specific recommendations regarding the implementation of the remedial actions that are not directly related to the evaluation of protectiveness of the Site remedy or performance of the in-situ chromium reduction. These recommendations address groundwater monitoring, the permanent *discontinuation of groundwater extraction, and soil remediation*. These recommendations are discussed below along with other issues that were identified during our review of the documents and from discussions with the Regional Water Quality Control Board, North Coast Region (Water Board).

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at [www.dtsc.ca.gov](http://www.dtsc.ca.gov).*



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May 3, 2001  
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### Proposal to Abandon Groundwater Monitoring Wells and Modify Monitoring Frequency

A proposal to abandon twenty groundwater monitoring wells and to modify the sampling frequency for six monitoring wells is presented in Section 6.1, Section 6.2, and Table 6 of the Five-Year Review and in the Recommendations section starting on page 9 of the One-Year Evaluation. The wells proposed for abandonment include monitoring wells that have improper construction, have not been recently sampled, or are in areas where there are a sufficient number of monitoring wells or monitoring is no longer required to evaluate the performance of remedial actions. Five of the six wells where a change in the monitoring frequency is proposed are currently sampled monthly and a change to a quarterly frequency is proposed. DTSC concurs with the proposed change in the monitoring frequency for wells CWP-2A, CWP-6, CWP-8, CWP-20, CWP-21, and HL-7.

We do not concur with the abandonment of all the proposed wells. The in-situ chromium reduction has been effective in reducing chromium concentrations, however, we believe it is not appropriate at this time to eliminate all groundwater monitoring on the properties to the east of the Site since elevated concentrations of chromium, arsenic, and manganese are still present in groundwater beneath the Site. The monitoring wells in the off-site areas that are in closest proximity to the Site should remain to serve as guard wells until geochemical conditions stabilize and the elevated metal concentrations decrease. Monitoring well FPT-3 is in closest proximity to the Site, although with the planned widening of Taylor Drive that is to occur, we agree that this well should be abandoned. Additionally, some of the wells adjacent to the slurry wall that were proposed to be abandoned should also remain in place.

From our discussion during the April 10, 2001 teleconference between DTSC, the Water Board, Coast Wood Preserving, and Montgomery Watson, we understand that Coast Wood Preserving will not abandon infiltration trench CWP-19 as originally proposed and will keep this trench in place for possible future reductant applications. Improvements will be made to protect the trench from damage and to prevent accidental releases of wood treatment solutions from entering the trench.

The wells that were proposed to be abandoned that shall remain in place are wells AT-1, AT-2, AT-4, CWP-11, CWP-14, FPT-4, and FPT-5. DTSC approves the abandonment of all other wells identified by the Five-Year Review and One-Year Evaluation. The Water Board has also requested that the old reinjection well and unused dewatering wells on the west side of the Site also be abandoned. Coast Wood Preserving shall submit a Workplan which discusses the procedures that will be followed prior to proceeding with abandoning wells.

The Five-Year Review and One-Year Evaluation recommend the construction of a cluster of two monitoring wells in the area of lysimeter cluster LY-2 and a single well between LY-2 and existing wells CWP-101 and CWP-102. As discussed during the



Mr. Robert A. Schmidt  
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April 10th teleconference, the construction of these new wells will be addressed in the same workplan that addresses well abandonment.

#### Recommendation to Discontinue Groundwater Extraction

The Remedial Action Plan Amendment approved by DTSC in July 1999 specified that pumping from extraction well HL-7 would continue after implementation of in-situ chromium reduction until dissolved chromium concentrations in groundwater declined to below the cleanup level, 0.05 milligrams per liter. The purpose of continued groundwater extraction was to maintain hydraulic control and aid in the dispersion of reductant. The Remedial Action Plan Amendment also specified that the quality of extracted water would be monitored to ensure its suitability for use in the wood preserving process and to ensure that treated water did not exceed discharge limits established by the Water Board. Groundwater pumping was ceased shortly after the first reductant injection event in September 1999 because reductant appeared in water being pumped from extraction well HL-7 and rendered it unusable as process water for wood preserving. The appearance of reductant in well HL-7 occurred sooner than was anticipated when the Remedial Action Plan Amendment was prepared, and consequently, pumping of groundwater from well HL-7 was ceased before the chromium cleanup level was completely achieved.

The Five-Year Review and One-Year Evaluation recommend that pumping of wells HL-7 and CWP-18 be permanently discontinued. However, dissolved chromium concentrations still exceed the cleanup level in six monitoring wells. We understand from our recent discussions with you and Montgomery Watson that, if necessary, further reductant injection or infiltration will be implemented to achieve the cleanup level for chromium in lieu of further pumping. Because the in-situ chromium reduction has been effective in reducing dissolved chromium as compared with past groundwater extraction, we concur with the recommendation to cease pumping of groundwater. As a contingency measure, all equipment for extracting and treating groundwater should be kept in operational condition until DTSC determines this is no longer necessary.

#### Soil Remediation Recommendation

The Site Remedial Action Plan specified that onsite treatment of metal-impacted soil will be done at the time of closure of the facility and treatability studies will be conducted prior to selecting the final soil remedy. The Five-Year Review and One-Year Evaluation recommend that treatability studies should evaluate the feasibility of in-situ reduction of chromium in the unsaturated zone. These documents also recommend that chromium mobility, as measured in vadose zone moisture, should be the criteria for future soil remediation as opposed to total metal concentrations. These recommendations are consistent with provisions pertaining to soil in the Remedial Action Plan Amendment approved by DTSC.



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May 3, 2001  
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#### Reporting of Inspection and Maintenance Activities

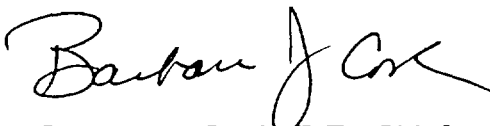
Surface runoff flow management and control of contaminated soil by preventing surface water infiltration are components of the Remedial Action Plan approved by DTSC in 1989. The Remedial Action Plan specified that an annual inspection would be performed and repairs on surface paving and drainage features would be performed as appropriate. The Remedial Action Plan does not specify a mechanism for reporting the implementation of these activities, however, we believe it is important that there be documentation of these activities. It was agreed during the April 10th teleconference that reporting of inspection and maintenance activities will occur in future quarterly and annual monitoring reports that Coast Wood Preserving submits to DTSC and the Water Board.

#### Potential Reversibility of In-situ Chromium Reduction

DTSC raised the concern during the April 10th teleconference about the potential for chromium to remobilize in-situ reduction has occurred. We requested additional information to address this issue. The April 19, 2001 memorandum from Mr. Jim Rouse of Montgomery Watson satisfies our request.

If you have any questions, please contact Mark Piros at (510) 540-3832.

Sincerely,

A handwritten signature in black ink, appearing to read "Barbara J. Cook". The signature is fluid and cursive, with the first name "Barbara" being more prominent than the last name "Cook".

Barbara J. Cook, P.E., Chief  
Northern California - Coastal Cleanup Operations Branch

cc: See next page



Mr. Robert A. Schmidt

May 3, 2001

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cc: Ms. Jan Goebel  
California Regional Water Quality Control Board  
North Coast Region  
5550 Skylane Boulevard, Suite A  
Santa Rosa, California 95403

Mr. David Stensby  
United States Environmental Protection Agency  
75 Hawthorne Street  
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Mail Code: SFD-7-3

Mr. Gene Pietila  
Coast Wood Preserving  
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