RESPONSIVENESS SUMMARY
FOR
SUBURBAN WATER SYSTEMS

BARTOLO WELL FIELD
OPERABLE UNIT FEASIBILITY STUDY
SAN GABRIEL AREAS 1, 2, AND 4
LOS ANGELES COUNTY, CALIFORNIA

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OVERVIEW

When the public comment period began, EPA had completed the Operable Unit Feasibility Study for the Bartolo Well Field site and had prepared and distributed a fact sheet describing the alternatives considered and the alternative recommended by EPA. The recommended alternative involves constructing an air stripping facility at the existing well field location with granular activated carbon treatment of the off-gas and modification of the wells to selectively pump portions of the aquifer that are the most contaminated and in greatest need of treatment. The treated water would be distributed to Suburban Water Systems' customers.

The comments received during the comment period demonstrated general support for EPA's proposed remedial action. Residents living nearby were quite strongly opposed to locating the facility at the alternate Strong Avenue location and were supportive of using carbon treatment for the off-gas, whether or not the South Coast Air Quality Management District (SCAQMD) requires it under Rule 1164. A variety of other specific concerns and comments were presented to EPA and are summarized in this responsiveness summary.

This responsiveness summary is divided into the following sections:

- Background on community involvement

- Summary of comments received during the public comment period and EPA's responses

- Remaining concerns that EPA was unable to address completely

- Appendices (including transcript of the public meeting and copies of related documents and correspondence)

BACKGROUND ON COMMUNITY INVOLVEMENT

EPA ACTIVITIES PRIOR TO THE PUBLIC MEETING

Beginning in June 1988, EPA conducted a variety of activities to inform the community about the Suburban Operable Unit Feasibility Study (OUFS) and to encourage comment on EPA's proposed remedial action plan. EPA scheduled the formal public comment period for June 22 to July 22 to correspond to the completion of the Draft Feasibility Study Report in mid-June.

Prior to the beginning of the public comment period, EPA published a public notice on June 19 in both the San Gabriel

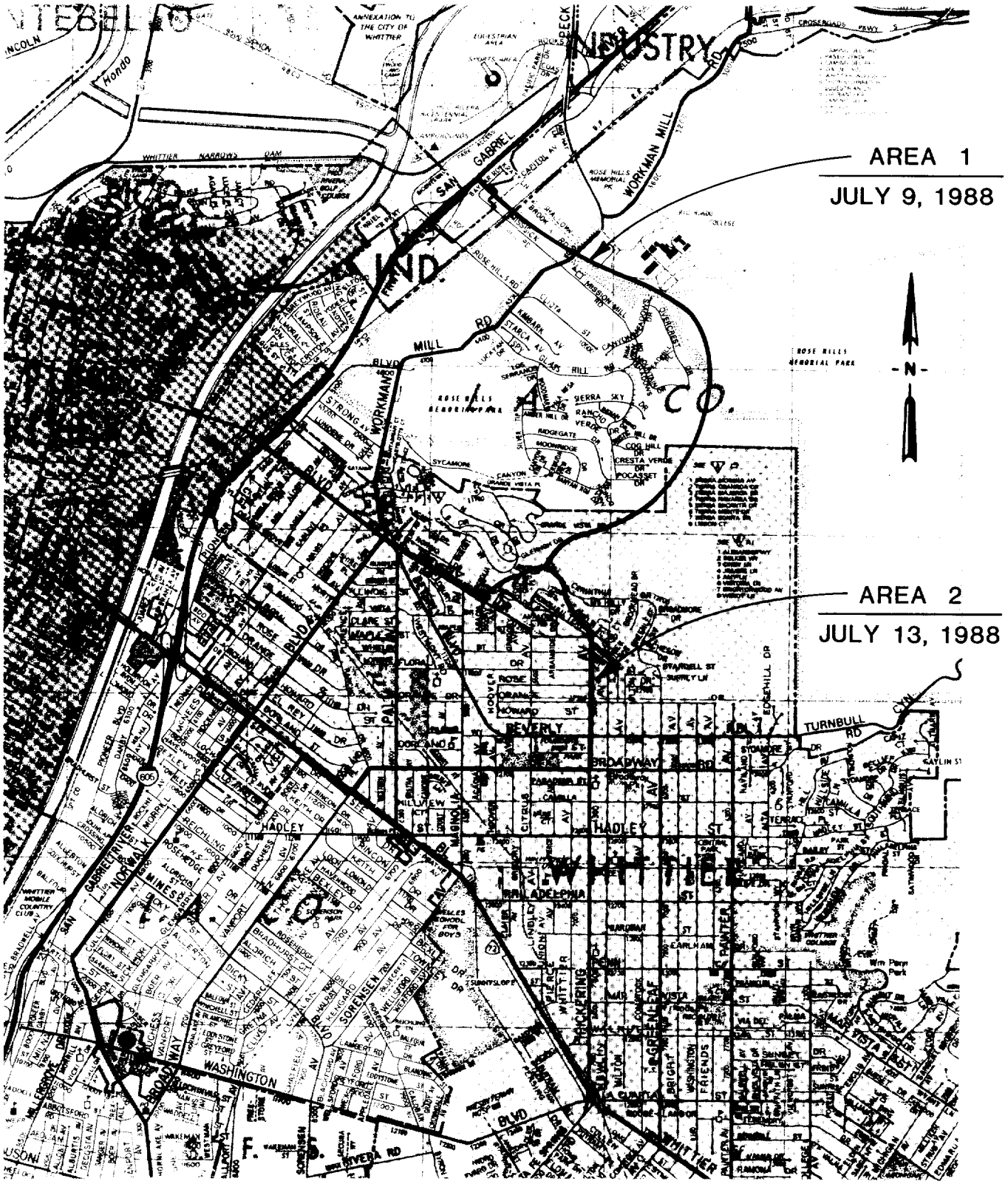
Valley Tribune and the Whittier Daily News. This notice briefly described the proposed remedial action plan and announced both the public comment period and the upcoming public meeting. The notice also announced locations where the OUFS report could be reviewed in more detail. These repositories included the Whittier Public Library, the La Puente Public Library, the Upper San Gabriel Valley Municipal Water District, and the EPA Region IX office in San Francisco. A copy of the notice is included in Appendix A.

EPA also prepared an 8-page fact sheet describing the Suburban OUFS and the proposed remedial action plan. This fact sheet and the OUFS report were delivered to the information repositories on June 22. Copies of the fact sheet were also mailed on June 24 to the general mailing list for the San Gabriel Valley Superfund site. This general mailing list consisted, at that time, of about 800 names, including elected officials and media representatives in the La Puente and Whittier areas, as well as in other cities in the San Gabriel Valley area. A copy of the fact sheet is included in Appendix A.

A major issue regarding the proposed plan concerned locating the treatment facility within the 100-year flood plain. To specifically solicit comments from the community on the possibility of constructing the facility at the alternative Bartolo Transmission Main High Point location, away from the

flood plain and near the intersection of Strong Avenue and Workman Mill Road, EPA decided to deliver notices door-to-door in the area nearby. These notices included a copy of the fact sheet, a map of the Bartolo Well Field/North Whittier area, and a cover letter encouraging input on the alternative location. Because of the limited amount of time available before the public meeting to print additional fact sheets and to arrange for door-to-door delivery, the delivery was made in two phases. On Saturday, July 9, the notices were delivered to about 800 homes in the residential area near the Strong Avenue intersection. These residents were thought to be within visual range of the potential site. On July 13, notices were delivered to about 2,400 homes located somewhat further from the Strong Avenue intersection, but these residents may use Workman Mill Road during day-to-day travel. The two areas are shown on the map in Figure 1. A copy of the notice is included in Appendix A.

In addition to these more general notices, EPA sent a letter to the Whittier City Manager and called the local League of Women Voters and City of Whittier Planning Department. A copy of the letter is included in Appendix A.



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SCALE IN FEET

FIGURE 1
AREAS RECEIVING HAND-DELIVERED PUBLIC MEETING NOTICE

SUBURBAN WATER SYSTEMS ACTIVITIES PRIOR TO THE PUBLIC MEETING

On June 22, Suburban Water Systems mailed a notice to all their customers in the Whittier and La Mirada service districts, which includes approximately 34,000 customers. The notice briefly described the OUFS, announced the public comment period and the public meeting, and invited customers to contact Suburban for a copy of the EPA fact sheet. EPA provided Suburban with approximately 800 copies of the fact sheet, which were distributed to customers who called in a request. A copy of the notice is included in Appendix B.

Suburban Water Systems also sent letters to the city managers of both Whittier and La Mirada. Copies of these letters are also included in Appendix B.

INTERAGENCY REVIEW OF THE SUBURBAN OUFS

EPA also distributed the OUFS report for interagency review. Copies were sent to:

1. The San Gabriel Valley Superfund Project Technical Committee

2. The Central and West Basin Replenishment District

3. Suburban Water Systems

4. California Department of Health Services/Toxic Substances Control Division

5. Governor's Office of Planning and Research/State Clearinghouse

The cover letters are included in Appendix C. Names of specific addressees can be found in those letters.

PUBLIC MEETING ON THE SUBURBAN OUFS

A public meeting was held on the evening of July 13, 1988 at the Whittier Community Center Theater in Whittier. Approximately 60 people attended the meeting. EPA presented information on both the general Superfund program and the Suburban OUFS. The EPA Remedial Project Manager described EPA's current understanding of the contamination problem, the alternatives considered during the Feasibility Study, and the remedial action proposed by EPA. Suburban representatives also briefly described their previous efforts at investigating the contamination, preparing a treatment facility design, and determining potential impacts of the groundwater contamination plume on their ability to provide water to their customers.

A copy of the handout from the public meeting is provided in Appendix D.

A transcript of the public meeting is included in Appendix E.

SUMMARY OF COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD AND EPA'S RESPONSES

The comments described below were received by EPA during the public comment period, June 22, 1988 to July 22, 1988. Copies of the written comments are included in Appendix F. Questions and comments from the public meeting that cannot be fully addressed at this time are also included. The comments summarized below have been consolidated into related topics. EPA responses are also included.

COMMENTS REGARDING THE OUFS, THE PROPOSED PLAN, AND EPA'S PUBLIC PARTICIPATION PROCESS

Purpose and Scope of the Remedial Action

1. One resident asked why, if the contamination was coming from an area north of the Bartolo Well Field, EPA did not plan to install a treatment facility between the contamination and the well field so that contamination of the well field would be prevented.

EPA Response: Preventing contamination of the well field and protecting the valuable resource of clean water would, of course, be the most desirable course of action. Unfortunately, contamination has already been detected in the Bartolo Well Field, and the exact dimensions and location of the plume of contamination that is affecting the well field are not well understood. In addition, the original source of the contamination is not yet known, so the contamination cannot be traced back and controlled at the source. Therefore, it is unlikely that an extraction system could be designed at this time that would intercept at an upgradient location all contaminated groundwater migrating toward the well field to protect Suburban Water Systems' water supply. Also, to minimize unnecessary costs, EPA would prefer to use existing wells to extract the groundwater rather than spend approximately $250,000 per well to construct new wells elsewhere.

2. A local resident asked about how the Bartolo Well Field operable unit fits into a unified plan for the entire Whittier Narrows area, considering the importance EPA has placed on controlling migration of the plume into the Central Basin.

EPA Response: EPA is currently in the preparation stages of the Whittier Narrows Operable Unit. An OUFS for Whittier Narrows is expected to be completed by the

fall of 1989 and the Record of Decision is expected by the end of 1989.

EPA has chosen to proceed with the Operable Unit for the Bartolo Well Field prior to the Whittier Narrows Operable Unit because available data on wells upgradient of the Bartolo Well Field indicated that these wells may become more contaminated in the near future. Immediate action was deemed appropriate because of this imminent threat to this water supply, since these wells constitute the primary source of water for Suburban Water Systems' Whittier Service District. The Bartolo project will be a first step toward extraction of the contamination in the Whittier Narrows area and controlling migration of the plume through Whittier Narrows. The facility constructed by EPA may be expanded in the future as part of the Whittier Narrows Operable Unit to treat a greater volume of contaminated groundwater. Total control of plume movement at Whittier Narrows will require gathering more information than is currently available.

Public Health Assessment

1. The general manager of the Central and West Basin Water Replenishment District (Central Basin) questioned the use of maximum upgradient conditions, which will overstate the risk.

EPA Response: Risk analyses have been run on both the maximum and the geometric mean values of each contaminant detected in upgradient wells and Bartolo wells. Table 5-8 in the OUFS contains a summary of estimated excess lifetime cancer risks for exposure to upgradient well contamination. This table contains a range of risk from the excess risk associated with the geometric mean concentrations up to the risk associated with exposure to the maximum concentrations. These are estimated risk only; actual risks may be lower.

Remedial Action Technology Screening

1. Several residents questioned why home-treatment units were not considered.

EPA Response: Home-treatment systems were considered but eliminated from further consideration in the preparation of the OUFS, see Table 6-1, page 6-5, Noncentralized Treatment Facility. Home-treatment systems are of two general types: point-of-entry and point-of-use.

Point-of-entry systems are used to treat the entire flow to a home or business. Federal Regulations (40 CFR 141, National Primary Drinking Water Regulations--see Appendix G) require that public water systems using point-of-entry systems to meet maximum

contaminant levels (MCLs) be operated and maintained by the water system. Also, every connection in the system must be equipped with a treatment system. For a service area as large as the Whittier District, a centralized treatment facility would be more economical than individual point-of-entry systems.

Point-of-use systems are used to treat only a portion of the water used, depending upon the intended use, such as drinking or showering. Point-of-use systems are prohibited by the National Primary Drinking Regulations, except on a temporary basis. If used, their cost would be greater than a centralized treatment system. In addition, point-of-use systems would do nothing to reduce the potential inhalation exposure to volatile organic compound (VOC) contaminants that volatilize during showers, clothes washing, and other non-drinking water uses.

2. One resident asked if solid carbon block was considered.

EPA Response: The only use of solid carbon block with which EPA is familiar is in home-treatment carbon filtration, where shaped blocks of carbon are used. Home-treatment was not considered for the reasons stated above.

Development and Description of the Remedial Action Alternatives

1. Several residents questioned why only two sites for locating the treatment facility were considered.

EPA Response: In preparing the OUFS, three sites were originally considered: (1) the Bartolo Well Field site owned by Suburban Water Systems, (2) a general site, not specifically located, but assumed to be near the high point of the Bartolo Transmission Main, and (3) the chlorination site, owned by the Corps of Engineers and located just downstream of the Whittier Narrows Dam.

The well field site has several distinct advantages in that it was away from any nearby residents and is already owned by Suburban Water Systems. Its disadvantage is its location in the flood plain. In order to build in the flood plain, EPA must establish the flood plain site as the only practical alternative. This was done by the Flood Plains Assessment that was part of the OUFS.

The high point site, or any other site outside the well field, is undesirable because it is not currently owned by Suburban Water Systems and would, thus, have to be

purchased or acquired through eminent domain. This would probably lead to a significant delay in implementation of the project.

The chlorination site was dropped from consideration early in the OUFS process because of its size, which could limit future expansion, and the presence of overhead high-voltage transmission lines.

2. Several residents requested that the potential for transferring air pollution contaminants from the air to the water in the air stripper be addressed. Several residents suggested that the inlet air be filtered.

EPA Response: The major constituents in air pollution near the Whittier Narrows (Pico Rivera monitoring station) are listed on the Air Quality Data-1987 summary obtained from SCAQMD (Appendix H). The gaseous constituents include carbon monoxide, ozone, nitrogen dioxide, and sulfur dioxide, all of which are only slightly soluble in water at the conditions in the air stripping tower.

The particulate matter (including lead) that is found in air pollution, is so small that it will not be effectively removed by the packed tower.

The periodic sampling that Suburban conducts to determine compliance with state and federal drinking standards will be able to monitor contamination from the air.

The air stripper as proposed will include an inlet air filter similar to a home furnace filter, to remove larger particles such as localized dust clouds or insects. Material passing through the filter will be either too small to be removed by the air stripping tower or will be disinfected by the downstream chlorine addition.

3. Two questions were received regarding the connection to the Metropolitan Water District (MWD) alternative. One resident advocated a permanent MWD connection for water supply. Another resident questioned the differences between the OUFS and Brown and Caldwell cost estimates for the MWD connection.

EPA Response: Suburban Water Systems is currently connected to MWD through a connection to the La Habra Heights Water District. This connection is used to meet peak and emergency demands. This MWD connection is not large enough to supply the Whittier District on a continuous basis. In order to use MWD water, a new, larger connection must be constructed. MWD water is

not a guaranteed supply and is expensive compared to the Bartolo water supply ($232 per acre-foot versus approximately $70 per acre-foot).

The equipment costs for the MWD connection presented in the OUFS and the Brown and Caldwell estimates are similar. The differences are in the costs of MWD water ($2.3 million versus $1.1 million) and the calculation of the present worths. The OUFS and the proposed plan used 30 years and 5 percent interest and Brown and Caldwell used 40 years and 12 percent.

4. Concerning potential for well modification to selectively extract contaminated groundwater, the general manager of the Central Basin questioned whether sufficient water could be withdrawn from the contaminated portions of the aquifer to meet system demands.

EPA Response: The purpose of selective extraction is to maximize the withdrawal of contaminants to potentially minimize the amount of contamination that flows through the Whittier Narrows into the Central Basin. Well modification for selective extraction and treatment of the most contaminated groundwater will be evaluated by aquifer testing of the discrete intervals to determine their respective capacities. It is recognized that meeting system demand is the foremost prior-

ity in using existing wells. Consequently, extraction from several zones within the aquifer may be required; however, efforts will be made to optimize extraction from the most contaminated interval(s). In addition, implementation of well modification may include the installation of additional production wells designed to extract from the most contaminated zones of the aquifer to replace any well production capacity lost due to modification of the existing wells.

Proposed Plan

The majority of the respondents supported EPA's Proposed Plan: Alternative E--The Installation of Maximum Air Stripping at the Bartolo Well Field Location with Off-gas Carbon Treatment. Opposition to locating an air stripper near the high point site was particularly strong among nearby residents who would have to tolerate its presence but would not derive any direct benefit since they are served by another water purveyor. Specific additional comments on the proposed plan are discussed below.

1. Several respondents favored the well field site because it would eliminate any delay in attempting to locate and purchase another property.

   EPA Response: By placing the proposed air stripping

facility at the Bartolo Well Field site, property owned by Suburban Water Systems could be used. Locating away from the well field site would require the acquisition of property to house the treatment facility. Under existing CERCLA policies, EPA would ask CDHS to obtain access to the property on which the treatment facility would be located. According to CDHS, the acquisition of property could result in delays of 2 to 5 years.

2. The General Manager of the Central Basin generally supported the proposed plan, but was concerned that too much of the limited funds might be spent on design of the proposed air stripping system.

EPA Response: The capital costs of minimum air stripping at the well field are $2.8 million. Maximum air stripping will add $600,000 for a total of $3.4 million. Off-gas carbon will cost an additional $2.0 million or $5.4 million.

The plan to install the maximum air stripping system at about a 10 to 15 percent increase in total cost, will provide increased removal efficiency and greater flexibility in treating the groundwater obtained from selective extraction or from the Whittier Narrows remedial actions that will occur in the future.

The target level of treatment chosen is to achieve a cumulative 10^{-6} cancer risk level. This corresponds with the maximum air stripping design alternative. This level of treatment, which will result in contaminant levels well below MCLs and DHS action levels in the treated water, is more protective of human health. The choice of an overall 10^{-6} risk level versus treatment to MCLs was made because of: (1) the multiple contaminants in the groundwater in the vicinity of the Bartolo Well Field, (2) the fact that an approximately 10- to 15-percent increase in cost could result in a reduction of risk level of over an order of magnitude, and (3) the implementation of well modification to selectively extract the most highly contaminated water may lead to greater uncertainty in the contaminant concentrations of influent water; the increased level of treatment will provide additional protection of public health.

If the VOC concentrations do not increase sufficiently to warrant the maximum operation, one of the towers can be taken out of service, and the remaining two towers operated at reduced air flow. This will result in annual operating costs similar to the minimum design alternative.

Air emission controls will be used to reduce the level

of VOC emissions. The emission controls are included in the selected remedy because: (1) they would be necessary to comply with SCAQMD Rule 1167, enforcement of which has been temporarily delayed due to a court judgment in a lawsuit, but for which SCAQMD is fully intending to meet the procedural and substantive requirements of the court judgment to allow promulgation of a legally enforceable requirement, (2) they would reduce the ozone precursor emissions in the most polluted air basin in the nation with respect to ozone air quality, and (3) public comments received were overwhelmingly in favor of including emission controls because of the severe existing air pollution in the San Gabriel Valley, regardless of the legal status of SCAQMD Rule 1167.

3. One resident favored reducing off-gas VOC concentrations by 98 percent.

EPA Response: The proposed VOC removal of 90 percent is the minimum removal required by SCAQMD Rule 1167. A review of available literature indicates that greater than 90 percent removal by carbon adsorption is attainable, but at proportionately higher carbon consumption and cost. The actual removal efficiency can only be determined by pilot testing or operating experience. The proposed VOC removal efficiency will reduce

emissions by an order of magnitude at an increase in cost of approximately 80 percent.

Other technologies are available to control VOC emission at higher efficiencies, but are two to five times as costly. These technologies are thermal treatment by incineration or thermal oxidation.

4. Several residents wanted to know if an Environmental Impact Report (EIR) is required before the proposed facility is constructed.

EPA Response: Federal requirements including the OUFS and EPA's public participation process conducted under the procedures required by the National Contingency Plan for NPL sites are at least as stringent as the requirements of the California Environmental Quality Act (CEQA). Thus, CEQA is not implicated, and a separate EIR is not required.

Public Participation Process

1. Several residents protested the short notice they were given of the public comment period and the public meeting, and some requested an extension of the comment period.

EPA Response: EPA regrets any inconveniences to local residents or misunderstandings associated with the public comment period. The steps EPA took to notify area residents are described in a previous section of this responsiveness summary, "Background on Community Involvement." Standard procedures for gathering public comment on Superfund projects were followed in this case.

The issue of locating the treatment facility in the floodplain came up rather late in the process, after the fact sheet describing EPA's recommended alternative was distributed. Door-to-door notification of residents near the alternate location at Strong Avenue supplemented earlier notification activities. Those residents who did not receive notification at their doorstep until the afternoon before the public meeting do not receive water from Suburban Water Systems' Bartolo well field and were not thought to be located close enough to the Strong Avenue intersection to be directly affected by construction of a treatment facility there.

At the public meeting, EPA stated that before considering an extension of the public comment period, the need for the extension would have to be explained in a request for an extension. EPA did not extend the public

comment period because no members of the public provided reasons for granting an extension.

2. One resident requested a more detailed map and explanation of the broken line shown on the map provided in the public meeting notice delivered door-to-door.

   EPA Response: The broken line is the approximate route of the Bartolo Transmission Main that transports water from Suburban's Bartolo Well Field to its customers in the Whittier District. Additional detail on the route is shown in Figure 2-4 of the OUFS. Exact routing can be obtained from Suburban Water Systems.

REMAINING CONCERNS

Several questions, issues, and concerns were identified during the public comment period that cannot be fully addressed at this time. Some of these are outside the scope of this OUFS or will be addressed during the detailed design. These are discussed below.

1. Several residents requested detailed information on the design of the proposed air stripping facility. Information requested included design details for flood protection, earthquake protection, tower diameter and packing depth, noise reduction, and monitoring.

EPA Response: The level of detail presented in the OUFS for the proposed air stripping system was preliminary and sufficient only to conduct comparative analyses and to develop relative order-of-magnitude cost estimates. Many of the detailed questions asked cannot be answered based on the preliminary design prepared for the OUFS. However, Suburban Water Systems had a detailed design prepared by Brown and Caldwell for the air stripping system, which will be turned over to the Army Corps of Engineers for review prior to final design and implementation.

As part of the detailed design prepared by Brown and Caldwell, many of the residents' question were already addressed and are discussed below:

A. Flood protection would be provided by mounting much of the water-sensitive equipment on skids or trailers for ease of removal. The wetwell and towers will be constructed to withstand flooding. In addition, during the project design phase, the Army Corps of Engineers will identify and evaluate additional floodproofing measures that may be incorporated into the final design.

B. A preliminary geotechnical investigation was conducted by Leighton and Associates to provide pre-

liminary recommendations for constructing the treatment facility in an area subject to seismic activity. The report concluded that construction was feasible if deep compaction of the site was performed. This should add approximately $200,000 to the total project costs.

C. Brown and Caldwell investigated several different types of packing and tower construction techniques to provide adequate tower removal efficiency.

D. Noise reduction will be included by placing silencers on the fan inlets, the major source of noise.

E. Sampling ports will be provided for performance testing and compliance monitoring of both water and air streams.

2. One resident requested that EPA put more restrictions on the use of VOCs and that violators be prosecuted.

EPA Response: The use of organic chemicals such as those found in the groundwater of the San Gabriel Basin is very widespread, with perhaps over 1,000 companies using one or more of the compounds. Adequate regulatory control over their use and disposal is provided by nu-

merous local, state, and federal regulations. However, sufficient manpower and resources are not available to continuously monitor all users to determine their compliance. The Regional Water Quality Control Board has an active program underway to locate sources that are contaminating the basin.

3. One resident requested that EPA determine the level of contamination on store-bought or home-grown produce in the affected area.

EPA Response: Use of the VOC-contaminated water on produce is not a major concern. The simple spraying of water will cause most of the VOCs to volatilize into the air. In addition, VOCs are not taken up by produce like most metals and many other inorganic compounds.

Also, Suburban Water Systems has not provided any water to customers from the Bartolo Well Field that does not meet state and federal VOC drinking water standards. Implementation of EPA's proposed plan will ensure that water provided to customers in the future continues to meet applicable drinking water standards.

4. One resident asked EPA to conduct a survey of cancer incidences among Suburban Water Systems' customers.

EPA Response: Cancer studies and health surveys specific to individual neighborhoods can be very expensive, and are not normally conducted at Superfund sites unless warranted by very high risk levels and known, abnormally high cancer incidence levels.

As part of the Bartolo Well Field Operable Unit Feasibility Study, EPA did conduct a public health assessment of the possible public health effects of not constructing a treatment facility at the Bartolo well field. This was a quantitative, statistical analysis of existing data and involved calculations of the cancer risk related to exposure to contaminants in groundwater from the Bartolo well field.

Using the maximum levels of VOC contamination detected at the Bartolo Well Field during the last 7 years, EPA estimated a lifetime excess cancer risk level of $2x10^{-5}$. This means that if people drank 2 litres of water contaminated at these concentrations for over 70 years, you would expect 1 person out of 50,000 to contract cancer due to this exposure to contamination. However, these maximum levels were generally not detected at the Bartolo Well Field until quite recently. In addition, Suburban Water System customers receive water that is blended from all four Bartolo wells and then carried through the Suburban Water

Systems' distribution systems; therefore, actual levels of contamination in water served to customers, and the associated risk, would be lower than the results of EPA's public health evaluation indicate. Implementation of this remedial action will reduce the estimated risk due to exposure to contaminated groundwater from the Bartolo Well Field to about a 1 in one million (10^{-6}) excess cancer risk level or less.

Citizens can also petition the Agency for Toxic Substances and Disease Registry (ATSDR) to conduct a health assessment. ATSDR is part of the Federal Center for Disease Control and employs specialists in medicine, epidemiology, toxicology, public health, and environmental engineering. ATSDR is funded by Congressional appropriations from the Superfund Trust Fund.

An ATSDR assessment is more qualitative than an EPA assessment and is more focused on medical and public health concerns in the local area surrounding the Superfund site. An ATSDR health assessment would involve evaluating existing data, assessing current or future impacts on public health, developing health advisories or other health recommendations, and identifying further studies or actions needed to evaluate and prevent human health effects.

ATSDR is required by the Superfund Amendments and Reauthorization Act of 1986 to conduct a health assessment for every site included on the National Priorities List (NPL). ATSDR is mandated to have completed at least a preliminary health assessment by December 10, 1988.

For more information about ATSDR health assessments, including how to petition for one, call the EPA Region IX office, toll-free at 800-231-3075.

5. One resident was concerned about the possible contamination resulting from the number of animals, especially horses, that are on the ground in the San Gabriel area.

EPA Response: Water pollution can occur from animals or human wastes leaching into water supplies. The major concern from this type of pollution is the potential for infection by contagious diseases primarily contained in human waste. Animal wastes also contain bacteria and viruses, however, these are often not of health concern to man. Nitrate is also a water pollutant that can be caused by sanitary wastes.

The most common occurrence related to this type of pollution is surface drinking water supplies or shallow groundwater wells that have porous sands and gravels

that would enable wastes and associated bacterial and viral organisms to quickly be transported to a drinking water supply. The San Gabriel Basin drinking water supplies are generally in deeper aquifers that are not expected to be influenced by wastes unless there is a broken well or sanitary sewage line that could act as a conduit for this type of surface contamination.

Protection of drinking water supplies from this type of contaminations is very important to the responsible agencies and water purveyors. Most drinking water systems use chlorination as a disinfectant to protect from inadvertent waste pollution. Additionally, the Safe Drinking Water Act requires regular monitoring for coliform bacteria, which is used as an indicator of sanitary waste contamination, as well as an extensive list of volatile organic and inorganic compounds.

SFR62/062

APPENDIX A

EPA NOTICES PRIOR TO THE PUBLIC MEETING

San Gabriel Valley Superfund Sites

EPA Invites Public Comment on Proposal to Install a Groundwater Treatment Facility at Suburban Water Systems' Bartolo Well Field

The U.S. Environmental Protection Agency (EPA) has released for public comment the Feasibility Study Report on the Suburban Operable Unit Feasibility Study. This report describes various alternatives for addressing the groundwater contamination problem at Suburban Water System Company's Bartolo Well Field in the Whittier Narrows area. Based on the Feasibility Study, EPA's proposed plan for cleanup involves building an air stripping tower to treat the contaminated water along with an accompanying granularactivated carbon filter to control air emissions at the Bartolo Well Field site. The water pumped from this facility is distributed to Suburban Water Systems' customers in the Whittier and La Mirada Service Districts. The well field site is within the 100-year floodplain of the San Gabriel River. Based on the comments received during the public comment period (June 22, 1988 to July 22, 1988), EPA will make a final choice among the alternatives later this summer.

Public Comment Period Begins June 22, 1988

EPA encourages the public to review the alternatives presented in the Feasibility Study Report and to submit written comments during the formal public comment period beginning June 22, 1988 and ending July 22, 1988. Written comments may be sent to: Neil Ziemba, Remedial Project Manager, U.S. EPA, 215 Fremont Street (T-1-4), San Francisco, CA 94105

Community Meeting on July 13, 1988

You are also invited to attend a public meeting on July 13, 1988 at the Whittier Community Center Theater at 7:30 PM, which is located at 7630 Washington Street in Whittier. At this meeting, EPA representatives will present information about the various alternatives being considered for the Bartolo Well Field site. EPA will respond to your questions about the proposal and will receive formal public comment, either written or verbal.

For More Information

Copies of the Feasibility Study Report and a fact sheet summarizing EPA's proposed plan are available by calling EPA toll free at (800) 231-3075 or the Upper San Gabriel Valley Municipal Water District at (818) 443-2297. Copies are also available at the following public libraries:

Whittier Central
Public Library
7344 South Washington
Whittier, CA
213-698-8949

La Puente Public Library
15920 East Central Avenue
La Puente, CA
213-968-4613

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

TO: Residents of the Neighborhood Near the Intersection of Strong Avenue and Workman Mill Road In the Whittier Narrows Area

Attached for your information is a fact sheet describing the U.S. Environmental Protection Agency's (EPA) proposed plan to clean up contaminated groundwater at Suburban Water System's Bartolo well field in the Whittier Narrows Area. EPA is currently accepting comments from the public on the proposed project.

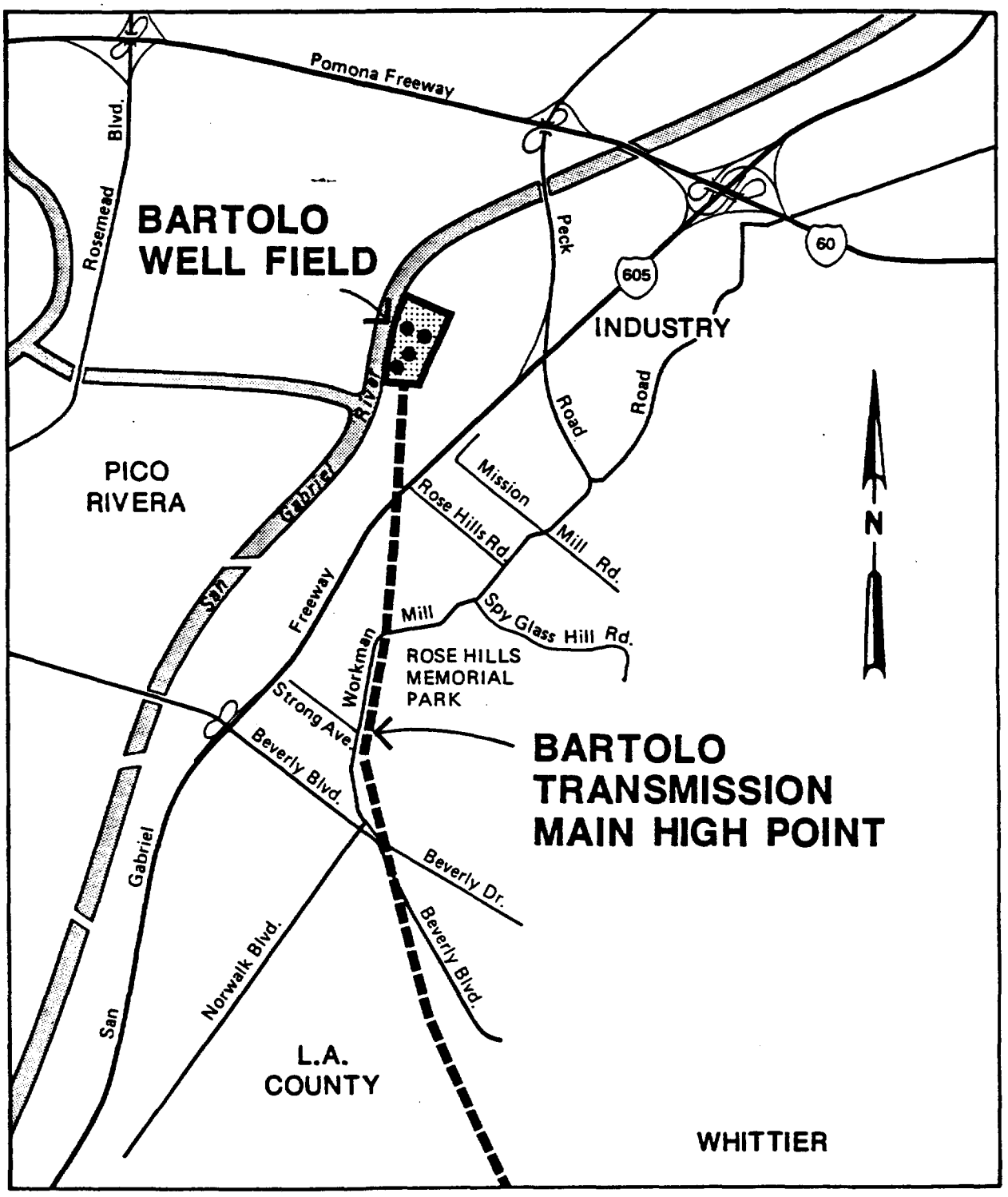
EPA's proposed cleanup project involves constructing an air stripping treatment system to treat water pumped from Suburban Water System's wells located at the Bartolo well field site along the San Gabriel River (see attached map for location). The proposed construction site, however, is within the 100-year floodplain of the river and would be subject to potential damage during any future flood situations.

Therefore, an alternative location (shown on the attached map) near the intersection of Strong Avenue and Workman Mill Road is also under consideration by EPA. Although EPA is proposing to locate the treatment system at the well field site, we would like to receive comments from the community as to the acceptability of the alternative location.

EPA invites you to attend a community meeting scheduled for Wednesday, July 13, 1988 at the Whittier Community Center Theater, 7630 South Washington Street in Whittier at which EPA will discuss the proposed project including the alternative location for the proposed treatment system. The public will have an opportunity to comment on the proposed location, as well as any other aspect of the proposed project.

EPA encourages you to attend the community meeting or to send written comments regarding the project (procedures for submitting written comments are described in the attached fact sheet).

Attachments


Pomona Freeway
Rosemead Blvd.
BARTOLO
WELL FIELD
Peck
605
60
INDUSTRY
Road
Road
Mission
Rose Hills Rd.
Mill Rd.
PICO
RIVERA
San Gabriel River
Freeway
Mill
Spy Glass Hill Rd.
Workman
ROSE HILLS
MEMORIAL
PARK
Strong Ave.
Beverly Blvd.
BARTOLO
TRANSMISSION
MAIN HIGH POINT
Beverly Dr.
Beverly Blvd.
Norwalk Blvd.
San Gabriel
L.A.
COUNTY
WHITTIER
N

San Gabriel Valley Sites

EPA Proposes Cleanup Plan for Contaminated Groundwater at Suburban Water Systems' Bartolo Well Field in the Whittier Narrows Area

Fact Sheet 5 **June 1988**

INTRODUCTION

An **Operable Unit Feasibility Study*** (OUFS) Report outlining the alternatives for cleanup of a portion of the San Gabriel Valley Superfund Site is being released for public review and comment in June 1988. The study, conducted by the U.S. Environmental Protection Agency (EPA), explores options for treating contaminated **groundwater** in the Bartolo Well Field, which is owned by the Suburban Water Systems Company.

The Bartolo Well Field consists of four wells and is located in Los Angeles County in the Whittier Narrows area, which has known **volatile organic compound** (VOC) contamination. (See Figure 1) The Bartolo Well Field supplies 60 percent of the local water supply for approximately 17,000 local commercial and residential water customers in Suburban's Whittier Service District. In addition, the Bartolo Well Field also provides a small percentage of the water supply for the neighboring La Mirada Service District. Although contamination has been detected at the Bartolo Well Field, customers in the Whittier and La Mirada districts are receiving water that meets state and federal **drinking water standards.**

* Phrases or words in **boldface** are included in the Glossary.

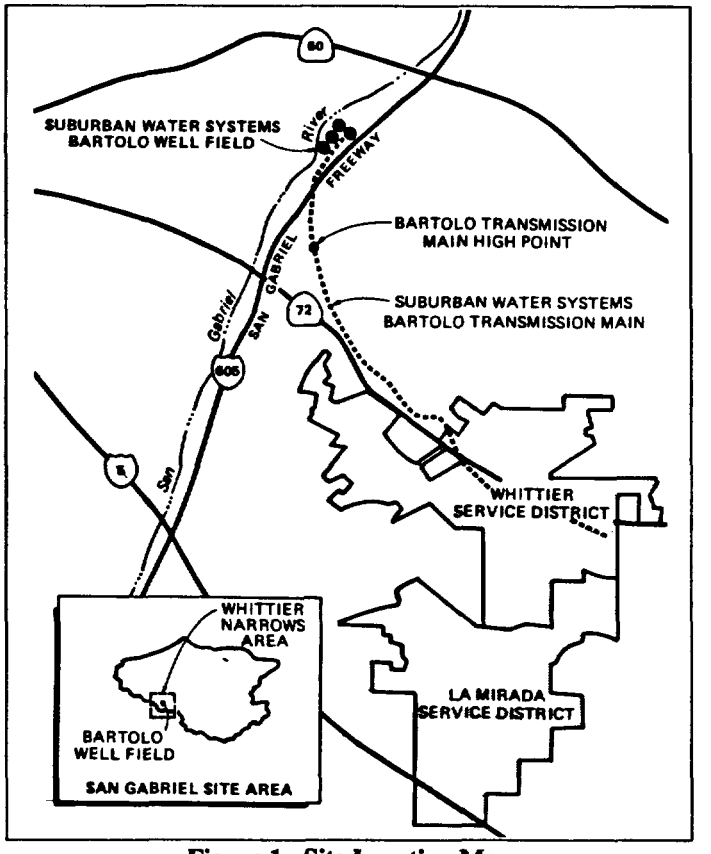


Figure 1. Site Location Map

OPPORTUNITIES FOR PUBLIC INVOLVEMENT

Public Comment Period

EPA encourages the public to review the alternatives presented in the Operable Unit Feasibility Study and to submit written comments during the formal public comment period: June 22 to July 22, 1988. Written comments must be postmarked by July 22nd and may be sent to:

Neil Ziemba
Remedial Project Manager
U.S. Environmental Protection Agency
215 Fremont Streeet (T-4-1)
San Francisco, CA 94105

Community Meeting on July 13th

The public is invited to attend a community meeting on July 13th at 7:30 p.m. at the Whittier Community Center Theater, 7630 South Washington Street in Whittier. At this meeting, EPA representatives will present information about the various alternatives considered for the Bartolo Well Field site. EPA will respond to your questions about the proposal and will also receive your verbal and written comments about the proposal.

This fact sheet briefly summarizes the contamination problem at the Bartolo Well Field, the alternatives evaluated in the OUFS Report, and EPA's proposed plan for cleanup. This fact sheet also describes where you can find out more information about the site, how you can participate in the final decision, and provides a glossary of terms and frequently used acronyms.

BACKGROUND ON THE GROUNDWATER CONTAMINATION AT THE BARTOLO WELL FIELD

Twelve VOCs have been detected in the Bartolo Well Field. Only one contaminant, Trichloroethylene (TCE), has been detected at a level slightly above the state and federal standards for drinking water. The highest measured level was 5.8 parts per billion (ppb). This can be compared to the California Department of Health Services (DHS) action level and the EPA drinking water standard that are both set at 5 ppb for TCE. However, the wells are thought to be in the path of a moving plume of contaminated groundwater and therefore might pump water with higher levels of contaminants in the future.

VOCs have been detected in the Bartolo Well Field since the wells were first tested for VOCs in 1980. The drinking water standard for TCE was first exceeded in one well in late 1987. Although no other drinking water standards have been exceeded, VOCs, including TCE, Perchloroethylene (PCE) and Dichloroethylene (DCE), have been increasing since 1980. Water that does not meet both the state and federal standards is blended with water from other sources to ensure compliance with the standards, which are set by EPA and DHS at levels to protect public health.

The OUFS at Bartolo Well Field is part of a much larger investigation of groundwater contamination in the San Gabriel Valley. This basin-wide investigation has been described in earlier fact sheets, and current activities will be discussed in an upcoming general fact sheet to be published this summer.

For more information about current EPA activities in the San Gabriel Valley, including copies of earlier fact sheets call the project contacts listed on page 7.

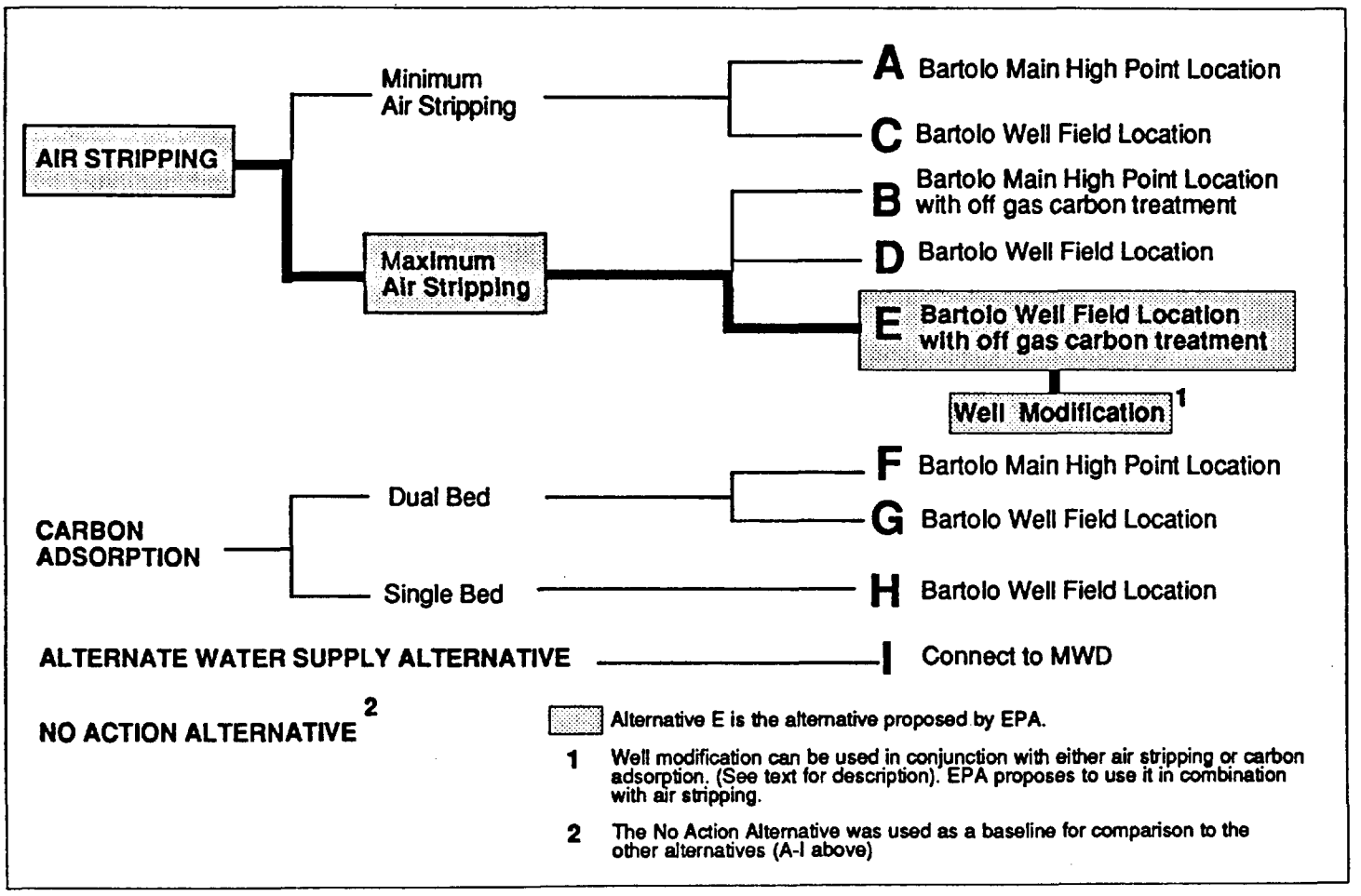


Figure 2. Alternatives for Remedial Action at the Bartolo Well Field

SELECTION OF CLEANUP ALTERNATIVES

Project Objectives

Before identifying a range of cleanup alternatives for evaluation, the objectives of the cleanup must first be identified. In addition to the more specific objectives below, the chosen alternatives must, according to law, adequately protect public health and the environment, be technically feasible, and be cost effective.

The cleanup objectives specifically chosen for the Bartolo Well Field are listed below. The primary objectives are:

- To control the movement and spread of contaminants in the Whittier Narrows area of the San Gabriel Groundwater Basin, which underlies the San Gabriel Valley
- To provide residents in the Suburban Water Systems' Whittier and La Mirada Service Districts with a water supply that meets state and federal drinking water standards

The secondary objectives are:

- To reduce groundwater contamination in an area within the San Gabriel Basin
- To develop a remedial action that is consistent with the approach to be used in the future by EPA, in the Whittier Narrows area and in the San Gabriel Basin as a whole.

Alternatives Evaluation

EPA looked at many possible alternatives, including air stripping, carbon adsorption, an alternate water supply, well modification, and no action. Investigators then evaluated and compared these alternatives in detail, eliminating some that did not meet the objectives and identifying those that did meet the objectives. Figure 2 shows the nine alternatives chosen for final evaluation. For a comprehensive explanation of the screening procedures used to select the final alternatives, please refer to the OUFS Report available at the information repositories listed later in this fact sheet.

The nine alternatives chosen for detailed consideration were evaluated on the basis of:

- Effectiveness of the remedy in protecting public health and the environment,
- Technical and administrative feasibility,
- Capital and long-term operating costs, and
- Consistency with potential final remedies for the San Gabriel Valley sites

The estimated capital and operating costs of each alternative are summarized in Table 1. The alternatives are briefly described below.

SUMMARY OF ALTERNATIVES

Air Stripping

Air Stripping causes VOCs like TCE to evaporate from the water into the air. The contaminated groundwater is pumped to the top of an air stripping tower. The water flows down through the tower and air is blown upward. Packing material inside the tower creates a larger surface area, which allows the VOCs to evaporate into the air faster and more easily than the water molecules. Air stripping has been successfully used to remove VOCs from groundwater in many areas of the United States. Figure 2 shows the 5 different variations of air stripping that were evaluated for treating groundwater from the Bartolo Well Field. The air stripping alternatives differ in how the following three components of the system are combined: level of treatment, location and control of emissions released into the air.

Level of Treatment. The difference between the maximum and minimum air stripping options shown in Figure 2 is the height of the packing material in the tower. Minimum air stripping uses 18 feet of packing while maximum air stripping involves 25 feet of packing. A larger area of packing material allows for more VOCs to evaporate, thereby increasing the efficiency of the treatment.

The minimum air stripping system is designed to treat the contaminated water to meet state and federal drinking water standards. The maximum system is designed to produce drinking water with VOC concentrations even lower than drinking water standards, essentially down to the laboratory detection limits.

Location. The two different sites proposed for the air stripping tower are shown in Figure 1. One is at the Bartolo Well Field site and the other is at the Bartolo Transmission Main High Point. The Bartolo Well Field site is located within the 100-year **floodplain** of the San Gabriel River. EPA has, therefore, prepared an assessment of flood hazards, which is described later in this fact sheet.

Control of Emissions. The VOCs removed from the water by the air stripper remain in the air that leaves the top of the tower. If it is necessary to control these VOC emissions, an off-gas carbon treatment system can be added to the air stripping system. Off-gas carbon treatment filters the air containing

VOCs through a vessel containing granular activated carbon. Granular activated carbon is a specially-processed material that attracts contaminants. Contaminants will attach (adsorb) to the carbon, thereby reducing the level of contaminants released into the air.

Carbon Adsorption

Using this process, contaminants are removed by forcing (in a pressurized vessel) the contaminated groundwater through granular activated carbon. Granular activated carbon has a very high surface area and a strong attraction for many organic compounds. Contaminated water would be pumped from the wells to the top of pressure vessels containing granular activated carbon. As the liquid flows down through the granular activated carbon beds, the VOCs would be removed from the water, would cling to the carbon material, and the concentration of VOCs in the water would decrease.

Carbon adsorption systems can be designed to use single or dual carbon beds. Dual-bed carbon adsorption allows for more efficient VOC removal and a higher safety margin than does the single-bed system because the water passes through two separate carbon beds instead of only one. The margin of safety is higher because if contamination isn't removed completely in the first bed, the second bed can provide additional treatment. Dual-bed systems do, however, involve a significantly higher capital cost than single bed systems.

In addition to evaluating the use of single-bed and dual-bed carbon systems, EPA also evaluated locating the carbon adsorption system at either the well field or the Bartolo Transmission Main High Point sites. (See Figure 1)

Alternate Water Supply

The alternate water supply alternative would involve replacing the water supply from the Bartolo Well Field with water purchased from the Metropolitan Water District (MWD) of Southern California. MWD imports water from the Colorado River and the State Water Project. Although this alternative would meet the objective of providing water that meets federal and state drinking water standards to Suburban's customers it does not meet the other primary objective of controlling the spread of groundwater contamination in the San Gabriel Basin.

Well Modification

The well modification alternative is designed to be combined with one of the other treatment alternatives. Modficiation of the operation of existing wells could increase the removal of contamination from the Bartolo Well Field area.

The well modification alternative would involve testing existing wells to determine at what depths below the surface the contamination is found. The results of this testing could show which depth intervals of the well contain the highest concentrations of contamination. If depth intervals where the groundwater is clean are sealed off, then additional pumping at depths where the contamination is very concentrated would allow the removal and treatment of a larger quantity of contamination. If well modification is not possible, new wells could be installed to pump from the depth intervals where the contamination is highly concentrated.

No Action

With the no action alternative, Suburban Water Systems would continue pumping from the Bartolo wells and no treatment system would be installed. This alternative is evaluated to provide a baseline for comparison to the other alternatives under consideration. Based on EPA's current knowledge of the groundwater contamination in the San Gabriel Valley, it appears that contaminant levels in Suburban's Bartolo wells will increase in the future. Therefore, if this alternative were chosen, Suburban may be unable to ensure that water provided to its customers would meet all federal and state drinking water standards.

EPA's Proposed Plan

The alternative being proposed by EPA is alternative E: the installation of the maximum air stripping facility at the Bartolo Well Field location with activated carbon treatment of the off-gas. (See Figure 2) In addition, EPA proposes to incorporate well modifications into the cleanup plan for the Bartolo Well Field. This alternative is considered to be the most flexible and best suited for the Bartolo Well Field Operable Unit. A diagram of the air stripper facility is shown in Figure 3.

A maximum air stripping facility is recommended over the minimum air stripper because it provides greater treatment efficiencies that may be needed at the site, particularly if modifications of well operation allow for the capture of more highly contaminated groundwater.

Location of the treatment facility at the Bartolo Well Field site is recommended for three primary reasons:

- The treatment facilities could be expanded in the future to incorporate facilities for the nearby Whittier Narrows Operable Unit.
- Because Suburban Water Systems already owns the property, no additional land would have to be purchased. (This will allow design and construction to begin immediately without any major delays.)
- No residential neighborhoods are located close to the well field.

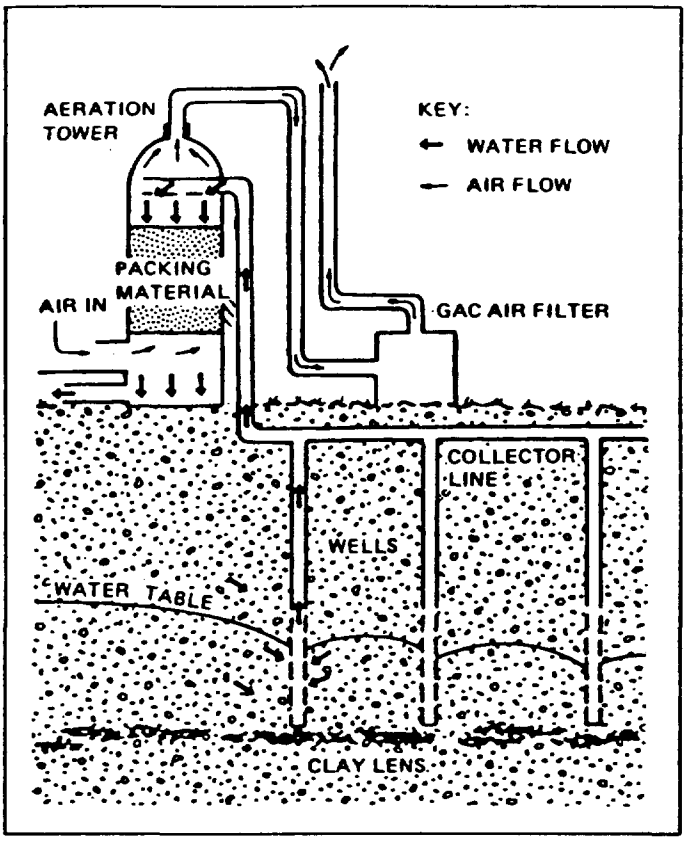


Figure 3
Diagram of a typical Air Stripping Facility with a Granular Activated Carbon (GAC) Air Filter

The off-gas carbon treatment is recommended to assure that the facility is in compliance with South Coast Air Quality Management District regulations covering emissions of VOC's into the air.

Well modification, in combination with the air stripping alternative, is recommended to maximize the capture of contaminated groundwater moving through the San Gabriel Basin. This will most effectively meet the objective of controlling the movement and spread of contaminants in the San Gabriel Basin. The estimated capital cost of this proposed remedy is $5,111,000. Annual operating and maintenance costs are estimated at $675,000. If a 30-year present worth cost is calculated using a 5 percent discount rate, the total cost of EPA's proposed remedy is $15,500,000.

Table 1
Estimated Cost of Alternatives

Alternative	Cost*
A: Minimum Air Stripping at Bartolo Main High Point	$6,621,000
B: Maximum Air Stripping at Bartolo Main High Point with Off- Gas Carbon Treatment	15,209,000
C: Minimum Air Stripping at Bartolo Well Field	6,750,000
D: Maximum Air Stripping at Bartolo Well Field	8,397,000
E: Maximum Air Stripping at Bartolo Well Field with Off-Gas Carbon Treatment	15,266,000
F: Dual Bed Carbon Adsorption at Bartolo Main High Point	26,116,000
G: Dual Bed Carbon Adsorption at Bartolo Well Field	25,498,000
H: Single Bed Carbon Adsorption at Bartolo Well Field	23,609,000
I. Replace Bartolo Well Field Water Supply with Water From MWD	42,140,000
Well Modification (in addition to or in combination with one of the alternatives described above)	2,595,000

* Includes Capital Cost and 30-Year Present Worth Operation and Maintenance Cost with a Discount Rate of 5%

FLOODPLAIN IMPACT ASSESSMENT

The Bartolo Well Field is located within the flood retention basin of the Whittier Narrows Dam. The proposed treatment system at the well field site is located within the 100-year floodplain, at an elevation that has the probability of being flooded once every 30 years. Therefore, once the treatment system is installed, it could be subject to periodic flooding.

The alternative chosen for cleanup at the Bartolo Well Field must meet requirements of the federal Floodplain Management Executive Order (E.O. 11988) and the National Environmental Policy Act (NEPA). Under E.O. 11988, EPA should avoid actions located within the 100-year floodplain unless the floodplain location is the only practical alternative. In addition, EPA drinking water regulations require that the construction of new or modified public water supply systems, to the extent practical, should not be located within the 100-year floodplain. The purpose of the drinking water regulations is to avoid loss of a public water supply due to natural disasters.

To meet these requirements, EPA has prepared a floodplain assessment as part of the OUFS Report. The assessment considered alternatives to locating the treatment system within the floodplain, the impact of EPA's proposed action on the floodplain, and measures that could be taken to minimize the potential harm to the treatment system if it is constructed within the floodplain.

Alternate Location

The Bartolo Transmission Main High Point site (See Figure 1) was identified as an alternative to locating the treatment system within the floodplain. EPA believes that this alternative is not practical for several reasons. The primary reason is that a new piece of property on which to build the treatment system would have to be identified and acquired, unlike the well field site where Suburban Water Systems already owns the property. This could significantly delay the design and construction of the treatment system. EPA believes that this delay would be unacceptable given the public health and environmental threat posed by the groundwater contamination at the Bartolo Well Field.

The Bartolo Transmission Main High Point location is also adjacent to residential areas, which may be less acceptable to the community. This location does not offer the opportunity for expansion of treatment system capacity that the well field site offers. Additional treatment system capacity could be easily added at the well field site as part of EPA's future actions to stop the spread of groundwater contamination through the entire Whittier Narrows area. Therefore, for all of these reasons, EPA believes that there is no practical alternative to locating the treatment system within the 100-year floodplain.

Reducing Potential Flood Damage

EPA's assessment of the proposed alternative concludes that the construction of the treatment facility at the well field site can be accomplished without increasing the risk of flood damage to properties located upstream or downstream. EPA also evaluated potential measures that could be taken to minimize the potential damage to the treatment facility during a flood.

Maximum flood protection could be provided by elevating the structure above the 100-year floodplain elevation. Constructing the treatment facility on fill would add significant cost to the alternative and additional time for design and construction. In addition, the Army Corps of Engineers requires that an amount of earth equal to the volume of fill be removed from the Whittier Narrows Dam flood retention basin. This may require the removal of earth from adjacent wetland areas that would potentially lead to unacceptable environmental impacts. Therefore, EPA believes that maximum flood protection may not be practical.

Partial floodproofing could be provided by designing major treatment equipment such as the air stripping towers to be floodable and locating sensitive equipment such as motors or other electrical equipment on elevated platforms or on trailers or skid mounts for removal when floods are expected.

At a minimum, EPA will incorporate partial floodproofing features into the design of the proposed treatment system at the Bartolo Well Field.

Loss of Treatment Facility Use

Locating the treatment facility within the 100-year floodplain may prevent use of the facility during a flooding episode. Although this could mean that Suburban Water Systems would temporarily lose the use of the Bartolo Well Field water supply, they have identified several options for supplying water to their customers in case this occurred. The cost of providing water would, however, be significantly higher during these periods. It should also be noted that the potential flood threat occurs primarily during the wet winter months when water demand is lowest.

Therefore, it appears that Suburban Water Systems would be able to continue to supply water to its customers even if use of the treatment facility was not possible due to flood damage.

FOR MORE INFORMATION

For further information or to ask questions about either the OUFS Report or other EPA activities in the San Gabriel Valley, please call Mary O'Donnell, the EPA Community Relations Coordinator, at (415) 974-7724 or Bob Berlien, General Manager of the Upper San Gabriel Valley Municipal Water District, at (818) 443-2297.

A toll-free information line (800-231-3075) at EPA is also available for your use. Please leave a message on the answering machine, and your call will be returned as quickly as possible. In addition, copies of the OUFS Report are available at:

La Puente Public Library
1592 East Central Avenue
La Puente, CA
(213) 968-4613

Whittier Central Public Library
7344 S. Washington
Whittier, CA
(213) 698-8949

Upper San Gabriel Valley Municipal Water District
11310 East Valley Boulevard
El Monte, CA
(818) 443-2297

U.S. Environmental Protection Agency
Toxics and Waste Management Division
215 Fremont Street
San Francisco, CA
(800)231-3075

GLOSSARY

Action level: *Drinking water quality guidelines set by the California Department of Health Services (DHS) at levels to protect public health. For carcinogens in drinking water, state action levels are based on a one-in-a-million cancer risk. This means that a person exposed to that level of contamination throughout his or her lifetime (drinking two liters a day for 70 years) has a one-in-a-million chance of developing cancer because of exposure to the contaminant. For example, the action level for TCE is 5 parts per billion.*

Dichloroethylene (DCE): *A volatile organic chemical used as a cleaning agent in chemical manufacturing. It is sometimes found in groundwater as the result of the decomposition of TCE. It is a possible carcinogen.*

Drinking water standards: *The concentration of chemical contaminants established by EPA under the Safe Drinking Water Act as an acceptable level for drinking water (also termed Maximum Contaminant Levels or MCLs). To be in compliance with the Safe Drinking Water Act, water suppliers must provide water with average contaminant concentrations below the drinking water standards. Also see the definition of Action Level in this glossary.*

Floodplain: *Area surrounding a river or other water body that may be flooded during periods of heavy water flow. A 100-year floodplain is defined as the area that has a one in one hundred chance of being flooded in any one year.*

Groundwater: *Underground water that fills pores between particles of soil, sand, and gravel or opening in rocks to the point of saturation. Where groundwater occurs in significant quantity, it can be used as a source of water supply.*

Laboratory detection limit: *The lowest concentration of a chemical at which the presence of the chemical in water can be confirmed using a particular laboratory technique.*

Operable Unit Feasibility Study (OUFS): *An operable unit is a discrete action that contributes to the permanent site cleanup by addressing a part of the overall problem. A number of operable units can be conducted during the course of a single Superfund project. The Feasiblity Study (FS) is a major part of the Superfund process. During the FS, a report is prepared that identifies alternative actions that may be used at the site. Based on the FS, EPA proposes a cleanup plan. A 30-day public comment period is conducted prior to EPA's final decision about which cleanup alternative is most appropriate.*

Perchloroethylene (PCE): *A nonflammable solvent used commonly in dry cleaning and to remove grease from equipment. It is a suspected carcinogen.*

Remedial action: *The construction or implementation of the selected cleanup alternative, which occurs after the feasibility study is completed and EPA has made a formal decision.*

Trichloroethylene (TCE): *A nonflammable liquid used commonly in industrial processes and to remove grease from metal. It is a suspected carcinogen.*

Volatile organic compounds (VOCs): *An organic compound (carbon containing) that evaporates (volatilizes) readily at room temperature.*

United States
Environmental Protection Agency
Region IX

215 Fremont Street (T-4-1)
Attention: Neil Ziemba
San Francisco, CA 94105

**Inside:
Information on
Bartolo Well Field
Public Comment
Period**

APPENDIX B

SUBURBAN WATER SYSTEMS NOTICES PRIOR TO THE PUBLIC MEETING

Suburban Water Systems
16340 East Maplegrove St.
LA Puente, California 91744-1399

LA PUENTE CALIFORNIA

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Dear Customer:

The threat of groundwater contamination in the Whittier Narrows region of the Main San Gabriel Valley Groundwater Basin has become a growing concern for both Suburban Water Systems and the U.S. Environmental Protection Agency (EPA). In an effort to protect our groundwater supply, the EPA has proposed a clean-up project utilizing Suburban's facilities. Funded by the Federal Superfund Project, the proposed facility will focus on two primary objectives:

1) to continue to allow Suburban Water Systems to provide an uninterrupted supply of safe drinking water to our Whittier District customers, and

2) to remove migrating plumes of volatile organic chemicals from the groundwater, preventing their spread into adjacent groundwater basins.

A period for public comment will begin June 22, 1988 and continue through July 22, 1988; in addition, a public meeting will be held on July 13, 1988. Details regarding the public meeting and other aspects of the project have been included in a Project Fact Sheet that describes EPA's proposed plan. To request a Fact Sheet, please call Timothy Jochem, Suburban Water Systems, (818) 918-1231, Ext. 344.

Suburban Water Systems

June 20, 1988

Mr. Thomas Mauk
City Manager
CITY OF WHITTIER
13230 East Penn Street
Whittier, CA 90602

Dear Tom:

In order to protect our groundwater supply at Whittier Narrows, Suburban has proposed a joint venture water treatment facility with the U.S. Environmental Protection Agency, funded under the Federal Superfund Program. This project, once completed, will assist in accomplishing two significant objectives:

1) it will help Suburban to continue to provide its Whittier and La Mirada customers with a safe supply of drinking water, and

2) it will contain and control contaminant plumes, preventing their migration through Whittier Narrows into the Central Groundwater Basin.

A recent EPA study at the well field confirmed the potential effectiveness of the proposed project. Our treatment facility design is currently under review by both the EPA and the U.S. Army Corps of Engineers.

The public review period, customary for federally funded projects such as this, begins June 22, 1988, and continues through July 22, 1988. A public meeting to offer information on the project is scheduled for July 13 at the Whittier Community Center Theater, 7630 S. Washington Ave., Whittier, at 7:30 p.m. The meeting will be conducted by EPA representatives.

I hope you will plan to attend the July 13 meeting. In the meantime, if you have any questions about the project or would like more detailed information, please feel free to give me a call.

Sincerely,

Randell J. Vogel
Executive Vice President
Chief Operating Officer

RJV:ctw

16340 EAST MAPLEGROVE STREET • LA PUENTE, CA 91744-1399
TELEPHONE (818) 918-1231

Suburban Water Systems

June 20, 1988

Mr. Gary Sloan
City Manager
CITY OF LA MIRADA
13700 La Mirada Boulevard
La Mirada, CA 90638

Dear Gary:

In order to protect our groundwater supply at Whittier Narrows, Suburban has proposed a joint venture water treatment facility with the U.S. Environmental Protection Agency, funded under the Federal Superfund Program. This project, once completed, will assist in accomplishing two significant objectives:

1) it will help Suburban to continue to provide its Whittier and La Mirada customers with a safe supply of drinking water, and

2) it will contain and control contaminant plumes, preventing their migration through Whittier Narrows into the Central Groundwater Basin.

A recent EPA study at the well field confirmed the potential effectiveness of the proposed project. Our treatment facility design is currently under review by both the EPA and the U.S. Army Corps of Engineers.

The public review period, customary for federally funded projects such as this, begins June 22, 1988, and continues through July 22, 1988. A public meeting to offer information on the project is scheduled for July 13 at the Whittier Community Center Theater, 7630 S. Washington Ave., Whittier, at 7:30 p.m. The meeting will be conducted by EPA representatives.

I hope you will plan to attend the July 13 meeting. In the meantime, if you have any questions about the project or would like more detailed information, please feel free to give me a call.

Sincerely,

Randell J. Vogel
Executive Vice President
Chief Operating Officer

RJV:ctw

16340 EAST MAPLEGROVE STREET • LA PUENTE, CA 91744-1399
TELEPHONE (818) 918-1231

APPENDIX C

INTERAGENCY REVIEW LETTERS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

June 22, 1988

Tim Jochem
Suburban Water Systems
16340 East Maplegrove Street
La Puente, CA 91744

Dear Mr. Jochem:

Enclosed for your review and comment is a copy of the "Public Comment Review Draft" Operable Unit Feasibility Study for Suburban Water Systems Bartolo Well Field of San Gabriel Areas 1-4 Sites in Los Angeles County.

Also enclosed is a fact sheet describing EPA's proposed plan for this project. EPA is proposing to implement remedial action including the following components

- Alternative E--maximum air-stripping design at the Bartolo well field site with off-gas carbon adsorption treatment.
- Well modifications to allow extraction of water from the most highly contaminated zones.

The key issue that has been identified for consideration internally at EPA and in discussions with the Department of Health Services is whether EPA should construct the treatment system at the Bartolo well field site, which is within the 100-year floodplain of the San Gabriel River. EPA currently proposes to implement the remedial action at the well field site because to locate the treatment system remote from the Bartolo well field would cause a significant delay in implementation of the project for property to be located and acquired before design and construction of the facility could begin. This delay would be unacceptable due to the serious public health and environmental threat posed by contamination of the Bartolo well field and migration of contamination through the Whittier Narrows area of the San Gabriel Valley.

As we discussed previously and as described in the enclosed fact sheet, a public comment period will run from June 22 to July 22, 1988. In addition, a public meeting will be held on July 13th in Whittier (details in the fact sheet).

I would like to take this opportunity to invite you or another representative of Suburban Water Systems to make a brief (5-10 minute) presentation at the public meeting that describes the efforts Suburban Water Systems has taken thus far to address the contamination problem in the Bartolo well field. In addition, we would appreciate it if Suburban's representative could also be available to answer any questions that specifically concern Suburban's existing water system and current operations. Please let me know if Suburban wishes to participate in the public meeting. If you do, we can discuss our plans for the meeting the week of July 5-8.

After a review of comments from the general public and State and local agencies, EPA will prepare a Record of Decision (ROD) that will formally document EPA's selection of remedy for the site. We currently are planning to sign a final ROD for this project in September 1988.

Please provide any comments on EPA's proposed plan and the draft report by the end of the public comment period, July 22, 1988. If you have any questions about the proposed project, please feel free to call me at (415) 974-7174 or Heather Stone at (415) 974-7413. Thank you for your cooperation. I look forward to receiving your comments.

Sincerely,

Neil L. Ziemba
Remedial Project Manager

Enclosures

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

24 June 1988

Nestor Acedera
California Department of Health Services
Toxic Substances Control Division
107 South Broadway, Room 7011
Los Angeles, CA 90012

Dear Mr. Acedera:

Enclosed for DHS review and comment is the "public comment review draft" of the Operable Unit Feasibility Study (OUFS) report for the Suburban Water Systems Bartolo Well Field of the San Gabriel Superfund Sites in Los Angeles County, California.

This report has been revised from the "agency review draft" that was provided to your offices for review with a transmittal letter dated May 12, 1988. In addition, a fact sheet that describes our proposed remedial action plan is also attached for your review.

This draft of the OUFS report has been released to the public for comment. The formal public comment period ends on July 22, 1988. In addition, a public meeting will be held on July 13, 1988 to solicit additional comments from the public. After a review of comments received from the general public, the State, and EPA program offices, a draft Record of Decision (ROD) will be prepared that will recommend which remedial action alternative EPA should select as the remedy for the site. The draft ROD document will also be provided to your office for review and comment.

The draft report incorporates numerous minor revisions from the previous draft report. The one major revision was the addition of a floodplains assessment to comply with the provisions of the Floodplain Management Executive Order and EPA's implementing regulations.

At this time, the major issue with respect to this project concerns whether EPA should construct the treatment plant as proposed in the 100-year floodplain of the San Gabriel River. We believe this proposal to be in compliance with Executive Order 11988--Floodplain Management--because to locate the treatment system remote from the Bartolo well field (which is located within the 100-year floodplain) would cause a significant delay

in implementation of the project for property to be located and acquired before design and construction of the facility could begin. This delay would be unacceptable due to the serious public health and environmental threat posed by contamination of the Bartolo well field and migration of contamination through the Whittier Narrows area of the San Gabriel Valley.

To meet our schedule for signing the Record of Decision for this project in September 1988, we must receive your comments by the end of the public comment period, July 22, 1988.

Please feel free to call me or Neil Ziemba of my staff at (415) 974-7174 if you have any questions regarding the OUFS. Thank you for your cooperation. We look forward to receiving your comments.

Sincerely,

John B Blevins for

Paula Bisson
Chief
State Programs Section

Enclosures

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

July 22, 1988

Robert Martinez
Governor's Office of Planning and Research
1400 10th Street
Sacramento, CA 95814

ATTN: Glenn Stober

Dear Mr. Martinez:

The U.S. Environmental Protection Agency (EPA) is proposing to fund a Superfund project in the Whittier Narrows area of Los Angeles County. This proposed cleanup project is planned to partially address the groundwater contamination problem for the San Gabriel Valley Areas 1,2, and 4 Superfund National Priorities List sites. This project is subject to the intergovernmental review process.

We have enclosed for your review and comment, ten copies of the report, "Draft Operable Unit Feasibility Study for Suburban Water Systems Bartolo Well Field of San Gabriel Areas 1-4, Los Angeles County, California," and a fact sheet that describes EPA's proposed cleanup plan. The report evaluates various remedial action alternatives to address the groundwater contamination problem at the Bartolo Well Field in the San Gabriel Valley; the fact sheet identifies EPA's recommended alternative.

To expedite your review of the proposed Superfund project, we have prepared and enclosed a "Notice of Completion and Environmental Document Form" for the proposed project. Due to the relatively urgent nature of this project, we would appreciate an expedited review. In a phone conversation with Glenn Stober of your staff, it was agreed that a 45-day comment period would be sufficient for this project. The 45-day comment period will begin five days after the date of this letter. Please address any comments to

Neil Ziemba
Remedial Project Manager
U.S. Environmental Protection Agency
215 Fremont Street (T-4-1)
San Francisco, CA, 94105.

Any specific questions concerning the proposed project may be answered by myself at (415) 974-7174 or by Heather Stone at (415) 974-7413. Thank you for your cooperation.

Sincerely,

Neil Ziemba

Neil Ziemba
Remedial Project Manager

Enclosures

FEDERAL

Mail to: State Clearinghouse, 1400 Tenth Street, Rm. 121, Sacramento, CA 95814 — 916/445-0613

See NOTE Below

SCH #

NOTICE OF COMPLETION AND ENVIRONMENTAL DOCUMENT FORM
(FEDERAL PROJECT)

1. Project Title: Suburban Water Systems Bartolo Well Field Operable Unit

2. Lead Agency: U.S. Environmental Protection Agency 3. Contact Person: Neil L. Ziemba

3a. Street Address: 215 Fremont Street 3b. City: San Francisco

3c. County: San Francisco 3d. Zip: 94105 3e. Phone: (415) 974-7174

PROJECT LOCATION 4. County: Los Angeles County 4a. City/Community: Unincorporated area

4b.(optional) Assessor's Parcel No. 4c. Section Twp. Range

5a. Cross Streets: West of I-605 & Mission Mill Rd. 5b. For Rural, Nearest Community: Pico Rivera and Whittier

6. Within 2 miles of: a. State Hwy No. 60; I-605 b. Airports None c. Waterways San Gabriel River and Rio Hondo

7. DOCUMENT TYPE

CEQA
01 ___ NOP
02 ___ Early Cons
03 ___ Neg Dec
04 ___ Draft EIR
05 ___ Supplement/Subsequent EIR (If sb, prior SCH #

NEPA
06 ___ Notice of Intent
07 ___ Envir. Assessment/FONSI
08 ___ Draft EIS

OTHER
09 ___ Information Only
10 ___ Final Document
11 X Other Superfund Operable Unit Feasibility Study and Proposed Plan

8. LOCAL ACTION TYPE
01 ___ General Plan Update
02 ___ New Element
03 ___ General Plan Amendment
04 ___ Master Plan
05 ___ Annexation
06 ___ Specific Plan
07 ___ Redevelopment
08 ___ Rezone
09 ___ Land Division (Subdivision, Parcel Map, Tract Map, etc.)
10 ___ Use Permit
11 ___ Coastal Aq Preserve
12 ___ Other

9. TOTAL ACRES: located on 90 acre parcel

10. DEVELOPMENT TYPE
01 ___ Residential: Units Acres
02 ___ Office: Sq.Ft. Acres Employees
03 ___ Shopping/Commercial: Sq.Ft. Acres Employees
04 ___ Industrial: Sq.Ft. Acres Employees
05 ___ Sewer: MGD
06 ___ Water: MGD
07 ___ Transportation: Type
08 ___ Mineral Extraction: Mineral
09 ___ Power Generation: Wattage Type:
10 X Other: Groundwater Treatment Facility

11. PROJECT ISSUES DISCUSSED IN DOCUMENT

01 ___ Aesthetic/Visual	08 ___ Geologic/Seismic	15 ___ Sewer Capacity	22 X Water Supply
02 ___ Agricultural Land	09 ___ Jobs/Housing Balance	16 ___ Soil Erosion	23 ___ Wetland/Riparian
03 X Air Quality	10 ___ Minerals	17 ___ Solid Waste	24 ___ Wildlife
04 ___ Archaeological/Historical	11 ___ Noise	18 X Toxic/Hazardous	25 ___ Growth Inducing
05 ___ Coastal Zone	12 ___ Public Services	19 ___ Traffic/Circulation	26 ___ Incompatible Landuse
06 ___ Fire Hazard	13 ___ Schools	20 ___ Vegetation	27 ___ Cumulative Effects
07 X Flooding/Drainage	14 ___ Septic Systems	21 X Water Quality	28 ___ Other

12. FUNDING(approx.) Federal $ 4,890,000 State $ 540,000 Total $ 5,430,000 (Capital Cost)
For first 10 years operation: Fed.: $730,000; State: $80,000; Total Annual: $810,000

13. PRESENT LAND USE AND ZONING: Property is currently owned by Suburban Water Systems and is the location for four groundwater extraction wells used for water supply

14. PROJECT DESCRIPTION: Builds an air-stripping water treatment facility equipped with a carbon adsorption air emissions control system at Suburban Water Systems' Bartolo Well Field to treat contaminated water pumped from Suburban's water supply wells located there. Modify Suburban's existing wells (and/or drill new well(s)) to maximize the removal of contaminated groundwater.

REVIEWING AGENCY: Name: DATE:
Address: Intent to Comment
Phone: Transmittal of Comments
Contact:

NOTE: Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

June 22, 1988

Subject: Public Comment Period for the Draft Operable Unit Feasibility Study for Suburban Water Systems Bartolo Well Field of San Gabriel Areas 1-4 Sites in Los Angeles County

To: Addressees

Enclosed for your review and comment is a copy of the "Public Comment Review Draft" Operable Unit Feasibility Study for Suburban Water Systems Bartolo Well Field of San Gabriel Areas 1-4 Sites in Los Angeles County.

Also enclosed is a fact sheet describing EPA's proposed plan for this project. EPA is proposing to implement remedial action including the following components

- o Alternative E--maximum air-stripping design at the Bartolo well field site with off-gas carbon adsorption treatment.
- o Well modifications to allow extraction of water from the most highly contaminated zones.

I would like to highlight a key issue for your consideration during your review of the draft report--whether EPA should construct the treatment system at the Bartolo well field site, which is within the 100-year floodplain of the San Gabriel River. EPA currently proposes to implement the remedial action at the well field site because to locate the treatment system remote from the Bartolo well field would cause a significant delay in implementation of the project for property to be located and acquired before design and construction of the facility could begin. This delay would be unacceptable due to the serious public health and environmental threat posed by contamination of the Bartolo well field and migration of contamination through the Whittier Narrows area of the San Gabriel Valley.

As described in the enclosed fact sheet, a public comment period will run from June 22 to July 22, 1988. In addition, a public meeting will be held on July 13th in Whittier (details in the fact sheet). After a review of comments from the general public and State and local agencies, EPA will prepare a Record of Decision (ROD) that will formally document EPA's selection of remedy for the site. We currently are planning to sign a final ROD for this project in September 1988.

Please provide any comments on EPA's proposed plan and the draft report by the end of the public comment period, July 22, 1988. If you have any questions about the proposed project, please feel free to call me at (415) 974-7174 or Heather Stone at (415) 974-7413. Thank you for your cooperation. I look forward to receiving your comments.

Sincerely,

Neil L. Ziemba
Remedial Project Manager

Enclosures

Addressees:
San Gabriel Technical Committee:
Reginald Stone, Main San Gabriel Basin Watermaster
Thomas Stetson, Stetson Engineers, Inc.
George Ames, South Coast Air Quality Management District
Phillip Crocker, San Gabriel County Water District
Ahmad Hassan, California Department of Water Resources
Carl Sjoberg, L.A. County Department of Public Works
Joseph Crisologo, California Department of Health Services
Gary Yamamoto, California Department of Health Services
Hank Yacoub, Los Angeles Regional Water Quality Control Board
Seiichi Saito, L. A. County Department of Health Services
Robert Berlien, Upper San Gabriel Valley Municipal Water District

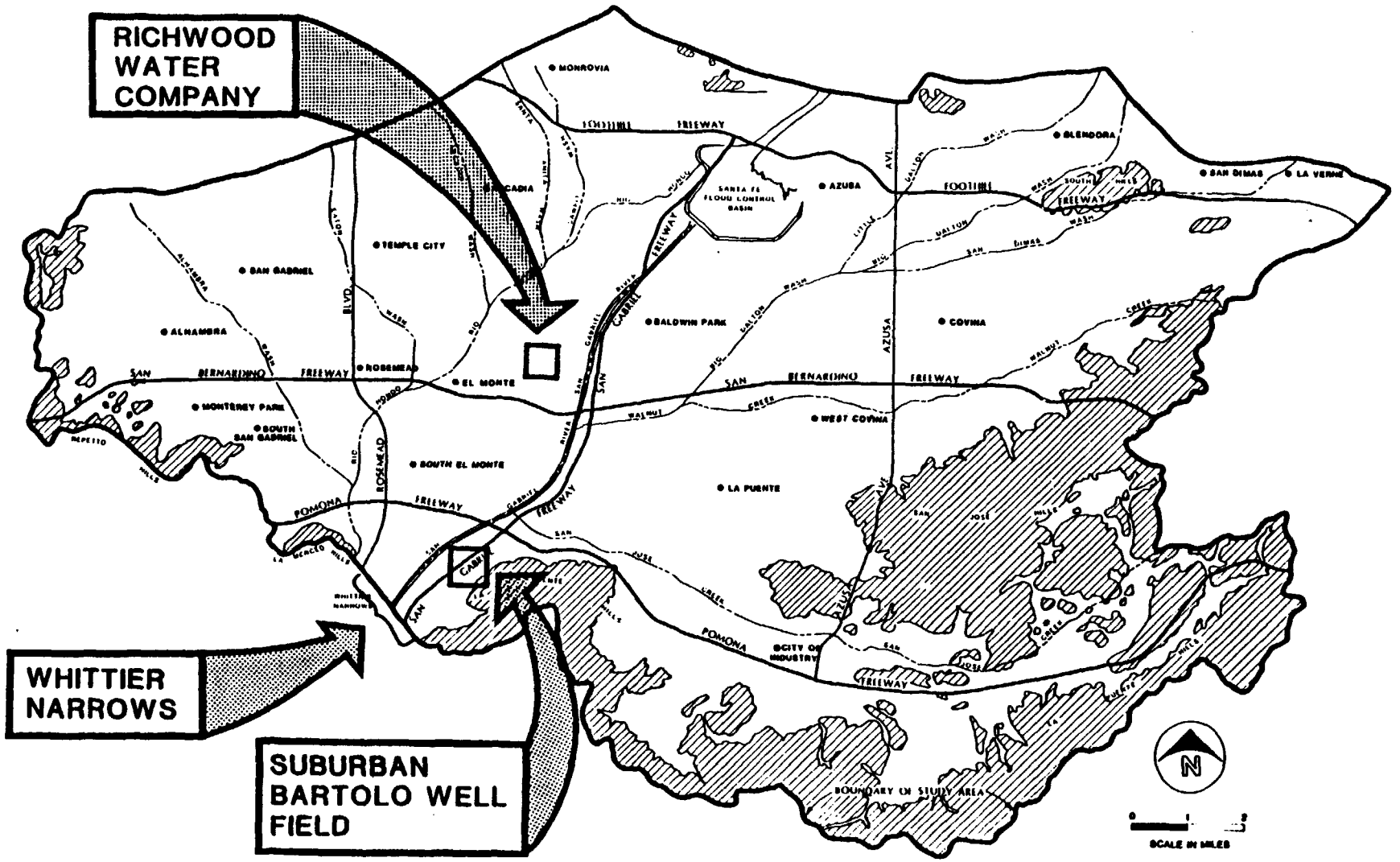
Central and West Basin Replenishment District:
John Joham, General Manager
Richard Rhone, Bookman-Edmonston Engineering, Inc.

cc: Larry Holm, CH_2M Hill

APPENDIX D

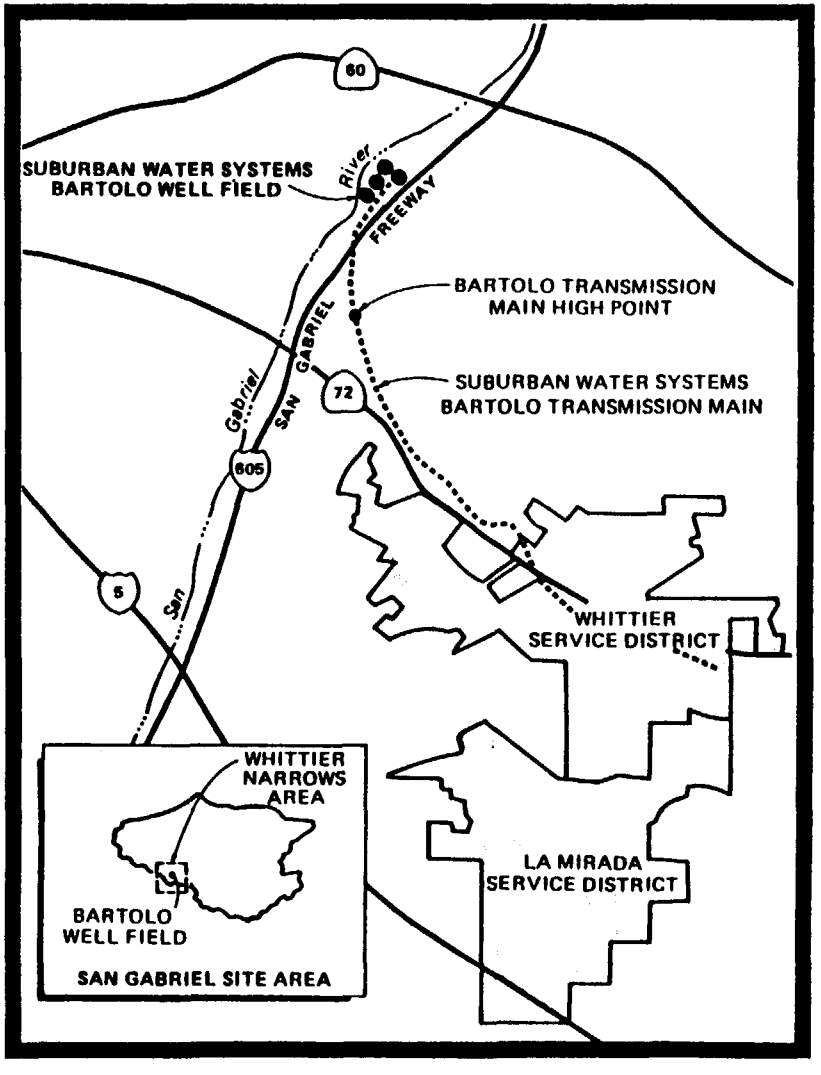
PUBLIC MEETING HANDOUT

ON-GOING OPERABLE UNITS



LEGEND

NONWATER-BEARING ROCK



SITE LOCATION MAP

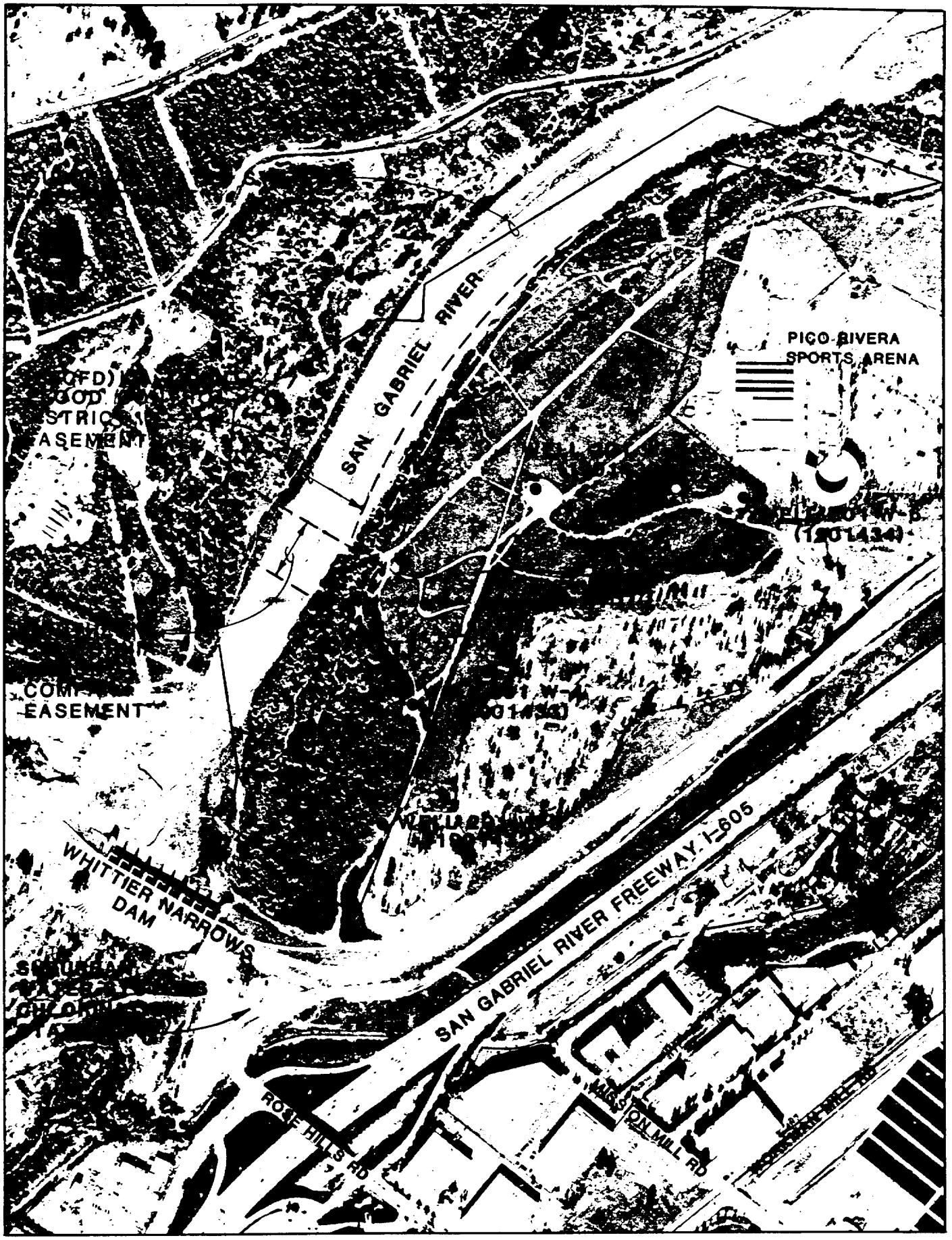


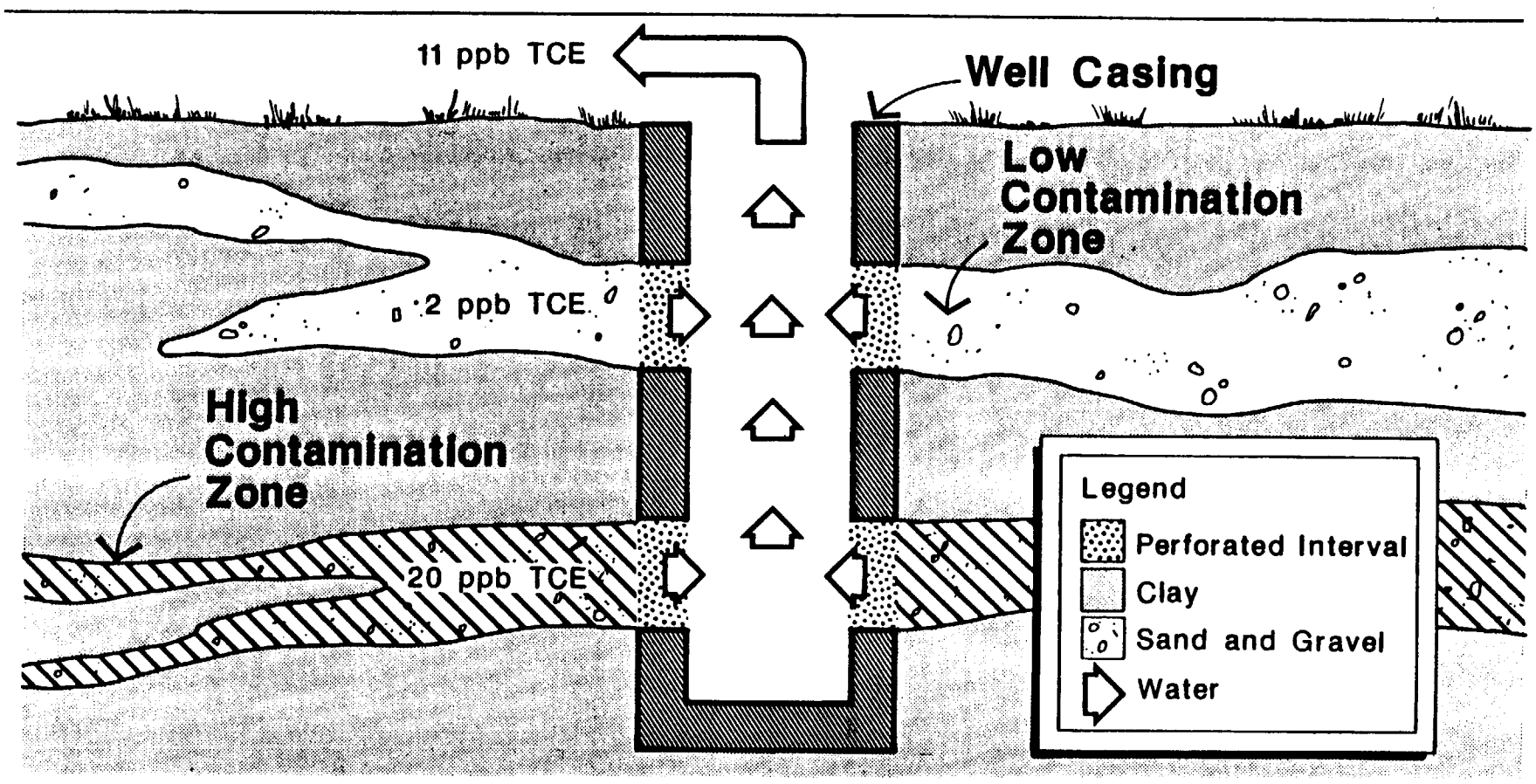
FIGURE 2-3
BARTOLO WELL FIELD
BARTOLO WELL FIELD OUFS

CURRENT AND PROJECTED CONTAMINANT CONCENTRATIONS AT BARTOLO WELL FIELD

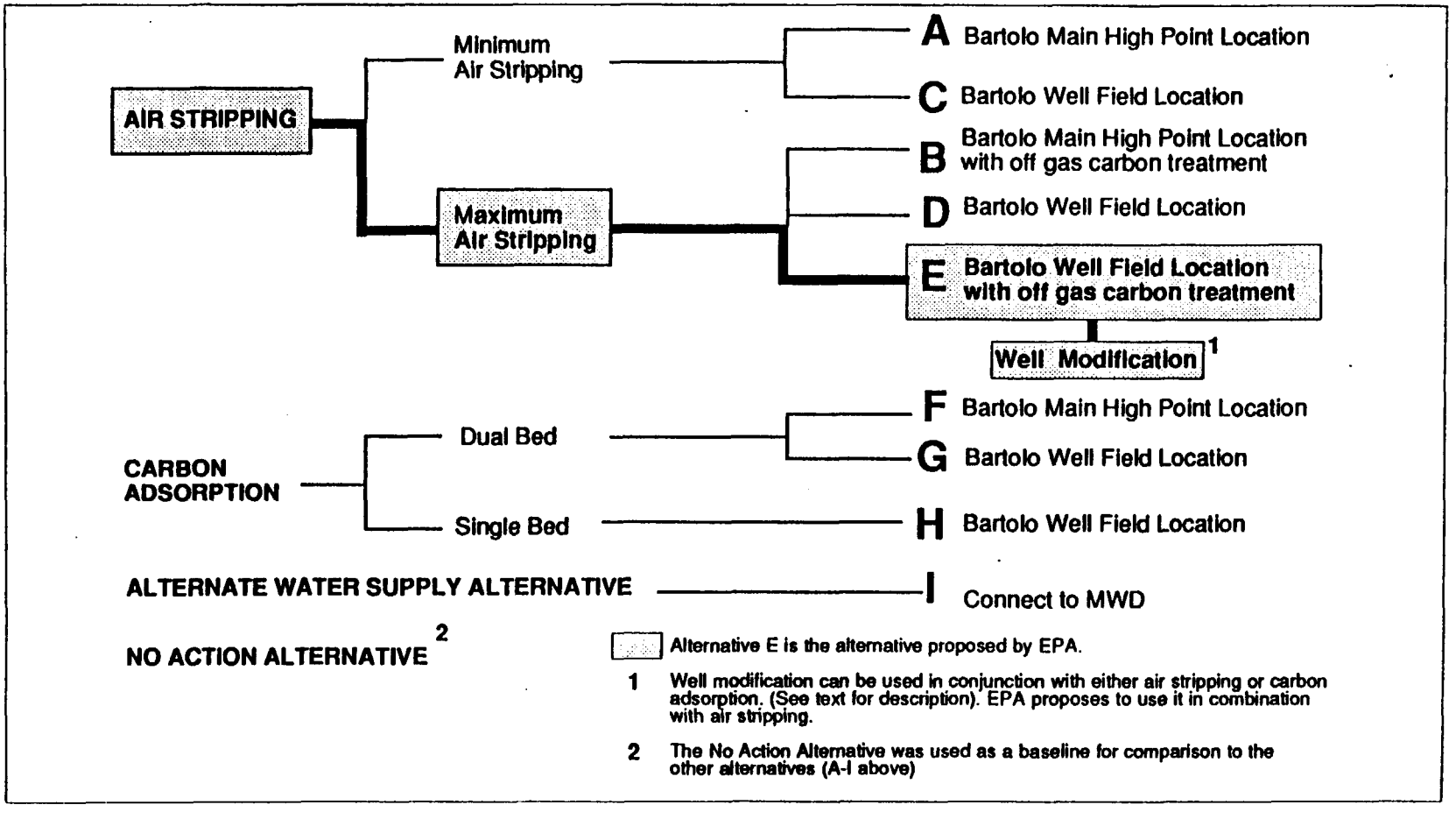
	Drinking Water Standard	Maximum Historical Concentration	Potential Future Concentration (0-5 years)	Potential Concentrations at Depth
Trichloroethylene	**5**	**5.8**	**17.0**	**54.4**
Perchloroethylene	**4***	**3.9**	**18.5**	**64.1**

****DHS Action Level; No Current EPA Standard***

WELL PUMPING WITHOUT WELL MODIFICATION



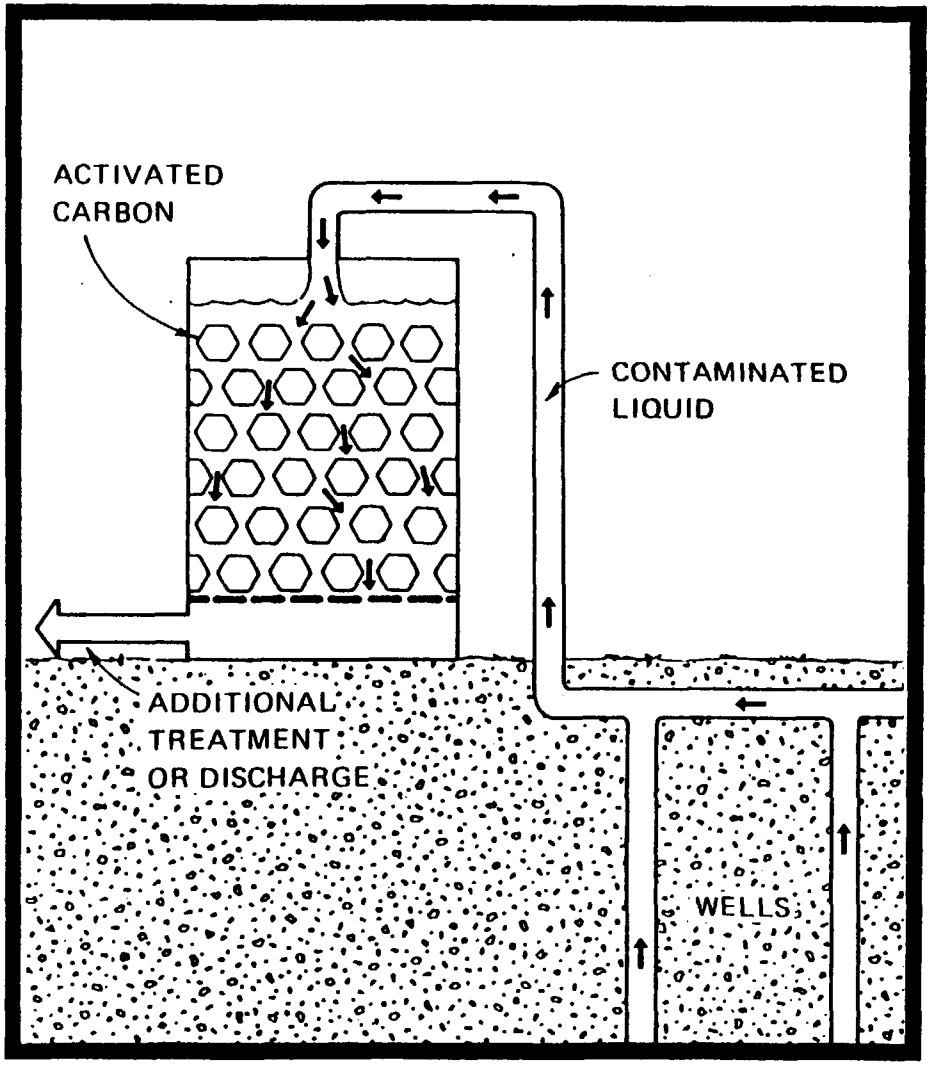
ALTERNATIVES FOR REMEDIAL ACTION AT THE BARTOLO WELL FIELD



ESTIMATED COST OF ALTERNATIVES

	ALTERNATIVE	COST*
A	Minimum Air Stripping at Bartolo Main High Point	$6,621,000
B	Maximum Air Stripping at Bartolo Main High Point with Off-Gas Carbon Treatment	15,209,000
C	Minimum Air Stripping at Bartolo Well Field	6,750,000
D	Maximum Air Stripping at Bartolo Well Field	8,397,000
E	Maximum Air Stripping at Bartolo Well Field with Off-Gas Carbon Treatment	15,266,000
F	Dual Bed Carbon Adsorption at Bartolo Main High Point	26,116,000
G	Dual Bed Carbon Adsorption at Bartolo Well Field	25,498,000
H	Single Bed Carbon Adsorption at Bartolo Well Field	23,609,000
I	Replace Bartolo Well Field Water Supply with Water from MWD	42,140,000
	Well Modification (In combination with one of the treatment alternatives, A-H, described above)	2,595,000

* *Includes Capital Cost and 30-Year Present Worth Operation and Maintenance Cost based on a Discount Rate of 5%*

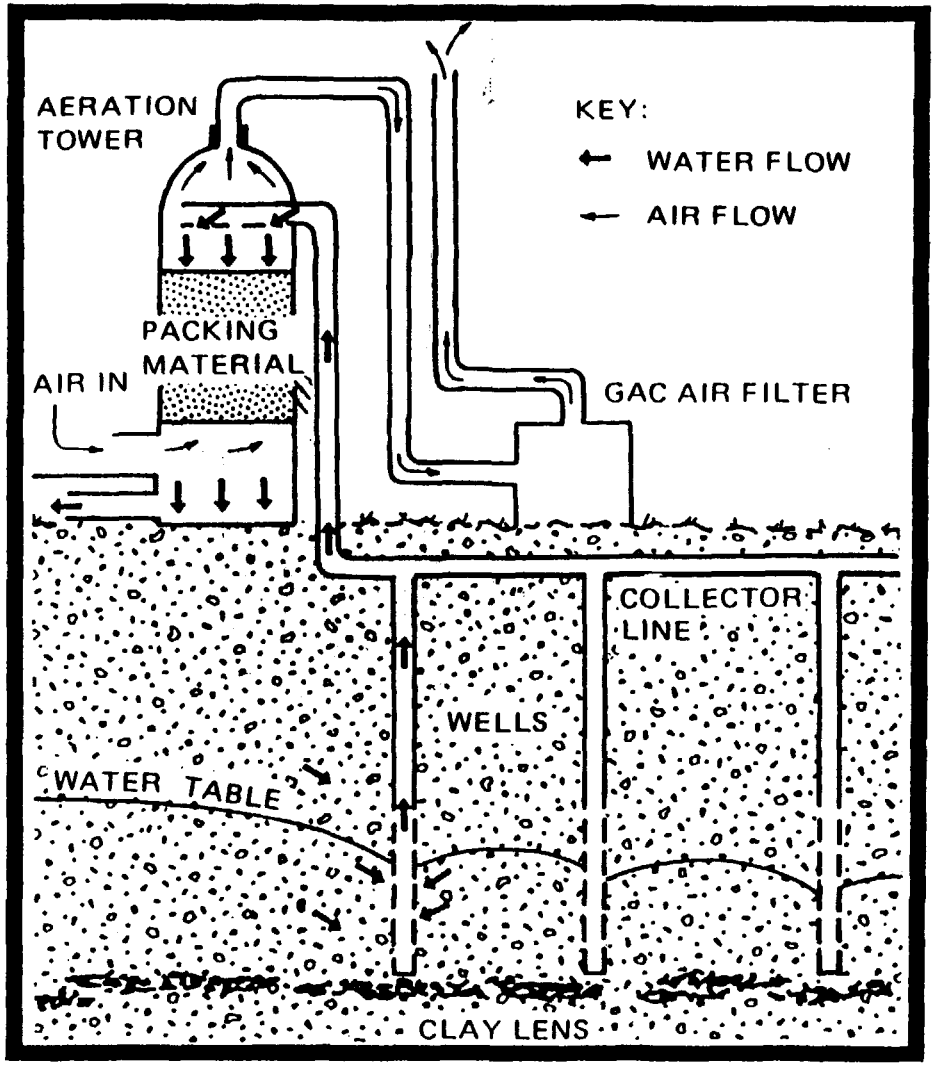


Typical Carbon Adsorption Treatment Facility

ALTERNATIVES CONSIDERED

	ALTERNATIVE	COST*
A	Minimum Air Stripping at Bartolo Main High Point	$6,621,000
B	Maximum Air Stripping at Bartolo Main High Point with Off-Gas Carbon Treatment	15,209,000
C	Minimum Air Stripping at Bartolo Well Field	6,750,000
D	Maximum Air Stripping at Bartolo Well Field	8,397,000
E	Maximum Air Stripping at Bartolo Well Field with Off-Gas Carbon Treatment	15,266,000
F	Dual Bed Carbon Adsorption at Bartolo Main High Point	26,116,000
G	Dual Bed Carbon Adsorption at Bartolo Well Field	25,498,000
H	Single Bed Carbon Adsorption at Bartolo Well Field	23,609,000
	Well Modification (in combination with one of the treatment alternatives, A-H, described above	2,595,000

* *Includes Capital Cost and 30-Year Present Worth Operation and Maintenance Cost based on a Discount Rate of 5%*



Typical Air Stripping Facility with a Granular Activated Carbon (GAC) Air Filter

ALTERNATIVES CONSIDERED

	ALTERNATIVE	COST*
A	Minimum Air Stripping at Bartolo Main High Point	$6,621,000
B	Maximum Air Stripping at Bartolo Main High Point with Off-Gas Carbon Treatment	15,209,000
C	Minimum Air Stripping at Bartolo Well Field	6,750,000
D	Maximum Air Stripping at Bartolo Well Field	8,397,000
E	Maximum Air Stripping at Bartolo Well Field with Off-Gas Carbon Treatment	15,266,000
	Well Modification (in combination with one of the treatment alternatives, A-H, described above)	2,595,000

* *Includes Capital Cost and 30-Year Present Worth Operation and Maintenance Cost based on a Discount Rate of 5%*

ALTERNATIVES CONSIDERED

	ALTERNATIVE	COST*
B	Maximum Air Stripping at Bartolo Main High Point with Off-Gas Carbon Treatment	15,209,000
D	Maximum Air Stripping at Bartolo Well Field	8,397,000
E	Maximum Air Stripping at Bartolo Well Field with Off-Gas Carbon Treatment	15,266,000
	Well Modification (in combination with one of the treatment alternatives, A-H, described above)	2,595,000

* *Includes Capital Cost and 30-Year Present Worth Operation and Maintenance Cost based on a Discount Rate of 5%*

South Coast Air Quality Management District
RULE 1167

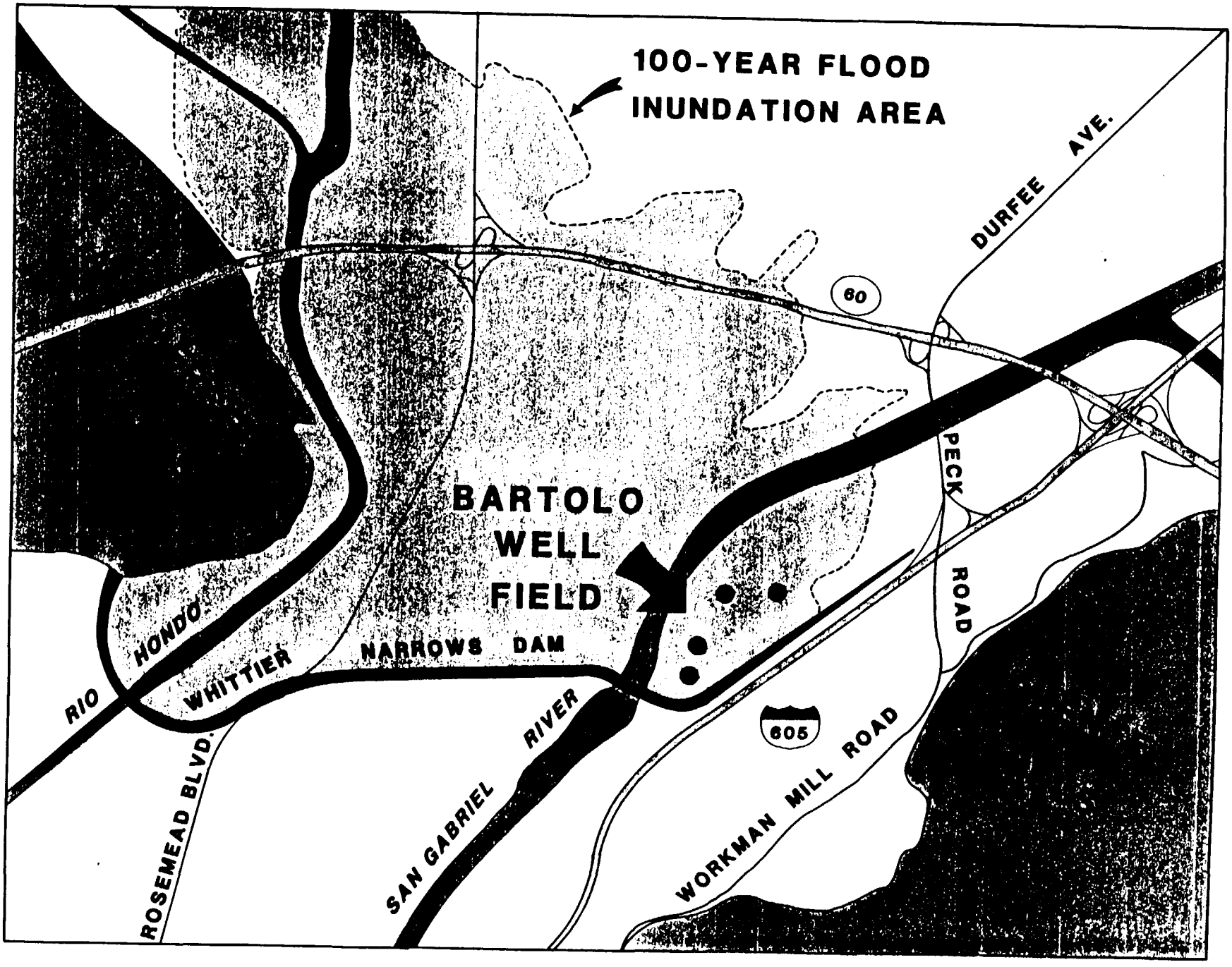
- **Air stripping systems with emissions of volatile organic compounds (VOC) to the air of greater than one pound per day:**
  - ***Require an emissions control system that reduces emissions by 90%***

- **Off-gas carbon adsorption treatment filters can be installed to comply with Rule 1167**

ALTERNATIVES CONSIDERED

	ALTERNATIVE	COST*
B	Maximum Air Stripping at Bartolo Main High Point with Off-Gas Carbon Treatment	15,209,000
E	Maximum Air Stripping at Bartolo Well Field with Off-Gas Carbon Treatment	15,266,000
	Well Modification (In combination with one of the treatment alternatives, A-H, described above)	2,595,000

* *Includes Capital Cost and 30-Year Present Worth Operation and Maintenance Cost based on a Discount Rate of 5%*

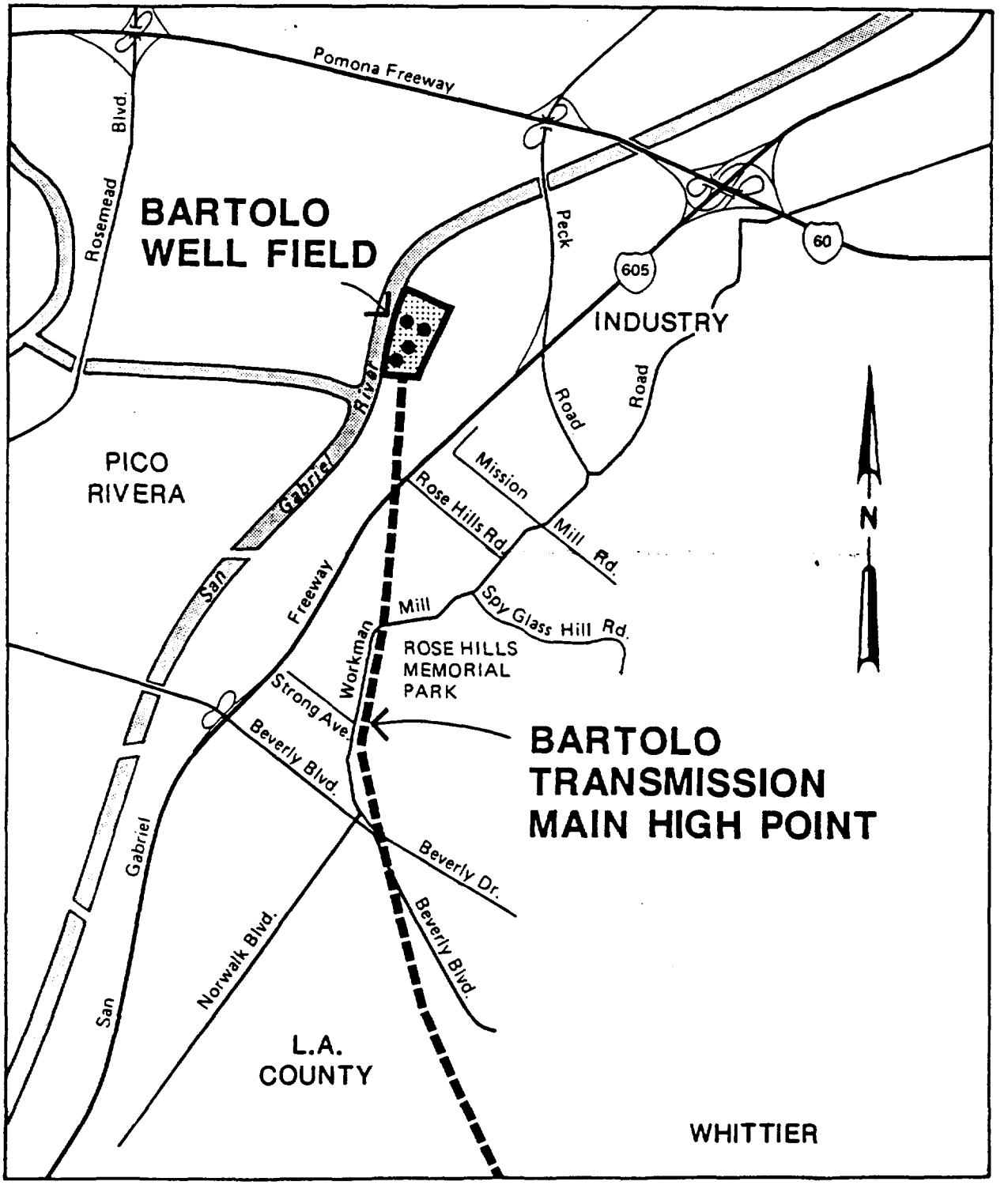

100-YEAR FLOOD
INUNDATION AREA
DURFEE AVE.
60
PECK
ROAD
BARTOLO
WELL
FIELD
HONDO
WHITTIER
NARROWS DAM
RIO
ROSEMEAD BLVD.
SAN GABRIEL
RIVER
605
WORKMAN MILL ROAD

FLOOD PLAIN ASSESSMENT

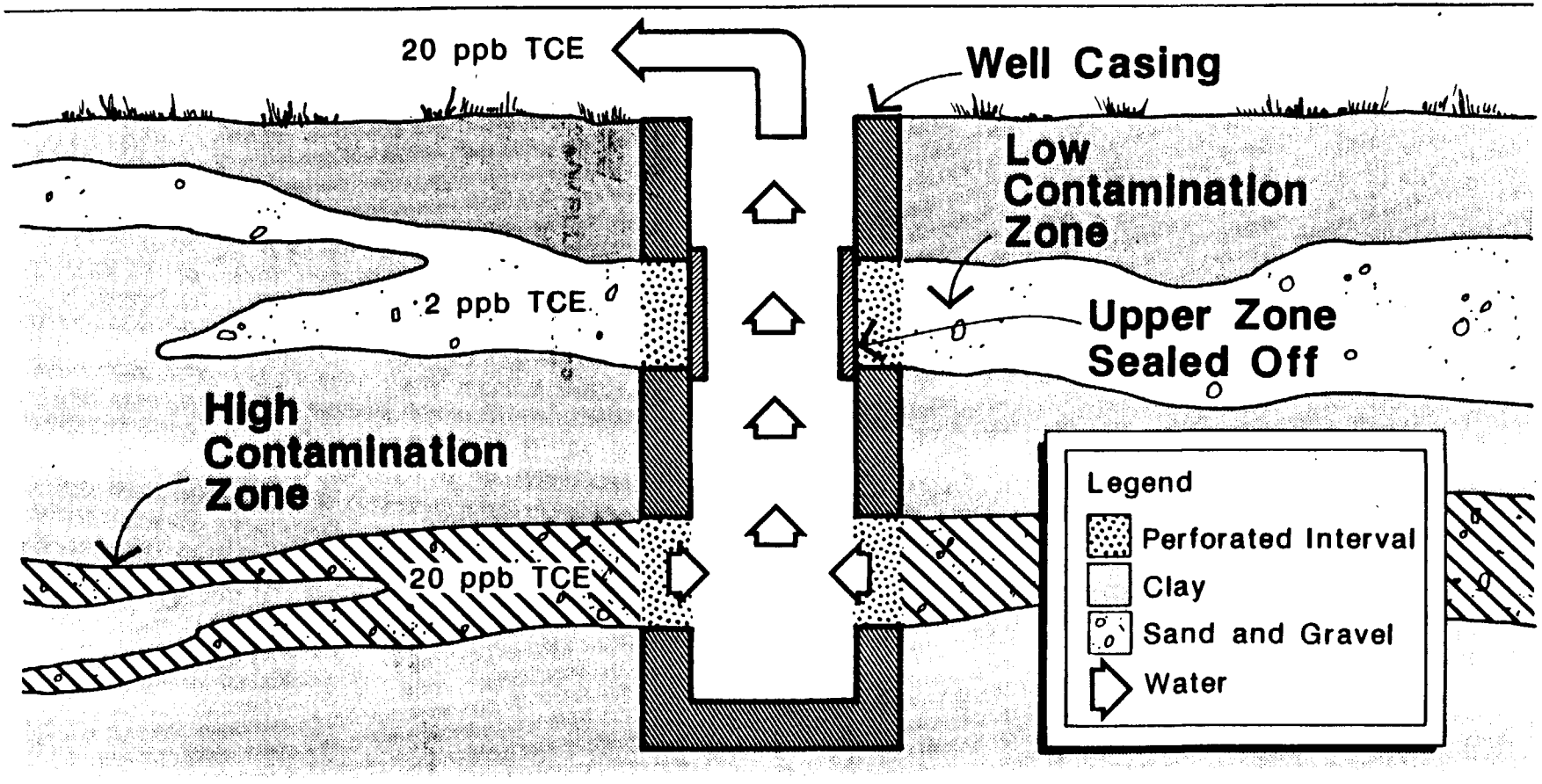
- **EPA Drinking Water and Flood Plain Management Regulations:**
  - ***Avoid construction within 100-year Flood Plain unless there is NO PRACTICAL ALTERNATIVE***

FLOOD PLAIN ASSESSMENT

- **ALTERNATIVE LOCATION**
  - ***Bartolo Transmission Main High Point***
- **REDUCING POTENTIAL FLOOD DAMAGE**
  - ***Maximum Flood Protection***
  - ***Partial Flood Protection***
- **LOSS OF TREATMENT SYSTEM USE**


Pomona Freeway
Rosemead Blvd.
BARTOLO
WELL FIELD
Peck
605
60
INDUSTRY
Road
Road
Mission
Rose Hills Rd.
Mill Rd.
PICO
RIVERA
San Gabriel River
Freeway
Mill
Spy Glass Hill Rd.
ROSE HILLS
MEMORIAL
PARK
Workman
Strong Ave.
Beverly Blvd.
BARTOLO
TRANSMISSION
MAIN HIGH POINT
Gabriel
Beverly Dr.
Norwalk Blvd.
Beverly Blvd.
San
L.A.
COUNTY
WHITTIER
N

WELL PUMPING WITH WELL MODIFICATION



PROPOSED REMEDY

ALTERNATIVE E:	COST
Maximum Air Stripping at the Bartolo Well Field with Off-Gas Carbon Treatment	$15,266,000
Well Modification	2,595,000
Total Cost of Proposed Remedy	$17,861,000
Capital Cost	$5,429,000
Annual Operating Cost	$809,000

APPENDIX E

PUBLIC MEETING TRANSCRIPT

M&M CERTIFIED COURT REPORTERS
Barrett • Dawson • Melman

CERTIFIED COPY

SAN GABRIEL VALLEY SUPERFUND SITES

SUBURBAN WATER SYSTEMS BARTOLO WELL FIELD

FEASIBILITY STUDY

COMMUNITY MEETING

Date and Time: Wednesday, July 13, 1988, 7:30 p.m.

Place: Whittier Community Center Theater
7630 South Washington Street
Whittier, California

Reporter: Mary Neal, Certified Shorthand Reporter
Certificate No. 6346

1630 E. Palm Street
Santa Ana, CA
92701
(714) 558-9400
(213) 637-3550

APPEARANCES

PHIL BOBEL, Chief, State Programs Section, Superfund Program, U.S. Environmental Protection Agency

PAULA BISSON, Chief, State Programs Section, Superfund Program, U.S. Environmental Protection Agency

NEIL ZIEMBA, Remedial Project Manager, State Programs Section, U.S. Environmental Protection Agency

RANDELL J. VOGEL, Executive Vice President and Chief Operating Officer, Suburban Water Systems

REGINALD A. STONE, Senior Vice President, Suburban Water Systems

TIMOTHY C. JOCHEM, Administrator, Safety & Emergency Services, Suburban Water Systems

July 13, 1988

Whittier, California

MR. BOBEL: Good evening. We will get started.

My name is Phil Bobel. I am with the Environmental Protection Agency in San Francisco. I would like to welcome you to this meeting on the San Gabriel Superfund site. Specifically it relates to EPA's proposed plan to pump and treat contaminated groundwater in the Whittier Narrows area.

The main purpose of tonight's meeting is really to get your input, your comments and your questions answered on our proposed plan to treat this contaminated groundwater.

Let me stress that no one is drinking water over action limits now. Our goal is to make sure that doesn't occur in the future and to prevent the contamination from continuing to move downgradient.

This blue sheet tells you what we're going to be up to. We're going to try to keep the Agency comments quick, but still give you enough information to really get your questions answered and then make comments on the proposal.

We're going to have an overview of the Superfund process by Paula Bisson -- this is Paula here --

with EPA. Then Neil Ziemba of our office also is going to give a detailed description of the proposed plan. Neil is over there.

Then we're going to have a representative of the Suburban company, the water company whose well field this project affects, give a short presentation as well.

Who was going to do that? I'm sorry. Randell Vogel.

After we do all of that, then we're going to get to the part we're really here for, which is answering questions you have about the project and taking public comment on it.

To take your questions, if you'd rather do it via a card, rather than stand up and ask the question, we have attached those white sheets onto the top of the fact sheets. So if you'd prefer to write your question down and ask it that way, Heather Stone, also from our office, will collect them.

You can do that any time as the presentation goes on and the question comes to you. You can just hold those up, and we'll try to come by and get them. Or you're more than welcome to just ask the question yourself and come up here and do that.

We're going to separate clarifying questions from comments to the extent that we can. You'll see on

the agenda that that's the last, but most important feature of the meeting is to get any comments you have on our proposal. If you think we should do it some other way, you don't like a piece of what we're up to, that's what we need to hear about.

We're actually in the middle or toward the end of a public comment period that ends July 22nd. So tonight is not your last opportunity to give us those comments. As long as they're sent to us postmarked July 22nd, we will be happy and ready to deal with them.

We've got a court reporter, as you've probably noticed, up here; so when you speak, we'd like you to give your name and an affiliation, if there is one that you'd like to give; and we'll get into that again when it gets closer to your time to talk.

Is everybody okay with the agenda and what we're going to be up to?

Good. We'll get into it then.

Our first speaker is going to be Paula Bisson talking about the Superfund process in general and as it relates specifically to this site.

MS. BISSON: Good evening. As Phil indicated, my name is Paula Bisson; and I'm also from the EPA San Francisco office.

The San Gabriel project that we'll be talking

about tonight is one of several projects that I work on in that office. For this it would help to have the first slide.

What I'm going to be talking to you about very briefly is the Superfund process, to sort of put in context why we're here tonight at this time talking to you.

The Superfund law, the law that is called Superfund, was passed by Congress in 1980; and that law gave EPA the authority to investigate and clean up sites that have been contaminated with hazardous waste, especially those sites that have potential public health impacts.

The first slide that we have shows the Superfund process, and I'll walk through that for you. Unfortunately you didn't get a copy of that in your package, but you will have a copy of all the other slides as we go through the presentation.

The groundwater contamination in the San Gabriel Valley was first brought to EPA's attention in 1983. Essentially that is the top box on the slide. That's when this problem was discovered in our terminology. This slide further shows what we do with the site after it's discovered.

The second box indicates that in order for us

to actually get involved and do alot of work on the site, we have to put it on the National Priorities List. That's what the NPL stands for. That's EPA's National Priority List or the list of the most hazardous toxic sites that would be addressed under the Superfund program.

So the four San Gabriel areas which you have seen on the map outside, in your fact sheet here and also later tonight were placed on the National Priority List in May of 1984.

What that allows us to do is once the site is put on that list is to spend Superfund money to investigate the problem. The first step, which we call the remedial investigation, is our attempts to find out what is there, what are the contaminants, how concentrated are they and how widespread are they, where are they located.

Our investigation began in 1985 with an initial sampling program; and that involved sampling numerous wells, which we're continuing today. So we're still in the investigation phase for the Valley as a whole.

However, we have enough information for this particular area; and Neil will present later some of the information that we have that allows us to move forward to the second phase for the Bartolo Well Field. That second

phase is what we call the Feasibility Study.

In the Feasibility Study we look at various options for cleaning up the contamination that we found. These various options are evaluated based on several factors that include things like the reliability of the technology that we're looking at; how well will it work in the future; the ability to construct the technology; how difficult is it to build what we're talking about; compliance with standards, various standards for drinking water, for air emissions; do the technologies comply with those; public health impacts from implementing the various technologies. Of course, we have to look at the cost of the various technologies.

This evaluation or Feasibility Study is the main purpose of our meeting tonight; and this is what Neil will be describing more in detail. The study does not cover the entire San Gabriel Valley. All we're looking at here tonight is the Suburban Water Systems Bartolo Well Field. So it's a very limited portion of the Valley.

Once we have prepared the Feasibility Study, the actual document, we will come to a very critical part of EPA's process. It's not delineated on the slide. The Superfund Law requires that we go out to the public and get public input before we make any clean-up decisions.

So that's the reason that we're here tonight,

to present the information that we're basing our decision on and to get your comments, which we can take into consideration before we actually make the actual decision.

We have already distributed the proposed plan, and that's the fact sheet that you've seen. As we told you, the public comment period opened on June 22nd. It will close on July 22nd, so you have until then to get comments into us.

The public meeting tonight will give you an opportunity to ask questions if there is something that isn't clear from the material we have provided to you; and it's also your opportunity to make oral comments, if you so desire, on the project that we have proposed.

As I said, you have through the end of the comment period, or through July 22nd, to make your written comments. You'll notice that on the first page of the fact sheet, we give Neil's name and address. That's where you can submit your comments if you'd like to submit some in writing after this meeting.

Once we have closed the comment period, we will consider all of the comments that you've given us in writing in what we call the Record of Decision. The Record of Decision is the document that EPA uses to formally select a clean-up remedy.

Once that's been signed, the next stages in

the process are to design the clean-up remedy that we have selected to implement that remedy. Then obviously in this case it will be operated for quite awhile in order to provide clean groundwater.

Now I'd like to turn it over to Neil to describe more of the specifics of this particular project.

MR. ZIEMBA: If would you switch to the next slide, please.

As Paula described, this is part of the larger project dealing with the contamination in the entire San Gabriel Valley. Just to give you a little background on the overall problem, this map shows the Valley bounded by the San Gabriel Mountains to the north with the Puente Hills, Merced Hills surrounding on the other borders. This map shows the areas of groundwater contamination.

This is the contamination by volatile organic compounds, the main ones being Trichloroethylene, TCE, and Perchloroethylene, PCE. These are solvents that are used in industrial processes. They're used as degreasers and in dry cleaners.

The area that is shown in red -- this is the large one up in Irwindale/Azusa -- is the area of highest contamination; and the levels there are above 50 parts per billion. That compares to drinking water standards for

TCE and PCE of 5 and 4 parts per billion. A part per billion is one part out of one billion, so it's an extremely small amount of contaminant in the water.

The green area then is the large area where wells are above drinking water standards. So the wells within the green area are generally above 5 or 4 parts per billion for those two contaminants.

Then the larger blue areas are just those areas in which traces of these chemicals are found in groundwater; but they're below the drinking water standards that have been established by EPA and the California Department of Health Services.

One of the things, the groundwater in the San Gabriel Valley flows towards the center of the Valley where the San Gabriel River is; and then it drains out through the Whittier Narrows Area and into a larger groundwater basin to the south called Central Basin.

Next slide, please.

This slide is a blow-up of the Whittier Narrows Area itself. We have the Merced Hills and the Puente Hills. Here is a different representation of the contamination just within that area. In this area the orange is the area in which wells are above drinking water standards. The yellow area is the area where it's in between where we find levels of contamination, but it's

not above standards.

The four Bartolo wells for Suburban are right here; and the concern is that the contamination upstream is moving in the direction of the Bartola wells.

Next slide, please.

As part of our overall project, we currently have three separate projects each addressing a portion of the overall problem. One project, the Richwood Water Company project in El Monte, involves a water company whose wells are over almost a hundred parts per billion of PCE, so well above the standard; and it serves about 200 families. For that water company we're going to start construction this summer of a treatment system for their well.

The project we're here to talk about today is the Suburban Bartolo Well Field. Then another project which we're working on now and we will have our Feasibility Study and proposed clean-up plan available next year is for the entire Whittier Narrows Area. The objective of that will be to control the spread of contamination through this area so that it doesn't continue to spread down into Central Basin to the south.

Next slide, please.

This is a map that is shown in the fact sheet. It shows the general location of the four Bartolo

wells. Here the water from those wells is put into a transmission main which then brings the water down to the Whittier Service District of Suburban Water Systems; and also some of the water goes into the La Mirada Service District as well.

Next slide.

This is an aerial photo of the area where the Bartolo well is. If you look, the well field is bounded by the San Gabriel River to the west and the San Gabriel Freeway to the east. It's just above the Whittier Narrows Dam. You can see the four dots are the location of the well field; so it's right within the plain alongside the San Gabriel River.

Next slide.

This is just a picture of what that area does look like.

Next slide.

This is a picture of what one of the well facilities looks like now. As I said, there are four of them dotted in there with the water coming out through the pump there and then inside the building is the motor for the pump.

Next slide, please.

This slide here gives you an idea of the problem in that it shows the levels of TCE over the last

eight years since contamination was first found in the Valley back in 1980. This is between basically zero and one part per billion. It has always been very low, which compares with the standard of 5. But just within the last year and half to two years, we see it begin to rise.

In one of the four wells last November it did go above the standard for TCE. That's not the case in the other wells up to now. So that the water that is being delivered right now is still below the standard; but we feel that as time goes on, these levels will continue to rise, so there will be a problem in the future.

Next slide.

This table here gives you an idea of the problem as we project it. We show the drinking water standard and TCE and PCE at 5 and 4. Up to now the highest levels ever found in the wells are 5.8 for TCE and 3.9 for PCE. But based on the level in wells upstream of the Bartolo Well Field, we project that within five years the levels could get as high as around 17 or 18 parts per billion.

In addition these wells are very deep. Some of them are 600 feet or more. Generally what we find in situations like this is that at different depths the level of contamination is different. Based on some testing we've done within specific depths, we feel that the

contamination at a particular depth may have a maximum of 50 to 60 parts per billion as well in the future.

Next slide, please.

So with that being the problem, we then looked at what are our alternatives to deal with it. If you look at it here, we basically have two main options. One is to either treat the water; and for that there are two treatment systems to look at -- air stripping and carbon absorption. I'll explain each of them in more detail later.

The other option is to stop using water from the Bartolo Well Field and obtain water from the Metropolitan Water District of Southern California, which would be imported surface water from either the Colorado River or from the California State Water Project.

The other alternative, the No-Action Alternative, was ruled out based on our rejection of the potential problem in the future.

Within the two treatment system alternatives, there are then kind of sub-alternatives, different types of systems we could do based on where do we locate the treatment system, whether or not we put controls to control air emissions from the treatment systems or as well as the way we design the system to remove what level of contaminants to remove to. I'll go into that in more

detail.

Next slide, please.

This chart here shows the recall cost of the alternatives. It's actually in the fact sheet, so if you don't have one, you can get one out front later so you can look at it in more detail.

The point I want to make right here is looking at Alternative I, which is replace the water supply from Bartolo Well Field with surface water from the Metropolitan Water District, we see that the cost for that at 42 million is almost twice as high as any of the treatment system alternatives.

Therefore, we ruled that out based upon both the costs and the fact that that alternative would do nothing to remove the contamination from the groundwater.

Next slide.

Now, I'll talk about the treatment system alternatives. First, the carbon absorption system. How that works is we would have that vessel, and it would be filled with granular activated carbon, which you can think of as kind of like charcoal.

This carbon has the ability to attract the contaminants. The contaminants would stick to the carbon. So how this treatment system works is that water is pumped from the wells to the top of this vessel and then flows

through a bed of carbon and comes out of the bottom; and basically the contaminants stick to the carbon as it flows through and what comes out at the bottom is clean water.

Over time eventually you can think of the carbon as becoming filled with contaminants and it loses the ability to attract different contaminants; so you have to come in, pull out the carbon that's been in there and put in fresh carbon. The old carbon then has to go to either regenerate it, which one method is to burn off the contaminants and reuse the carbon, or it would have to be disposed of in a landfill, hazardous waste landfill as well because of these chemicals sticking to the carbon.

Next slide, please.

This is just a picture showing what a carbon absorption facility would look like; and here we have the large tank. The water would then flow in up at the pipe at the top. Then what came out at the bottom would be clean water.

Next slide.

This is a picture of what it would like in terms of changing the carbon, which could occur, say, every six to twelve months for the carbon facility or more, depending on your level of contamination.

Basically a vacuum truck would be pulled up, and you would pull out the old carbon that was in the

vessel; and then another truck would come in with a fresh load of carbon and you would use a hose to get that into the facility.

Next slide.

In looking at the carbon we have three different carbon alternatives -- F, G and H. Basically the difference between them is, one, where they're located. We have two different locations. And also how the system is actually designed, the detail and design.

In looking at the cost of these alternatives, we see that here the cost of the carbon alternative is generally at least almost twice as high as any of the air stripping alternatives, which is A through E.

The air stripping treatment system is just as efficient as removing these contaminants; so, therefore, since you don't get anything additional from the carbon absorption system, we ruled those three alternatives out in proposing our plan.

Next slide.

Here to describe now the remaining group of alternatives, which are the air stripping alternatives, how air stripping works is the water would be collected from the wells, pumped to the top of the air stripping tower, which could be as high as 40 to 45 feet. It's then sent down through -- and these towers can be about 12 feet

in diameter -- and it's sent through a packing material. We have like 20 or 30 feet filled with packing material, which are generally small pieces of plastic of odd shapes.

What this does is it breaks up the water; and at the same time the water flows down, we have air blown up through the tower. What happens is this operation basically allows the contaminants to evaporate into the air so it comes out at the top of the tower. It is an air stream with the contaminants that have been removed from water.

Now, in some operations that is vented directly to the atmosphere. Then with the additional dilution in the atmosphere, it reduces the levels that would end up in the air. But in some systems the air emissions are controlled. If that is the case, it would then be sent out through a pipe at the top and directed down to a carbon filter.

This would be similar to the other system in which you have a carbon filter and you pass the water through it. In this one you just pass air through the carbon. Again the contaminants are attracted to the carbon and cling to it. Then the air that's now clean would then come out through and vented through a stack from the carbon filter.

Next slide.

Here are some pictures of some air stripping systems in operation. Here is an air stripping tower that is located in Washington. We have a pair of towers. Here is a pipe. You see how the water is going up to the top. The water flows down while air is blown up. What comes out here is the cleaner water. Then the air in this one is vented directly to the atmosphere.

Next slide.

This slide shows a system where the air emissions are controlled. It's not a very good picture, but you can see it comes down out the top, and it's vented down through a pipe, which then enters into these, which are the two carbon filters, and goes through the carbon filters. The contaminants are removed, and then it's vented out through those stacks.

Next slide, please.

So we were left with these five different alternatives, all different combinations of air stripping alternatives. One of the differences between these alternatives has to do with the efficiency of removal, how much the contamination system could remove.

We have two options there, which we call minimum and maximum. The minimum air stripping design is designed to remove just enough contamination so that the water that came out the bottom would just meet drinking

water standards, so basically 5 parts per billion TCE and 4 parts per billion PCE.

The maximum air stripping design is designed to remove a greater amount of the contaminants so that the water that comes out of the bottom will essentially have less than one part per billion of the contaminants.

The difference physically in the design generally would be in the level of packing. So that, for example, the minimum design may have only 20 feet of packing through which the water would flow, while the maximum may have 30 or more.

We have looked at those two, and when you compare them, it's about a 15- or 20-percent cost difference in going with the maximum design. Because of the uncertainty in the level of contamination that we may find within the Whittier Narrows and the need to control the contamination, we have decided to propose to go with the maximum design. So because of that, we have ruled out Alternatives A and B, which are the minimum design.

Next slide, please.

So of the three alternatives that we have remaining, one difference between them is whether or not they have air emissions control. Alternatives B and E have air emissions control; Alternative D does not.

Next slide.

One of the requirements of the Superfund Law is that our actions meet federal and state environmental requirements. When we were doing this Feasibility Study and preparing our proposed plan, the South Coast Air Quality Management District had passed a law in the last half year or so that required air stripping systems that were to emit more than a pound a day of these chemicals to put air emissions control. The system that could be used was the carbon absorption system that I described.

Because of that fact that this requirement was going to go into effect in December, to meet that requirement we proposed the air emissions controls. Now, we have recently become aware of the fact that there was a court challenge to this rule. Recently a judge apparently ruled that the South Coast District must prepare an environmental impact report before this rule can go into effect.

Because of that, there is no existing requirement right now, and so they're not required to meet it. Therefore, our decision to put air emissions control will be based on the public health and environmental risk posed by those emissions.

We welcome your comments tonight as well as in the rest of the public comment period on that issue of whether we should put air emissions control on the system

even in the absence of this applicable rule here.

Next slide, please.

Anyway, in terms of when we put the proposed plan together, this rule appeared to be going into effect, so we determined that we should treat air emissions; and we're left with Alternatives B and E. The difference between them has to do with their location.

Next slide.

The reason we looked at different locations is shown in this slide. Here we show the four Bartolo wells, and here is the Whittier Narrows Dam. What is shown in here shaded in blue is called the 100-year Flood Plan. What that means is the area in which in any year there is a 1-in-100 chance that flooding would cover that area. Or another way of looking at it is over a 100-year period, you would expect at least once that that area would be inundated by a flood.

So because of that, it appeared if we put the treatment system right where the wells are, which is the logical location of the site for the treatment system, there could be a potential problem with the flooding of the system.

Next slide.

EPA has some specific regulations that apply in this situation. There are both drinking water

regulations and general floodplain regulations. Generally you can sum up the requirements in that EPA should avoid constructing anything within the 100-year floodplain, unless there is no practical alternative.

Next slide.

Because of that, to comply with the rule, we prepared what is called the Floodplain Assessment, and it's done as part of the Feasibility Study. One of the parts of it was to look at was there another practical alternative. So we looked at any alternative location.

Next slide.

That's shown on here. In this slide we show where the Bartolo Well Field is. Another logical place to put the treatment system in would be along the transmission line that takes the water down to the City of Whittier. So if we go south to the Whittier Narrows Dam -- and there's actually a high point, a rise, at which the transmission line is going through. So it makes sense to look about locating a treatment system right at the top of the hill so after the treatment we don't have to pump the water back uphill.

In that location we identified an area that we call the transmission main high point site. It's near the intersection of Strong Avenue and Workman Mill.

Next slide.

This slide shows what that area and what one potential location looks like. We haven't actually identified a specific piece of property, but this is one potential area. Toward this area it's undeveloped. Also then up in this area we have Rose Hills Cemetery. On the other side it's a developed area.

Back-up the slides.

Because of that, with the transmission main high point site, there were two main disadvantages we saw with the site. One has to do with the fact that we don't actually have the property identified and acquired up to this point. The well field site is owned by Suburban Water Systems, so we can design the plant and go ahead and build it there. But for a high point site, first we would have to identify the specific location, then acquire that property before we could begin design and construction.

We felt that this delay was a serious problem due to the fact that we see the levels in the well rising, and we feel that action needs to be taken.

Another disadvantage is the fact that the high point site is a developed area, and there are residential areas nearby. So there will be several impacts from the facility. One would be visual impact of 40-foot towers or so sticking up in the area, as well as there would be potentially some noise from the pumps and

air blowers. So we saw that as a potential disadvantage. Because of that we felt that that alternative may not be practical.

Therefore, in going back to the well field site, we looked at what we could do to minimize the damage during a flood. There were two options. One, which we called maximum flood protection, would have involved building the treatment system up on basically a large mound. That would raise it above the level at which you would expect a flood.

This would add a significant cost to the project, as well as some delay. Also there is a potential problem of insuring that what we do does not increase the flooding nearby. So, therefore, we looked at more parts of flood protection measures, which might elevate the more sensitive equipment, such as the electrical motor controls. Perhaps in designing it so, the sensitive equipment could be removed upon warning in a flood.

The other issue that we looked at, the other concern was if a flood did occur and the treatment system had to be taken out of service while whatever repairs or maintenance had to be done before it could start up again, would there be a loss of water supply?

In discussions with Suburban Water Systems they have identified that they do have some alternative

sources that they could go to for the short term where we could perhaps have a treatment system out of service perhaps four to six weeks after a flood of say a 100-year level that inundated. But it appeared that they would be able to continue to supply water.

Therefore, based on that, we decided to propose the treatment system at the well field site with the partial flood protection measures.

The second part of the alternative, the proposed plan we've made, is something that could be done in conjunction with any of the treatment system alternatives. We term it well modification.

If you go could foward to that slide, please.

To explain that, let me first explain to you how the well is actually working. This diagram shows, as I said, some of the wells are as deep as 600 feet. Generally they don't take water from all the depths. You'll have a steel casing. Then at various intervals, or perhaps 50 feet or so, the casing would be slotted, and you would pull water in.

So here is an example to give you of what might be happening out there where you might have one zone that has lower contamination. As an example, we say we have two parts per billion of TCE. And then maybe you have another zone that you're drawing water from that is

20 parts per billion. And it's mixed, so what you get at the top is a mixture at a concentration somewhat in between these two levels.

What a well modification would entail, the purpose of it would be really trying to find the more highly contaminated water so that we use our treatment system to remove a greater amount of contamination area.

How that could be done, one method would be to seal off the well at the zone of lower contamination. So now when we pump the well, water is only coming from this zone, which has a higher level of contamination. So what comes out of the well on top is the higher level of contamination.

In looking at the treatment system design, we would use our estimates of what the levels might be in the high contamination zone in terms of designing how large should our treatment facility be. What this allows us is, as I said, we remove more contamination and this makes it more consistent with our overall goal in the San Gabriel Valley, and particularly in the Whittier Narrows Area, of beginning to remove the contamination from the groundwater and stop the spread of contamination. So that's what this would involve.

In actual implementation, what we would have to do is before we design anything, we would have to go

out and do tests of Suburban's four wells, as well as perhaps drill a monitoring well nearby to try to identify at what depths do these higher contaminations occur. Once we find out where that happens, we would then make a determination of, one, whether it is feasible to do this to modify the well to extract from that zone.

What we might find is perhaps there is not much difference between the different levels, in which case it won't help us much to modify the wells; but we hope that the testing will show that it is possible, and then we would go and design some specific modification such as this, or we would perhaps drill a new well specifically within the contaminated zone to draw that water in.

Next slide.

We have decided that that is consistent with our overall goals in San Gabriel Valley so that our proposed remedy overall is Alternative E, which is the air stripping system at the Bartolo Well Field with the carbon air emissions control and also with the maximum level of treatment design. So that would remove the greatest level of contamination.

We also proposed to incorporate well modification as well if it appears to be possible after our additional testing. The total cost of the remedy as

outlined here is approximately 17.9 million. The capital cost to actually construct the facility is about five and half million. Then once that facility is in place, the annual operating cost will be about 800,000. The bulk of that cost would be electricity to run the pumps and blowers, as well as the cost to replace the carbon in the air emissions system that periodically would have to be replaced when it becomes filled with contaminants.

That's my presentation. Thank you.

MR. BOBEL: Thanks, Neil.

The next presentation that we have is from Suburban Water District. Randell is going to do that for us.

MR. VOGEL: Just a few brief comments.

I'm Randell Vogel, Executive Vice-President, Chief Operating Officer for Suburban Water Systems.

As you've seen, the four wells located in the Whittier Narrows area next to the 605 Freeway are the primary source of water for the 18,000 customers in Whittier and at times even can serve water to an additional 13,000 customers in our La Mirada area.

In 1981 we started picking up contamination in some of these wells, primarily the VOC contamination, Trichloroethylene and Perchloroethylene. It was gradually increasing to a point where we felt we needed to develop

some contingency plans in case the contamination continued to increase, because we did not want to face the situation where the wells would increase to a point where they may exceed the MCL level of contamination.

We hired Brown & Caldwell, which is an engineering consulting firm, to look at all the alternatives and to make a recommendation to our company as to what we should do about the contamination in these wells.

They did look at all the alternatives. They came back to us with their recommendation, which was based upon the best available technology today, that we should build an air stripping facility. That facility has been designed by us, and we were prepared to build it whenever it was needed.

We also looked around for alternative funding, because, as you have seen, this facility tends to be very expensive. We talked to the EPA, and they said yes, we would consider funding and building this facility; and that's why we're here tonight.

MR. BOBEL: There you have our presentations as to what we're up to and what the proposed plan is.

What we would like to do next is collect questions from you. What we propose to do is take a short break. It says ten minutes on here. Why don't we take a

five-minute break and get any questions that you want in writing and let us assemble ourselves up here to answer them.

We'll take a five-minute break.

MEMBER OF THE AUDIENCE: Do you want our names on the card for the questions?

MR. BOBEL: It's not critical. We will take oral questions, too. If you'd rather do it by just asking us a question, that's fine. If you'd rather pass them to the center or give them to Heather, that would be good, too.

Five minutes. Thanks.

(Recess taken.)

MR. BOBEL: I'm going to ask Paula and Neil from our office to join me at the table to take your questions. Also we're going to ask Reginald Stone and Tim Jochem from Suburban to help us with some of these.

We'll take the questions on the cards first. Then we'll open it back up to people that wanted to ask them themselves.

We had a couple of questions that had to do with the source of the orignal pollution.

One person asked, "What can be done to stop the original source of the contamination?"

Then another person asked, "Is the source of the contamination known? Is it now stopped or controlled,

or is this a continuing problem?"

Then another person asked, "Are the sources of contamination being cleaned up?"

Another one just came in. "What about the source of this contamination?"

So there is a lot of interest about that. Neil, are you the best one to address those?

MR. ZIEMBA: I can a say little about the sources. One, these chemicals are widely used. For example, PCE is commonly used in dry cleaners. It is also used in many industrial processes, both larger electronic firms or aerospace firms as well as small corner metal shops would use these chemicals. So they're widely used. We're probably talking about a thousand or more companies that use these chemicals throughout the Valley.

The amount of chemical that needs to be spilled and get into the groundwater to create a problem is extremely small. Because we're talking in the range of 5 parts per billion or so, just spilling one gallon on the ground and having that get down can contaminate millions of gallons of water.

So what we found is we have done some looking at the different solid users out there to see who made the sources. The Regional Water Quality Control Board has a very active investigation to find the sources out there.

To kind of characterize what we've seen up to now is this problem is probably due to a hundred or more different sources. The Regional Board is actively looking in two areas now, La Puente and El Monte. When they find the sources, they basically require the companies to begin investigating and find out what the extent of contamination on their site is and then take action to clean it up.

It might be if they have a leaking tank, first stop that leak and then take a look at removing the contaminated soil. That's ongoing, but it is a very large project, because we're talking about hundreds of facilities. We're hoping to increase the Regional Board's investigation by funding them, as well as some work we're doing by ourselves. It's clearly a multi-area effort to find all the sources.

The specific source of contamination at the Bartolo Well Field is even more of a problem in that it's probably not due to sources nearby, say within a quarter of a mile or a half mile of the well. But what it appears to be is the leading edge of the contamination that has traveled from the upstream sources.

I showed you the area in Azusa and Irwindale where really high levels are. There is a similar area up in the Puente Valley, in the City of Industry; and El

Monte has an area like that as well. There is evidence that we believe that it's actually the contamination from those areas which has now traveled four, five or even more miles to hit the Bartolo Well Field.

So as far as the specific sources, we don't know the specific sources for those wells; but clearly it's probably a combination of dozens of different sources. Action is beginning to be taken by ourselves as well as other agencies to try to find them, but it will be a very long-term effort to find them.

MR. BOBEL: We have got a couple of questions that deal with the relationship of this water company to others.

"Is the water from the San Gabriel Valley Water District affected? Is it planned to have other water companies in the same area tied into this facility? Or will it only serve the Suburban Water Company?"

MR. ZIEMBA: The answer to that one is this facility is specifically to serve Suburban. It's that particular well field, those four Bartolo wells which are owned by Suburban and used by Suburban to supply water.

As far as other wells that may be contaminated, we would look to treat those wells in other projects. I mentioned the one with Richwood Mutual Water Company and a third one we have planned in Whittier

Narrows. We will look at all wells that are within that Whittier Narrows area. That encompasses several water companies.

Actually, perhaps, Reg, you could better explain this.

MR. STONE: The question about the San Gabriel Valley Water District, is that the San Gabriel Water Company, whoever had that question?

I can only assume that it probably is.

They right now are in the same position we are in. They are serving water that does meet the levels. They face the potential and they are vulnerable. So in that respect, they do fall into that category. It would probably fall more under the Whittier Narrows Feasibility Study, which is following ours.

As far as other water companies we have out of that same facility, we do have the California Domestic Water Company, which is a mutual water company; and we do have the facilities whereby we can take water from California Domestic and we can, in turn, supply water to California Domestic Water Company for use to their customers.

MR. BOBEL: There are several questions on cost.

"What is the projected consumer cost per cubic foot?" That's the way the question came in. "What

will it do to our water bill?"

MR. STONE: I can give it generally. I can't be specific, because we don't know until the Record of Decision comes out and we have the remedy and we know just exactly what is going to be constructed.

As far as the effect on the water bill, it is directly related to those costs that Suburban would have to seek financing on its own and then go to the Public Utilities Commission and request rates.

So if the Superfund goes through and is constructed by EPA, then we're not looking for any great impact to our Whittier and/or La Mirada customers.

MS. BISSON: Actually just to let you know how the Superfund Law is worded and then also what we've done in a similar situation, the law is worded that the State must assure the operation and maintenance of the facility, which means EPA is involved in paying for 90 percent of the operations for up to ten years.

Obviously this thing may be needed longer than ten years; and beyond that time it's up to the State. In this case it's the Department of Health Services that is the lead agency within the State to assure that the treatment system will be operated beyond ten years.

We are just starting to talk with them about this, and we don't know what arrangements might be worked

out here. The only thing that I can give you for comparison is we put in a similar system in the North Hollywood area that is right now being constructed; and that would be in the San Fernando Valley.

The agreement that was worked out between EPA, the State Department of Health Services and the Los Angeles Department of Water and Power, which is the water supplier there, is that EPA will pay 90 percent of the construction cost. The State has assured that they would pay 10 percent of the construction cost, so that gives us the whole construction cost.

Then the Department of Water and Power has assured that they will pay any portion of the operation and maintenance costs that is involved. So, as you can see, in that particular case that would have been passed on to the customers. We don't know what that cost is. It's a totally different cost than you'd be involved with here, because it's a much different sized facility. But at least it gives you some idea that the construction costs have been covered by other than the people who are drinking the water; but a portion of the operating costs may have to be paid by people who are being served.

MR. BOBEL: One person asked, "What about the increased air pollution from this project?"

MR. ZIEMBA: As I said, with the air stripping

system, it does involve and can involve emitting all of the contaminants removed from the water to the air. As we have put in our proposed plan, we propose to put some controls on the emissions and would basically reduce the levels by about 90 percent.

If we get these projected levels that we think may happen in the water when the plan is running at full steam, you could have perhaps five to ten pounds a day. So when you put the controls on it, it would be less than a pound a day of these contaminants. Just as a comparison on overall air pollution, some things such as a dry cleaner would emit much more than that.

If we do it as proposed, we will be reducing it to the extent we can with available technology. Though that again is one of the things I brought up is that now it appears there may not be a regulation requiring us to do it.

So that is one thing you could comment on is whether we should actually control the emissions to the extent we can with the carbon system, because we would have to look at what is the overall impact of those emissions before we decided whether to use the controls or not.

MR. BOBEL: We can get one comment rather than a question that we should install that carbon treatment

system regardless of whether it is an official requirement of South Coast.

I'd like if the person that said that during our comment period, which is coming up, would make that comment and give us their name. We are going to need to have that as an official comment.

Now related to the location of the air stripping unit, "Why don't you propose the air stripping facility be built where the chlorine treatment facility is now? That area does not appear to be in the 100-year flood plan."

MR. STONE: That particular site was looked at as a possible alternative. The reason that it was is we do not own the land where that chlorine facility is located. We lease that portion of land from the U.S. Army Corps of Engineers. That is information that they are aware of; and as we do get further along, an alternative may come up again to be considered. That was the reason.

We own the land north of the dam and lease that portion where our chlorination facility is just south of the dam.

MR. ZIEMBA: I might add a little to that. In Suburban's initial study that Brown & Caldwell did before we got involved, that was the primary reason they did not look at that area.

When we looked at it, we did again re-examine that area, and one of the reasons that we ruled it out was the fact that there are power lines in the area. And with the air stripping towers we are talking about a 40- to 45-foot facility there; and it would be very difficult to construct it right in a smaller area with overhead power lines nearby. So that is one of the major reasons why we did not use that as an alternate location.

MR. BOBEL: Neil, could you just explain where the chlorine treatment facility is relative to the well field, relative to the high point site that you referenced.

MR. ZIEMBA: It is on the one aerial photo. Basically you have the well field. Just below the well field was the Whittier Narrows Dam. The chlorination facility was just to the south of the dam. So far north of where the high point is. The high point is farther down, perhaps a mile or two towards the City of Whittier.

I don't know if it was in the package or not. Yes, it actually is. You have the package that was here was this photo. It's kind of dark. Where it would located on it is just below the dam. You can't read it. It's hard to read it, but that is where the chlorination facility is just to the south of the dam.

MR. BOBEL: We did have one person submit what is really a comment that we should not locate this at what we

call the high point plant. Again, if that person wouldn't mind, it would be great to take that as a comment.

The question was have we eliminated that? No, not completely. It's not the proposed plan, but it would be important to submit to us as a comment that you don't want the high point site and your reasons, so that if for some other reason in the future we are forced to reconsider that high point site, we've got your comment on the record against it.

Back to the pollutants involved, one question was, "What does the contamination do to the human body? What is the effect of these particular contaminants on the human body?"

MR. ZIEMBA: Well, there are two things. Let me first say that these contaminants at very high levels can actually cause a number of problems -- liver damage, kidney damage. But at the levels we're talking about -- we are going to have some questions after we finish.

MEMBER OF THE AUDIENCE: I want to know what you consider a high level.

MR. ZIEMBA: Part-per-million range. So roughly 100 to 1,000 times higher than what we're talking about in these wells. At the levels we see in the wells in the general below 50-parts-per-billion range for these compounds, the primary concern is the effect of long-term

exposure over a long period of time; and the concern is that these compounds can, if you do consume them over a long period of time, increase the risk of contracting cancer.

To give you an idea of what level that risk is, at a level of PCE of perhaps one part per billion based on animal tests, there are some estimates that perhaps if you had a population of a million people who drank water of PCE at one part per billion, and they drank it over their lifetime, that perhaps one person in that group of a million would contract cancer due to exposure to that chemical.

So we're not talking of an extremely high risk in that if you're exposed to this, you would assume that yes, you're going to get cancer; but over a large population being exposed, there is an increased risk.

MR. BOBEL: Thanks, Neil.

I'm going to need some help on this question.

You say, "Explain your statement 'funding and building'."

Could you elaborate on that?

MEMBER OF THE AUDIENCE: A statement was made on cost of the equipment and so forth. I think Neil made the statement. And somebody covered that before. The lady covered that. I think she said that EPA would pay 90

percent of the building; is that right?

MR. BOBEL: So the question is who is going to be paying for this project?

MEMBER OF THE AUDIENCE: Am I going to pay for it?

MR. BOBEL: Right, who pays for this project?

MS. BISSON: Let me repeat it and you can continue to ask if you still have questions.

As I said earlier, the EPA out of the Superfund would pay 90 percent of the construction and 90 percent, in this case, of the first ten years of operation. The Superfund Law requires the State to assure the rest. So the State has to make an assurance to us that the other ten percent be paid for those first years and also that 100 percent will be paid after EPA is no longer funding part of it.

What remains to be seen is exactly how the State will make that assurance, whether they will use State funds or whether they'll try to work with the water companies to get the companies to pay some of the funds. Unfortunately we just don't know that tonight because we haven't worked out those details.

MEMBER OF THE AUDIENCE: The taxpayers pay for it eventually.

MS. BISSON: This is true, although the Superfund actually comes from a tax on industry, which you probably

pay for as a byproduct from those industries.

MR. BOBEL: Vern had another question.

"What is the direction of the underground water flow?"

MR. ZIEMBA: In the vicinity of the Bartolo Well Field it's basically from the northeast. It's basically parallel to the San Gabriel River, from the north to the south along the San Gabriel River.

That's where the concern is that over time the contamination will continue to flow and eventually go out of the San Gabriel Basin and into the Central Basin to the south. So that's general flow in that area.

MR. BOBEL: Thanks, Neil.

Let's see what other questions we've got.

MR. SMITH: I've got three items. The first item is that if you're going to be using air stripping, absolutely I want to see a carbon filter on the effluent end.

MR. BOBEL: Tell you what. Let's get through clarifying questions. I want to take that as a comment.

MR. SMITH: Item 2 is a question. If you're going to take ambient air, blow it through the water in this tower, and we're in a smog zone. On a heavy smog day if you're blowing this air with all the smog contaminants, which are oxides and nitrogen and sulphur and all other

things, what effect is that going to have on the drinking water?

What of those items that are in the air, that are contaminants in the air will now be contaminants in the water?

In talking to Neil during the break, he didn't know and he doesn't think it's been studied. So I'd like to put down as a question before this thing starts to go to the alternative, you find out what contaminants might be added by the process to get rid of the two contaminants you're trying to get rid of.

MR. BOBEL: To make sure I understand your concern, is it if the contaminants go up in the air and via the rainfall they're brought back down into the water?

MR. SMITH: No. You've got a tower that you're pumping water into with plastic particles in it. If you're taking the air with smog in it and blowing in through that tower, obviously you're going to have some filters to keep out possums and roaches and sticks and stones, but are you going to put a carbon filter on that to take the contaminants out of the air before you put it into the water?

MR. BOBEL: That is a question we don't have an answer for tonight.

MR. SMITH: I understand.

MR. ZIEMBA: Let me just mention this. One is you should probably make it also as a comment so that we will investigate it.

MR. SMITH: The stenographer can note that as a comment also.

MR. ZIEMBA: Just to respond, as I said, I was unaware of any specific studies that looked at that, though this technology has been widely used. Again I'm unaware that that's ever been brought up as a concern.

Also one thing to keep in mind too is that specific contaminants have specific effects, so a chemical that's in the air that has an effect on the respiratory system also does not necessarily have the same biological effect if it's dissolved in water. Again I would encourage you to make that a comment as well during the comment period.

MR. SMITH: Well, oxide of sulphur when it gets into water becomes a sulphuric acid or an acid of sulphur.

The third item is that in talking to the folks from Suburban during the break, they've been working with you folks for about a year on this particular contaminant problem; and that approximately a year before that they had become concerned about increasing levels of these particular contaminants, although it had been going on since '81 when we first found out about it, and it's

been increasing.

So it's been a concern of theirs for approximately two years. Less than two areas ago there was another meeting when Suburban asked the Public Utilities Commission for information to refurbish the Bartolo line at a cost of over $7 million, which all of us get to pay for over 40 years of the life of that particular project.

One of the alternatives considered by Brown & Caldwell, who was the consulting and engineering firm on that project, was tying in with an alternative source of water. I don't remember the exact figure, but I know it was a whole lot less than 42 million. Although I understand 42 million is the present worth of a 30-year run of costs.

Coming backwards, I would say the current outlay is 12 million or less. And at that time the Bartolo refurbishment project was a cost of 7 million. The alternative solution was somewhere around that same ballpark, if I remember correctly.

So I don't know where your figures of 42 million, the present value, or a lesser figure than that of the current value would be. But I would like to make a comment that I would like you folks to investigate the result of the Brown & Caldwell study for the Bartolo line

refurbishment and also crank that into the study as a possible alternative.

I realize it doesn't do anything for the contaminants out there in the groundwater, but that could be handled at a different time.

MR. BOBEL: That's really a comment. Let's get your name, please.

MR. SMITH: Lou Smith, 8528 California Avenue, Whittier.

MR. BOBEL: Let's hold this down to clarifying questions and see if we can get through them real quickly and move to the comment period. If it's something you think we need to investigate further, that kind of question, let's hold that.

MEMBER OF THE AUDIENCE: I'd like to ask if you know whether the home filtering systems take out any TCE or PCE, like a reverse osmosis system?

MR. BOBEL: The home filtering systems, whether they take out the contaminants, the volatile organics.

Who can answer that one?

MR. STONE: I know they have done a lot of research and a lot of studies. The best information that we have at hand as a public water purveyor is we certainly would not recommend home filtering units. We are not in any disagreement, and we're not about to compete with anybody

that's out there in that business.

Your best bet is if you have one available, get the information that they have about that particular unit; because there are a whole lot of them out there. There has been a lot of media-printed pros and cons.

Get that information. Look it over yourself. Suburban would be glad to take a look at that information and agree or disagree with it; but we cannot recommend that yes, this unit will not do this or no, this unit will not do that. We would have to take each individual case by itself.

MR. ZIEMBA: Let me add something here. I can't address specifically whether a reverse osmosis unit will work or not; but one system that does work is basically they have small units of carbon absorption, which I described.

One problem with that in terms of putting it into individual homes -- and that would be theoretically another alternative -- is rather than have a central facility at the well field is to put into individual homes.

The problem there has to do with, the key to having a system work is to releasing the carbon at the proper time. In a home system you never know if the levels fluctuate or something and carbon gets built up.

After awhile you may not be removing any contamination. The only way you can tell is by monitoring that water, which would be several hundred dollars to monitor it for this contaminant. Therefore, you would never be sure of whether your system is working.

The other problem is sometimes you find in systems like that that over time, because they're filtering a lot of organic material out of the water, there can begin to be a bacteria build-up in the systems as well. Again if it's spread out among different houses, you won't necessarily have the testing while in a large facility like this, a central facility for the entire well. There would be monitoring ongoing that would start out at a very closely, perhaps a weekly basis, and then over time maybe go back to every few weeks or every month, that you're able to track how well the system is working.

When a problem such as bacteria levels rising or the carbon begins to not move the contaminant, you find it through the monitoring and then you change it. But that's very difficult to do with a home system. That's one problem with it.

MR. SACKLER: My name is Al Sackler. I would like to know how much water is pumped from one of those four wells.

MR. STONE: We have a capacity of 10,000 gallons

per minute that we can put out of that well field through that transmission line.

MR. SACKLER: The reason I asked that question is that calculates to less than a pound a day (inaudible).

MR. BOBLER: He's asking how that translates in terms of pounds per day of pollution and whether it requires air treatment.

MR. ZIEMBA: If you look at present concentrations, that is true. But basically we're building this system based on what we're projecting it to go up; and specifically also it's to allow for if we modify the well, to specifically get the higher contamination water that we feel at that point it will go above a pound a day. That's why we incorporated it.

MR. SACKLER: Have you looked at anything like an ordinary cooling tower in place of air stripping. They, in effect, operate the same way, and it costs a lot less.

MR. ZIEMBA: The question was could you use an ordinary cooling tower as opposed to this pack tower aeration.

The answer to that has to do with the removal efficiency. You would get some removal of the contaminants through a cooling tower type of operation, but the pack tower is the most cost effective to get the high removal efficiency. We're talking about on some of

the contaminants getting over 99-plus percent removal. That's what we need to insure that we can reduce the levels down to say one part per billion level based on our projected levels. What is the cost of MWD water?

MR. STONE: The present cost of MWD water today is $232 per acre foot.

MEMBER OF THE AUDIENCE: How much is that a gallon? Can you calculate that?

MR. BOBEL: He's asking the engineers up front to change units.

MEMBER OF THE AUDIENCE: $232 per acre foot?

MR. STONE: Right, 43,560.

MR. BOBEL: Let's go to the back.

MEMBER OF THE AUDIENCE: This is obviously a band-aid remedy to a hemorrhaging of pollutants here in the San Gabriel Valley. There seems to be that this is a foregone conclusion that you're going to do air/water stripping, based on the facts that I received this information this afternoon.

What do you need to do to change the recommendation of EPA? It seems like it's basically a foregone conclusion. What process do we employ?

MR. BOBEL: This is part of the process tonight. Let's take that as a comment in just a second. Let's get any other clarifying questions.

MEMBER OF THE AUDIENCE: I asked you a question.

MR. BOBEL: This is part of the process where we would take that kind of comment. We haven't made a final decision on this, so we can take that into account.

MEMBER OF THE AUDIENCE: What do we do after the meeting tonight to elicit some sort of change?

MR. BOBEL: You would submit it as a comment or make it tonight, which is what you can do in just a second.

MR. ZIEMBA: Let me just add to that. You are probably in a group that got it hand delivered to your household.

MEMBER OF THE AUDIENCE: Right.

MR. ZIEMBA: That was done specifically for those residents in the area around the alternative high-point site. Many of the others have shown an interest in this problem before. They received a mailed copy several weeks ago.

In terms of specifically what you can do is you now have the proposed plan. Read that, and if you're looking for more detailed information, it mentions two libraries where you can see the full report. Then again if you have any comments to make during the comment section tonight, or if you have a specific comment you want to make, then you can send written comments before

the end of the public comment period.

In terms of the process, as Phil said, we're in the process now. We would then take all those comments into account and would have to respond to them in deciding do we go with what we propose here or do we pick another alternative that we listed here or perhaps another completely different alternative that's not been discussed already here.

MEMBER OF THE AUDIENCE: I'm just concerned about the fact that this is just some sort of formality, when two months down the road they're already beginning to do this and the public hasn't really had a say. That's what I'm concerned about. I just want to know what can we do to reverse the recommendation of the EPA.

MS. BISSON: The concern is expressed that this is just a formality we're going through, and then in a couple months we'll actually be out constructing. I'm not sure how much comfort I can give you other than that this is a process where we're out here getting public comments. It's only fair to tell you that we can't always change what we're doing just based on one comment. The more that you can help us by giving us reasons why we should do something different, the better chance that we can change our minds.

What I can tell you is that in other sites we

have made different decisions than what we have proposed. But, of course, then there are the sites where we go ahead after considering the comment and construct what we have proposed.

So it's happened both ways, and I suppose if we do something that is positive in relation to your comment, you'll feel good; and if we don't, you'll feel that it wasn't listened to. All I can say is that your comments are considered along with all of the other factors that Congress has asked us to consider in the law, which includes things like cost effectiveness of the project, impacts on public health, whether we can actually construct the project.

We have to weigh all of that in addition to your specific comments about whether you like something and what the concerns are that you have.

MEMBER OF THE AUDIENCE: I am a resident of La Mirada. I'm a little confused about how much I'm involved in this, since some of the water is diverted to La Mirada. It's a small amount.

MR. BOBEL: He's asking how much of the water goes to La Mirada from this project area.

MR. STONE: If you saw the diagram of the two service area districts, we have the Whittier service area. We take our water through that transmission main over to

the Whittier area. We have 18,000 service connections in that particular area.

The La Mirada service area is contiguous or connected to it. We have two locations, two active locations where we have pipeline connections where we can take the water south from the Whittier district to the La Mirada district. Depending on demand in the area, what the customer demand is, we have the capability of moving that water down.

We can take anywhere from no water down there to amounts probably in excess of two to 3,000 gallons per minute that we could take south down there. So it is a part of that through pipeline interconnection.

MEMBER OF THE AUDIENCE: I need a little further clarification. Say, over the last seven years how much of the water has been involved in terms of getting somewhere? (Inaudible.) What are you really saying?

MR. STONE: At times there would be none involved, because we would supplying La Mirada district with a local supply that would also depend where you live in the La Mirada service area, whether you would see any part of this water if you're in the northern part of La Mirada service area; and that's up in the area around Imperial Highway, Valley View, out through there.

Then you would see, of course -- if you're

down in the central or southern part of it, you're probably not seeing this water that we're bringing down from Whittier. We have wells in the La Mirada district that we are pumping out of the central basin; and we do have an MWD connection located in La Mirada.

So if you can clarify where you live, I can probably put a better number on it; but that's in general what it is. We supplement the La Mirada supply with the excess water.

MEMBER OF THE AUDIENCE: I live within (inaudible). Is that the area you're talking about?

MR. STONE: Can you give me a cross street?

MEMBER OF THE AUDIENCE: La Mirada Boulevard and Excelsior.

MR. STONE: Most of that water down there is coming from local wells right down around the Stage Road area. We have a well located down south of the freeway which we could pump north. So you're getting very, very little water that would come as excess out of the Whittier system.

MEMBER OF THE AUDIENCE: Mine is three separate questions.

When Paula was speaking on the chart as to how this trickle system finally gets to where there's an action taken, Randell Vogel had mentioned that in '81

Suburban originally detected some sort of chemicals; in '83 contamination was found by EPA; in '84 that area was put on the EPA's list; and in '85 investigation began. Now we're going into Phases 4, 5, 6 and 7 before we get to the Operation and Maintenance, the OM Phase of Phase 7.

Since 1981 when would this, whichever proposal is accepted, when would it be built, when would it be operational?

MR. BOBEL: The question is when is it likely to be built and when is it likely to be operational?

MR. ZIEMBA: Our current schedule now is the public comment period closes on July 22nd. Our schedule is that we would then make a final decision by the end of September of this year. Once that was in place, then we would go into an interagency agreement with the U.S. Army Corps of Engineers, which will be the agency responsible for design and construction of the system.

We have a design of a treatment system already, which Suburban had completed by Brown & Caldwell. The one aspect which it does not have is the air emissions control or the well modification; so we would have to add that design. But that additional design work could take perhaps six months; and then construction of the system is probably another nine months after that.

So assuming we stay to the schedule, we would

probably not see a treatment plant in operation until probably early 1990.

MEMBER OF THE AUDIENCE: Along with that question, noticing the rise in the levels of contamination since '87 to '88, if that contamination rises to the levels you show in the end of your graph here when you were talking, what do we do between now and 1990?

And don't tell me that would pump off of another well, and in turn this could seep out and get into other wells. As we know, the EPA understands there are approximately 1400 contaminated wells in the United States, 850 of them that you people have targeted.

There is only so much money to clean these things up. Then eventually we would wind up doing what, drawing off of the Metropolitan Water District, and if so, would our costs not be there anyway?

MR. STONE: The alternatives that we as a water producer have is to -- MWD is one alternative that we can turn to. We have an existing MWD connection. We can take that water north. That is short-term. We cannot plan around our entire water year with that. We also have, as I stated before, a mutual water company in which we have facilities where we can take water back and forth between them.

Beyond that -- and that's the reason that we

have the concern and the reason that we have gone into the design is to try to set this early warning and stay within that frame of time on it.

I think one comment I'd like to add is that particular slide that Neil showed you shows the trend in that particular well. That is one well out of our four that we do have down there. That is the one that we experience that spike on that. And the other wells have not indicated a spike of that magnitude.

So, yes, the potential is there; and we are making every endeavor we can to stay ahead of it and get that thing in before that does come; because we have certain alternatives. That's as far as they go with it.

MEMBER OF THE AUDIENCE: Then my second question is as we understand medically today, there are many things in the water that we have found that only five years ago did not seem to affect our health and today we know that it does.

I believe the EPA has identified or at least listed 660 pollutants, chemicals and toxins in the water that are harmful to our health. Of those 660 approximately 140 of them have now been identified as carcinogens.

If that's the case, and as you are able to identify more of these as far as the health problems that

they might relate to ourselves and our beings go, and the levels that you have put as safe, I have trouble with the word "safe." You say the water is contaminated. You tell me I'm drinking unsafe water. Contaminated to me doesn't jibe.

But nevertheless you say that these levels, that parts per billion or parts per million that they're safe; and then you find later on that those aren't safe. What system have you developed within the scheme, as far as this particular well goes, your system that you would put in, that would be the air stripping, that would be able to reduce those levels?

MR. BOBEL: So your question is if we find later that there's another contaminant or a lower level of a contaminant we're now aware of, how can we adjust the treatment system to take into account the need to now go lower with the contaminant level?

MEMBER OF THE AUDIENCE: Right.

MR. ZIEMBA: Let me say a few things here. First I show the two main contaminants, PCE and TCE. Actually these wells have been sampled for a large number of contaminants total, probably about 130 or 140 different contaminants than what EPA set up as called a priority pollutant, which are a number of contaminants commonly found in water.

Of all those contaminants, about seven or eight in total have been found in the Bartolo Well Field, though the only two that near levels that are near the drinking water standards are TCE and PCE.

The air stripping tower, that technology can basically treat all the contaminants currently found in the well, the volatile organic compounds. As I said, we've also looked at a number of others; and we've yet to find any.

If new contaminants were found at levels that would cause a concern to the health effects, basically the option would be, one, if it was a volatile compound, probably this system would work on it as well. If it was not, then we would basically have to look at that time of what our options were.

Carbon absorption often works on most organic compounds. So we would perhaps have to retrofit and add another treatment unit on top of it. But based on information now of monitoring throughout the San Gabriel Valley over close to to 300 wells or so have been sampled in the Valley; and up to now, excepting a few specific wells, the contaminant problem as far as organics has been the volatile organics which an air stripping system should remove.

MEMBER OF THE AUDIENCE: My last question would be

that I think the government estimates as far as known contaminated wells today that it would cost in the neighborhood of $50 billion to clean up those areas. The government is simply saying we are not going to do that. We do not have that kind of money.

Basically the bottom line is that it's not necessary to clean up those wells for you to wash your car and water your lawn. I concur with that. I believe we also supposedly drink and cook with only one half of one percent of all the water that comes through our home within a month's time. If that be the case, when do we get around to educating the public?

That point of view seems to be the answer versus these systems that the well next door goes sour and another system and on and on. And we spend these 40 and 100 millions and so forth and we can't keep up with it.

MR. BOBEL: That is more of a comment.

MEMBER OF THE AUDIENCE: Then I'll ask the question. When do we educate the public? I commend you for being as open as you have here. But when do we get into the educational process instead of the -- as this fellow put it -- the band-aid effect?

MR. BOBEL: The process of educating the public as to the amount of, the type of water and uses we put it to, whether that's a proposed alternative way of addressing a

problem like this. Is that what you're getting at, possibly drinking just certain water and earmarking others for other types of use?

Does anybody want to tackle that one, whether that's an option in the near term to ask the public to have one tap for drinking water and --

MEMBER OF THE AUDIENCE: No, that's not what I was suggesting.

MR. STONE: I think your comment is well taken. I have to say I think that should go on record as a comment, because we do have that answer. That's a very good question. I would suggest that we turn that into a comment. That would be one comment that would be considered as part of this meeting tonight.

MEMBER OF THE AUDIENCE: For the record my name is Rudolph Kelner. I'm senior partner of Kelner, Scarivino & Associates, a public speaking and consulting firm and also national distributor for a system in house that is medically and scientifically approved by the government. I won't get commercial and name it.

MR. ZIEMBA: Just to comment on one thing. You brought up the point of the fact that we do get drinking water quality water and then use it everywhere.

One thing is on these particular compounds, volatile organics, some research that EPA and other people

have conducted show that compounds volatilize in other uses in the home as well. So, for example, in showering or just the water that's standing in the toilet that the contaminant volatilize and you're actually exposed to it through breathing within your house.

Some studies show that perhaps that is just as important as the drinking water. It's not as clean necessarily as just treating the water you drink, but there may be other household uses as well.

Obviously it's different in terms of what you use to water your lawn. That's another thing you have to think about with these particular contaminants.

MEMBER OF THE AUDIENCE: We understand the evaporation effect (inaudible).

MR. BOBEL: Let's work back this way. You had a question.

MEMBER OF THE AUDIENCE: I am wondering why the public comment period is so brief. We have a houseful of people here that a lot of this information came to a very short time ago. Everybody is anxious to hear more and have more questions. We have just a little over a week to send in written comments.

So I'm wondering if this comment period can be extended.

MR. BOBEL: We have used our standard public

comment period here. Our hope was that the comments, if they couldn't come tonight, could come by the 22nd. If you've got a particular need for more time, we would have to hear what that particular need is and what kind of investigation or more did you want to do in the interim. It is possible for you to submit a request for more time.

What would you do with the more time?

MEMBER OF THE AUDIENCE: Well, in the least it would me time to compose a letter for written comments. If we're into the comment period now, I could give my name.

MR. BOBEL: Let's hold that then. Do we have any more clarifying questions here then?

MEMBER OF THE AUDIENCE: I'm curious. If we use the water on our fruits and vegetables, are these chemicals in your fruits and vegetables that we eat?

MR. BOBEL: Can you say that again?

MEMBER OF THE AUDIENCE: Since we use the water to water our fruits and vegetables, are the chemicals in the fruits and vegetables that we are eating?

MR. BOBEL: Are organic chemicals getting into fruits and vegetables from irrigation?

MR. ZIEMBA: I don't know if I can answer that specifically except to say one aspect of it is that these are volatile compounds. Particularly it's like a

sprinkler system. You're spraying the water. You're going to have the same effect as you have in an air stripping system in that the chemicals would volatilize.

If any traces of these chemicals appeared in fruits and vegetables, it would depend on how much volatilized.

MEMBER OF THE AUDIENCE: So you haven't tested any food?

MR. ZIEMBA: Not in this area. I am unaware of any area where that has found to be the case. Then the other point is that up to this point all the water that is being served does meet drinking water standards; so it's not highly contaminated water that's out there now. This treatment system would insure that that would remain the case in the future as well.

MEMBER OF THE AUDIENCE: I have three questions.

My first question is what happens if the plant breaks down or somehow becomes nonoperational, not the flood but, for example, a fire or earthquake, especially given the fact that it's located up in the epicenter of our last earthquake?

MR. BOBEL: What would happen if the plants couldn't operate?

MR. STONE: It would during that time that we would be going to the other two sources that I mentioned. We

would utilize MWD and the California domestic water company sources for that period if we did have to take that plant down.

MEMBER OF THE AUDIENCE: My second question is why go to the water and try to treat the water in the wells, rather than attacking the source of the problem? Whatever is seeping into the groundwater, why not attack that?

MR. BOBEL: Why not attack the source of contamination instead of the place where it is now?

MR. ZIEMBA: I'll answer that in two parts. I talked about it before. One, obviously you have to attack the source and begin to clean that up. What I also said is it's going to be a very large project and it's going take years to find out which users have caused it and to clean them up. That effort is starting, our efforts as well as the efforts of other state and local agencies.

But the second fact is even if you went out right now and stopped all sources, there is a large mass of contaminated water that is already in the groundwater. That is that map that we showed of basically 20 or more square miles of groundwater is already contaminated.

That will continue to flow regardless of whether you stop any sources. So this project basically addresses what is already in the water and would continue to stay in there until it is removed or if it just becomes

dilute by mixing with other cleaner water.

So there are two parts to the problem and they both need to be done. This project addresses one part of it.

MEMBER OF THE AUDIENCE: The last question is also basically why we received such short notice given the fact that the water district has known I guess two years at least; the EPA has been studying this for a prolonged period of time; and we received the notice this afternoon in the Whittier area, which is the most affected area.

We had a few hours and we're halfway into the written comments. So not only is our chance to comment written or verbally very short, but the fact that the EPA and the water district have known so long and haven't told us. It's two parts to why it's such short notice, and I'd like to know why.

MR. STONE: Are you a customer of Suburban Water Systems?

MEMBER OF THE AUDIENCE: I live in Whittier.

MR. STONE: At what location? Because we do not serve the entire Whittier area.

MEMBER OF THE AUDIENCE: We're right off Rose Hills Drive right off Workman Mill; so we're right near the proposed site.

MR. STONE: We mailed to every customer a notice.

Those have been out for sometime.

MR. ZIEMBA: Let me explain that. As this project as a whole -- and we've been trying to get information out in terms of newspaper articles, a number of fact sheets from other meetings or times we've been there.

For this specific project we sent out notices to everyone who was already on our mailing list who in the past have had questions about the problem.

As Reg said, Suburban Water Systems specifically sent to their water customers, those who would actually receive water from this treatment system.

If you just received it today, what that was was that once we came to a public meeting, we realized if we were proposing to build at the well field, we should notify the residents specifically around that transmission main high point. If you were with Suburban, you would have been noticed already. So chances are you're probably not getting your water from Suburban; but we noticed you because we wanted to be aware that that was the potential location.

Unfortunately, we didn't plan to get enough printed up to have it hand delivered like we did. It started in the area closest to the high point site last Thursday, and you are in an area somewhat away from the high point. So we thought it was better to at least give

it to you on this day, than to otherwise not ever hear. We also had notice in the local Whittier paper and the San Gabriel Tribune.

MEMBER OF THE AUDIENCE: We looked in the local papers, and there wasn't anything that we saw. Also if we live in Whittier, where else are we getting our water from?

MR. STONE: You live in Whittier, and in Whittier there are several utilities that do serve portions of it. There is the City of Whittier Water Company; there is Suburban Water Systems; there are at least two small mutual water companies that I am aware of.

There is the California Domestic Water Company; there is the San Gabriel Vally Water Company. So it's not a single utility that is there. It's whoever you are paying your water bill to is the person or the entity that is serving you the water.

MEMBER OF THE AUDIENCE: Well, who are you then? I don't understand.

MR. STONE: I am representing Suburban Water Systems.

MEMBER OF THE AUDIENCE: I don't understand what you have to do with the project then.

MR. STONE: Our service area is located in Whittier. We have 18,000 service connections located in

the Whittier area. A lot of it is in the county area of Whittier. There are other portions within the city proper, for instance, that is served by the City of Whittier. It's our wells, and the water that is being serviced from Suburban Water Systems is the reason that we are here tonight.

MEMBER OF THE AUDIENCE: You didn't answer my question.

MR. BOBEL: Do you get your bills from Suburban Water?

MEMBER OF THE AUDIENCE: May I answer that?

MR. JOCHEM: Excuse me, ma'am. Could you give me the approximate location where you live?

MEMBER OF THE AUDIENCE: In between Beverly and Whittier Boulevard.

MR. JOCHEM: That's not within our service area proper. I believe it's within the City of Whittier service area. You're not provided service by us. I believe the reason you were notified is because nearby you is the proposed alternative location for this treatment facility.

MEMBER OF THE AUDIENCE: Does that mean that our water isn't contaminated then?

MR. JOCHEM: I would contact the City of Whittier Water Department.

(Laughter.)

MR. BOBEL: Let me just reiterate. One thing we're emphasizing is that due to taking wells off line that have been contaminated, we don't believe that people are receiving contaminated water above the standards, either in this area or other areas in the San Gabriel Valley. So what we're talking about tonight is a preventative measure so we would never have to serve water that was above those levels.

We've got a problem here. Our problem is that they have told us that we may have to vacate this room by ten o'clock. We'll stay until somebody bodily throws us out; but in case that does happen at ten o'clock, I'm going to have to switch gears here. We're going to have to move to the comment period.

That means that what we want to take now is formal public comments; formal only in the sense that we're going to ask for you to either identify yourself and come up here so that we can better record what you have to say in the way of comments.

That comment can take the form of a question that you think is unanswered that you want us to explore and respond to you in a responsiveness summary. We're going to come to the question of the length of this comment period right at the end of the meeting after we

see how severe of a problem that is and what comments that we have that reflect the need for more time.

If that is going to be your comment, I'd ask you to be a little bit specific as you can about the exact need for more time, what would you do with the time exactly so that we can evaluate.

We'll definitely stay after to talk to people who want to talk, even if we have to do it out in the parking lot. We will be here to take any questions.

Several people submitted comments in essence on these sheets; and maybe if they would like to get us started, that would be good.

One was with respect to the high point area.

MEMBER OF THE AUDIENCE: The written comments, can't they be taken under advisement by your board and limit this discussion to the oral comments?

MR. BOBEL: Sure. Anybody that wants to can submit comments in writing to us. The hand-outs contain the address to do that. It's on the first page of the fact sheet. So comments can definitely be submitted in writing.

You opened up a good subject, and that is let's keep the verbal comments as brief as we can, get the main point across; and then details can come in writing.

Let's give your name for the court reporter

and if you have an affiliation.

MS. PAGOSIAN: My name is Pat Pagosian. I live in the Spy Glass area. I would propose that they use the pollution control as best as possible, number one. I also would like it not to be the high point site, if possible.

I live at 4054 South Overcrest Drive in Whittier.

MR. BOBEL: Thank you. Other comments?

MS. PRATHER: Judith Prather, President of the Whittier League of Women Voters.

The National League of Women Voters last week adopted water quality as one of the top priorities. As many of you may know, the League never takes a position on an issue unless they have studied it extensively.

There are several comments we would like to make along that line. First of all, in our water project several years ago in California one of our exerts testified that 5 parts per billion of TCE and PCE could potentially cause death to two in one million people.

The drinking water standards are guidelines. They're not a level of necessary safety. We always need to be aware of where that line exists and what the ideal is. And our objective is not just what has been established as though it's something that objectively means safety.

Second of all, we take a very strong position regarding the, quote, recycling of pollutants from the air and water and back and forth. So we would also confirm that the carbon system should be initiated as part of the project when it's completed so that we do not have pollutants from other areas creating problems.

The other area we have considerable concern about is simply making politics a process of one for the people. We would suggest several avenues along this line.

One is that if there is more than 20 people who would wish an extension of the date for public comment, that that be initiated simply for the process that people are involved and to feel noticed and know what's going on.

At that level we would request that the proceedings transcript of this particular meeting be also available in the library for public perusal and comment. We would volunteer to be a conduit for ongoing information in this process; and we would request that the public hearing not be the end of public involvement in this process and that the public be noticed about how the different steps that yet need to be accomplished before completion are being accomplished.

Again we are more than willing to act as a conduit to get that information to the community on an

informational and objective basis.

Thank you very much.

(Applause.)

MR. BOBEL: Thank you.

I'm going to call on several people so you can come over to the microphone and be in line.

You're first; you're second; and you're third.

MR. HENRY: I'm Oliver Henry. I reside in La Mirada.

This site at the pumping, the well site, is subject to flooding; and besides that, it's on very poor foundation as far as earthquake damage goes.

There has been earthquake predictions of major earthquakes here. I think that besides the site being subject to flooding there, it would also be subject to severe earthquake damage in there.

In the event of an earthquake the possiblity of the entire water supply of Southern California being immobilized or put out of order would be quite strong. It seems that both the Colorado River and the CSWP both cross the San Andreas Fault.

I'm thinking that strong consideration should be given to locating this facility in a safer place and one that could be relied on to supply emergency water in

the event of a civil disaster caused by an earthquake.

That's all I can think of right now. Thank you.

MR. BOBEL: Thank you.

MR. BENNETT: My name is Paul Bennett. I reside at 10312 Strong Avenue, Whittier, 90601.

I did not receive a copy of this. Neither did three of my neighbors. Just a comment.

I'd like to talk about the high point. From what I heard tonight, this project has been built, will be completed by 1990.

I think I heard that correctly; is that right?

MR. BOBEL: Yes.

MR. BENNETT: Nothing has been said about the high point, the secondary spot. From the slide, you are looking at Mitchell Energy, a company that is drilling for oil back in Sycamore Canyon. But if you go from your proposed site at Bartolo in Whittier Narrows to the high point on Workman Mill, you're looking at a large company with large investments and a large piece of property. That is going to be a battle; and you will not complete this in 1990, I believe. I'm only one person.

The only reason I'm here tonight is my neighbor who lives on Rideout Way, which is a high point

behind Beverly and Workman Mill and Norwalk, which is the extension of Workman Mill -- they change names there for your benefit. He called me, and I just got back from vacation. I've been down to the beach and had a hell of a good time. I'm concerned about the high point. I object; my neighbors object. And I just want to make that for the record.

Thank you very much.

MR. BOBEL: Thank you.

MR. MACDONALD: My name is Robert MacDonald. As President of the Board of Directors of Whittier Hill 'N Dale Association at 5248 Javalambre Drive, Whittier, 90601, I represent 83 households that are located in the vicinity of the Strong Avenue site.

I have written comments, which I will abridge.

We understand that the fact sheet says that the Strong Avenue site had been considered and rejected as an alternative site and that there is no intention to build a facility of any kind at this site.

If for any reason Strong Avenue is reconsidered in the future as a possible site, we homeowners at Hill 'N Dale would need to know the complete and detailed environmental impact of the project.

Specifically we would need to know the

precise location of the facility, its size and its output of noise and other pollutants.

We would strongly oppose any facility that has any negative environmental impact on Hill 'N Dale or its vicinity. The Hill 'N Dale homeowners would question the advisability of transmitting contaminated groundwater from the isolated Bartolo site to the densely populated Strong Avenue location for decontamination, especially since homeowners at Hill 'N Dale do not out utilize the Bartolo water.

We thank you for the opportunity to let us make our position known.

MR. BOBEL: Thank you very much.

How many more individuals do we have that intend to make a comment?

You're next; then you; then you.

We're getting near the end.

MR. ROHN: My name is Richard Rohn. I'm the consulting engineer for the Central and West Basin Water Replenishment District, which is the area located downstream of Whittier Narrows.

This District will be submitting written comments before the end of the period. We appreciate the opportunity to review the report.

We are very much in favor of the solution

recommended in the report of extracting the groundwater and treating it. The extraction of the water, the treatment of it is the only way to really protect the groundwater supplies that we have and to keep it from moving into Whittier Narrows.

We are very much concerned about the economics. We are concerned about spending additional money that doesn't have to be spent, because there is a limited resource of money. The air stripping procedure is an excellent procedure. We'd like to see the cost kept down so that other units can be built as they are needed; and they will be needed.

We will have written comments. Thank you.

MR. WILDER: My name is Joe Wilder. I would like to recommend that I'm for installing the carbon treatment building at the well site to reduce the wait until the start of construction; using maximum air stripping; and do go ahead with the well modifications.

Thank you.

MR. CUNNINGHAM: My name is Robert Cunningham. I'm President of the Leffingwell Creek Homeowners Association.

I remember back in 1970 or '71 the government was saying that the water and the environment was going to be cleaned up in the early 1980's. In view of the fact that we haven't gotten there yet and it's just gotten

dirtier, what I'd like to say is that I think it's about time that this government start treating the world as if it's not just one great big trash can and throwing everything away. We should start having the government make us recycle things and eliminate producing things that are harmful to our environment.

Thank you.

MR. BOBEL: Thank you.

MS. BARBA: My name is Elizabeth Barba. I'm from Whittier.

I propose that the maximum air stripping at the well field should been built with the off gas carbon treatment. I didn't get the question answered, but I am wondering what you think about some things that they might make us have to have this gas treatment, but it's not law right now.

It's possible that if you don't build it with this thing on it, you guys may end up without money or something; and we're going to get stuck with a $7-million bill. If you say there's 18,000 customers and a $7-million bill, it's going to affect us.

MR. BOBEL: You're advocating we put the air system on?

MS. BARBA: Yes.

MR. BOBEL: Thank you.

MR. FIFER: My name is Vern Fifer, F-i-f-e-r. I live in La Mirada. All evening all we have heard is comments on the pollution of the well; but nobody has made a statement in regard to the Metropolitan Water District.

That's all. Thank you.

MR. BOBEL: Thank you. Let's see how many we have now.

MR. RITCHEY: Thank you. My name is George Ritchey from Monterey Park.

I went to the treatment center and got cured of a disease. I'm no longer a federal bureaucrat. I have conducted public meetings. I'd like to talk about the process.

The discussion tonight concerned itself with 18,000 hookups and maybe 13 more in La Mirada. We're talking about 31,000 service connections. We're talking about $15 million minimum. And we're talking about a period of operation that's going to pay the 15 million; that's $500 per service connection.

Am I wrong so far?

You're dealing with several million people in the San Gabriel Valley. My water district, by the way, draws water from Whittier Narrows right next to the wells concerned. I know that those plumes and alluvial movements don't bother -- aren't terribly concerned about

city managers. So I am a little worried about what you're doing here, guys.

Back to the point. If it's $500 per service connection over the period involved, and you're talking about 10 million people in Southern California, how many billions of dollars is it going to take even to begin to deal with the TCE and PCE, which doesn't begin to touch the surface of the organic problem.

I'm not a chemist. I'm not a physicist. But one gentleman raised the question over there about systems that you put in your home. The gentleman raised the same question. The gentleman over there asked a question about area pollution problems, what happens when particulate matter, like sulphur and heavy metals, get precipitated off into the water system.

One of things I guess I'm telling you, Mr. Bobel, has to do with the EPA and the process by which you gather information is imperfect. But more than this imperfection is the method by which you communicate, that which you are capable of doing. What is even worse in terms of imperfection is the knowledge with which the federal bureaucrat presents the dissemination of the problem to the general public.

We really don't know what the best range of alternative systems could be. You're in a better position

than we. I can state as a nonchemist that when the gentleman raised the question over here about whether he should have a home filtration system, and the gentleman over here says no, it's a bunch of garbage, you have to remember that what you're talking about is a carbon system that you're going to use over here.

Isn't part of your filtration system in your house would be the carbon system? If it works there, why doesn't it work over here? If it works here, why doesn't it work over there? Maybe I'm not making any sense, but it seems to me that experts sometimes don't communicate. Is it any wonder that we then get confused as whether we ought to spend 15 million or five cents? Put in a stripping tower here to obstruct the view.

Maybe that's not the issue. Maybe it's how we as human beings are going to learn to live together in a world that is becoming increasingly hostile to the action we have already taken.

So what we can convey again the third time to all those good folks here, and I know there are some, that you had better find a way to communicate with us more intelligently; but the facts are and what the reasonable alternatives in the short term -- not in a year, not in five years or ten years, but tommorrow. What can we do to save our own skins?

Thank you.

MR. SMITH: Lou Smith, Whittier, California. I was up here speaking once before. I'll make a comment for the comment section. The first comment is I'd like to see the carbon filtration system of the effluent air, if air stripping is used.

The second comment is I'd like to see the air that is used for air stripping filtered prior to air stripping. The reason that I make this comment is I have seen systems that are used to take air pollutants out of the air by filtering them through a water system with plastic particles.

That is an approved by, I believe, the EPA and the South Coast Air Quality Management District to do it for plating shops that do chrome plating and that sort of thing. So it works one way as a cleaning agent, it can be used the other way as a polluting agent.

The third item is that I would like to see the results and all the paperwork that was generated previously on the Bartolo main repair project, and the Public Utilities Commission be incorporated into the decisionmaking process for this current project, that is to do something about the pollutants in the water that's being pumped out of wells. With special emphasis on possibly using a permanent hook-up with the Metropolitan

Water District via Bartolo wells.

This could be either used all the time or once the problem in the San Gabriel River Basin is taken care of, the Bartolo wells could then be used again; but to have an alternative solution that we could use, not only in the case of emergency, but on a full-time basis, for maybe the next 50 or 60 years so that our children and grandchildren will be able to use the Bartolo system again.

Thank you.

MR. BOBEL: Thank you.

Are there more people that would like to offer a comment?

MR. KELNER: This one is going to be really quick. Rudolph Kelner of Kelner, Scaravino & Associates, main office, La Habra.

When you speak of the GAC system, what studies have been done as far as the trickle system is going to be used so that in turn the impurities are drawn out? As we all know, water takes the course of least resistence and, therefore, can bypass the GAC effect.

So, if that be the case, was a solid carbon block ever considered? And, if not, why not; and, if so, what kept you from using it?

Thank you.

MR. BOBEL: Thank you.

MS. PICCADO: My name is Joanne Piccado, 12142 Goldendale Drive, La Mirada.

My comment is in the form of a question. I want to know how much more contaminated the wells are going to become before they finally get the system implemented; and do we need to start drinking bottled water?

Also our water is brown. It stinks, and it's cloudy as hell. We have had to get a water softener, and I don't even know if that's going to do any good for much longer.

Thank you.

MR. BOBEL: Thank you.

Any other comments?

MS. PRATHER: If I could just mention that the California State of League of Women Voters does have a number of materials, including the study that was done and water quality management in the State of California available.

If any of you are interested, just let me know. I have to order them from the state office; but I'd be glad to get them for anybody for free if they want them.

MR. BOBEL: They haven't thrown us out yet. We can

take a few more questions. Let me make sure there isn't anyone else who wants to make a formal comment before we move to that.

We will continue to take questions until they throw us out or no one is left in the room.

For those of you that have to leave, let me just kind of wrap this up by reminding you that comments can be submitted in writing until July 22nd.

If you have a special problem with that, get in touch with us. Although there was some concern about the length of the comment period, I didn't hear any details of what would be done by an individual who needed more time. So if you think you do need more time, please see us after the meeting or call us.

Neil, your number is in the --

There is also a toll-free number, which is even better. That toll-free number can be used for questions. It can be used to contact us with questions about that time frame.

I really appreciate all the good comments we got tonight. There were many excellent questions. To reiterate how we're going to handle those, we're going to prepare a responsiveness summary. We're going to make the transcript from tonight's meeting available. Both of those documents will be in our repositories. Those

addresses are listed in the fact sheet.

Based on our determinations with respect to those comments, we'll be making a final decision. We'll be notifying you with another fact sheet as a mechanism notifying you all of what our final decision was.

MEMBER OF THE AUDIENCE: I have a question. We got it in the mailbox from the EPA. Are they going to do that again?

MR. ZIEMBA: If you received it in the mail --

MEMBER OF THE AUDIENCE: No, in our mailbox.

MR. ZIEMBA: If it was in your mailbox, there was a card to get on our mailing list; or there are other cards available on the table on the way out. Maybe you could give us your address. A number of people are already on our mailing list, and they received it in the mail.

Make sure you put your name and address on the card and either hand it in to us tonight or mail it to us.

MR. BOBEL: I hope everybody heard that. It's on the back of the cards to become part of our mailing list. Then you will be notified of our final decision.

The repositories will have the responsiveness summary where we respond to the comments and the transcript of tonight's meeting for those of you who want to see it.

For those of you who have to leave, many thanks. Excellent questions, excellent concerns. We've got our work cut out for us to respond to those. I appreciate your patience, as it was a long evening tonight. Many thanks.

Now we'll go back to more questions.

MR. CUNNINGHAM: I have a general question regarding the total national cost of clean-up for the EPA, whether Superfund or whatever, is there any figure on that, any ballpark figure for the entire country?

Second, regarding bottled water, my understanding is Arrowhead gets all their water from Arrowhead Springs. Is there any TCE or PCE in that area?

MR. BOBEL: First of all, your first question, what is the total bill expected to be for all of the Superfund sites nationally, we do have to make allocations with that money, because we expect it will exceed the amount of money currently authorized by Congress, which is eight and half billion dollars. So it is in excess of that.

MR. CUNNINGHAM: That's what they're authorizing. I'm asking what the total cost would be.

MR. BOBEL: I don't think we have made any firm estimates of how much it would exceed that value. So many of these are uncertain. The final clean-up costs are unknown. It's speculation.

Does anybody know about the Arrowhead area? I'm afraid that the people who might know left tonight, the water purveyors.

MR. ZIEMBA: If you have a question about the quality of bottled water, I would contact the Department of Health Services.

MR. BOBEL: We've kind of broken down. Why don't people who have other questions come up, because we've got a couple of conversations going on.

Thanks again.

(END OF PROCEEDING.)

REPORTER'S CERTIFICATE

I, Mary Neal, a Certified Shorthand Reporter and a Notary Public of the State of California with principal office in the County of Orange, do hereby certify that the foregoing proceeding was written by me in Stenotypy, and transcribed into typewriting and that the foregoing is a true and correct copy of my shorthand notes thereof.

Mary Neal

Dated: AUG 3 1988

m&m CERTIFIED COURT REPORTERS
Barrett, Dawson & Melman
1630 East Palm Street • Santa Ana, California 92701
(714) 558-9400 • (213) 637-3550

APPENDIX F

PUBLIC WRITTEN COMMENTS

HANDWRITTEN COMMENTS SUBMITTED AT PUBLIC MEETING

Comment: Did I understand from the presentation that the Strong-Workman Mill Road has been eliminated? If not, I would strongly object to noise and building height detracting from the highly impacted residential area. I live on the hill for the simple reason of having a lovely view--high towers would detract from the view and in the end have an impact on property values.

Comment: I feel the off-gas carbon treatment should be included--regardless of legislation requiring it.

Comment: Joseph P. Wilger
10424 Cliota Street
Whittier, California 90601-1712

1. Install carbon

2. Build at well site to reduce wait until start of construction. This reduces delay in attempting to purchase "high point" area property.

3. Build using maximum air stripping.

4. Do go ahead with well modifications.

SFR164/040

DAVID S. CAHN, D. ENG.
10718 SPYGLASS HILL ROAD
WHITTIER, CALIFORNIA 90601
July 9, 1988

Mr. Neil Ziemba
Remedial Project Manager
U.S. Environmental Protection Agency
215 Fremont Street (T-4-1)
San Francisco, CA 94105

Re: Bartolo Oil Field OUFS

Dear Mr. Ziemba:

As I will be unable to attend the July 13 community meeting on the Bartolo Well Field clean-up, I appreciate this opportunity to provide written comments. My occupation is in the environmental field and it is interesting to experience a CERCLA clean-up from a new perspective!

Your proposed VOC decontamination alternative, Alternative E, does appear to be the best from both the standpoints of technical effectiveness and community acceptance. Installation of treatment facilities at the Bartolo Main High Point site indeed would be intrusive and unsightly to the local residents. I suspect that such a plan would give rise to the "NIMBY" syndrome, especially because of concerns about potential toxic air emissions and the possible handling of hazardous wastes (spent carbon filters).

While I understand the necessity to evaluate the Main High Point site, as pointed out in your thorough Floodplain Impact Assessment, the major treatment equipment can be designed to withstand flooding. Your suggestion of locating sensitive equipment (motors, switchgear, controls, monitors and recorders) on elevated platforms is sound. This would minimize flooding potential and could provide additional security for the presumably unattended installation through restricted access ladders. In any event, location at the 30-year recurrence elevation does not seem to pose a major risk, even considering the potentially long term of operations of the facility.

Again, I appreciate this opportunity to comment upon this project and commend EPA for the clarity of Fact Sheet 5 and the manner in which you are providing for public comment.

Sincerely,

David S. Cahn

11736 Rancho Verde Drive
Whittier, Calif. 90601
July 10, 1988

Mr. Neil Ziemba
Remedial Project Manager
U.S.Environmental Protection Agency
215 Fremont Street (T-4-1)
San Francisco, Calif. 94105

Dear Sir:

I just received information regarding the EPA Proposal for cleanup for the contaminated groundwater at Suburban Water Systems' Bartolo Well Field in the Whittier Narrows Area. I fully agree with the EPA proposed plan to install the air stripping facility at the Bartolo Well Field site. We live just down-wind of the possible site at the Main High Point and do not want to have our air any more contaminated than it is, especially for water that is not for our use. We already live near the Puente Hills Landfill which is doing more than its share of garbage collection for Los Angeles as other landfills are being continally closed down.

Please continue your policy of information sharing.

Sincerely,

Jane B. Dicus

Dear Mr. Ziemba, 7/11/88

I recently read the Fact Sheet #5 regarding the contaminated groundwater at Bartolo Well Field.

I just want to express that I think the EPA's proposal seems the most reasonable. We will most certainly be paying more somewhere along the line to pay for the project, but we all have a responsibility to help maintain & better yet, improve our land & air contamination.

Thank you for supplying the info. on this situation. I regret I will be unable to attend the community meeting on July 13th, so I wish to voice my opinion here.

Sincerely

Caryn Darcy
14587 Dalman St
Whittier

DATE: July 14, 1988

TO: Neil Ziemba
Remedial Project Manager
U. S. Environmental Protection Agency
215 Fremont Street (T-4-1)
San Francisco, CA 94105

We live in one of the homes adjacent to the Suburban Water Systems' Transmission Main High Point and we strongly object to the placement of this facility at this location.

Placing this type of facility in a residential area should not be even a consideration. It will be unsightly, noisy, and there is a distinct possibility that contaminants removed from the water will be emitted into the air.

The meeting held July 13, 1988 at the Whittier Community Theater left us with many questions concerning this project.

1. Is the E.P.A. required to prepare an Environmental Impact Report before they build such a facility?

2. A question was raised as to reverse contamination from polluted air to the water. Answer was unclear.

3. If the four Suburban wells at the Bartolo well fields are in such danger of contamination from water coming from an area north of it (red area on your slides), why isn't the problem confronted at that area before the water seeps into the Bartolo wells instead of waiting for it to get to Bartolo.

4. Question was asked concerning the use of the site of the chlorination plant which appears to be on higher ground. The answer was thatSuburban Water does not own that land. (They do not own the "High Point site either).

5. We are not serviced by the Suburban Water Systems, even though you propose an air stripping facility right next to us. Nothing has been said about the Whittier Water Department which does serve our area and it also has wells at the Bartolo well field. Do you have plans for cleaning up all the water in this water table or only the four Suburban Water System wells? This narrow focus does not seem to be what we expect from E.P.A.

6. Why would minimum air stripping be considered - just because the law does not require maximum air stripping during a certain period of time until requirements are issued.

We urge that you-eliminate the location at Workman Mill Road and Strong Avenue as a possible site for an air stripping plant.

Thank you.

Gilbert A Richards

Mr. and Mrs. Gilbert Richards
10618 Cordoba Ct.
Whittier, CA 90601

July 15, 1988

Mary O'Donnell
Community Relations Coordinator
U.S. Environmental Protection Agency
215 Fremont Street (T-1-3)
San Francisco, CA. 95105

Dear Mrs. O'Donnell,

I wish to register a protest. Information concerning Surburban Water Systems contamination problems was placed on my doorstep on July 13, 1988. By the time I arrived at home on that evening it was too late to attend. If government money is being spent on printing it seems letter, brochures, etc., should be delivered in time for the resident of the home to attend any meetings mentioned. Enough time should be allowed to do necessary research also.

Thank you for your time and consideration.

Sincerely,

Catherine Dibelka

Catherine Dibelka
11338 Howard Street
Whittier, CA 90601

July 15, 1988

Mary O'Donnell
Community Relations Coordinator
U. S. Environmental Protection Agency
215 Fremont Street (T-1-3)
San Francisco, Ca. 95105

Dear Ms. O'Donnell:

I wish to register a strong protest. A packet of materials was hung on my doorknob on July 13th concerning Suburban Water Systems contamination problems. It mentions a public comment period from June 22nd to July 22nd and gives notice of a public meeting July 13, 1988 in Whittier. By the time I got home to read the material it was already too late to attend the meeting and long past the beginning of the public comment period.

I am not qualified to assess the impact of the various questions involved and had no opportunity to hear the information given at the public meeting. I would like to know of other impartial experts in this field for their recommendation and advice.

Also, I would like a more detailed map and an explanation of what is involved on the route of the heavy broken line and exactly where it runs south of Beverly Blvd. and east of Norwalk Blvd.

Your prompt response, due to the short time remaining for public comment, will be greatly appreciated.

Yours very truly,

Vera H. Alger

Vera H. Alger
12506 Dorland
Whittier, Ca. 90601

cc: Congressman Esteban Torres

CENTRAL AND WEST BASIN
WATER REPLENISHMENT DISTRICT
7439 EAST FLORENCE AVENUE
DOWNEY, CALIFORNIA 90240-3699
TELEPHONE (213) 927-2611

July 19, 1988

Mr. Neil Ziemba
Remedial Project Manager
U.S. Environmental Protection Agency
2154 Fremont Street (T-4-1)
San Francisco, CA 94105

SUBJECT: Bartolo Well Field

Dear Mr. Ziemba:

Thank you for allowing us to review "Draft - Operable Unit Feasibility Study for Suburban Water Systems Bartolo Well Field of San Gabriel Areas 1-4, Los Angeles County, California," dated June 24, 1988. The report appears to be complete although a thorough review has not been made due to limited time.

We support the plan for continued use of the Bartolo Wells because the extraction of water thereby adds to the water quality protection of the Central Basin. The selection of air stripping equipment, in our opinion, is correct. Placement of the facility in the Whittier Narrows area is expedient and logical.

The plan calling for modification of wells will be difficult to accomplish because the limited aquifers with high concentrations of volatile organics may not yield the required flow rate. Selective pumping should be considered, but it will require a flexible operation especially as conditions change with time.

Your letter of transmittal recommends Alternative E with maximum air stripping and off-gas carbon absorption. This plan has a total cost, including capitalized operation, of $15,000,000; compared to minimum air stripping with a cost of less than $7,000,000. The efficiency of the two air strippers are 92.2 percent TCE removal with minimum air stripping and 98.8 percent with maximum air stripping. Incrementally, the increase in air stripping adds $1,600,000 while the off-gas carbon absorption adds $6,900,000. The marginal efficiency of the maximum unit does not appear to warrant the added cost. The incremental cost of off-gas carbon absorption required for removal of about three pounds per day is very expensive, especially considering that volatiles will total one to three pounds per day.

This District takes the position that the minimum cost plan which meets the requirements should be utilized. We note that the effluent water under this plan meets all the established limits. Our concern for economics is because we considered the cleanup to be extremely important and very costly. The expenditure of more money than required for any given operable unit will increase the difficulty of completing the cleanup operation because of limited funds. Air stripping units can be added in stages as needed and over-design is not necessary. Consideration in design should allow for flexible operation.

It appears that risk analyses have been run, based on maximum upgradient conditions rather than mean conditions. If this is the case, then the risk analyses are overstating the risk. It further appears that off-gas carbon treatment has been selected. The plan ought to indicate that such treatment is only necessary to meet SCAQMD requirements and if those requirements are at any time not applicable, then off-gas treatment can cease.

In summary, we fully support the decision to continue production at the Bartolo Well Field and provide well head treatment by air stripping. Our concern is that the units should be economical so that additional units may be installed at other locations. Because of the unknown upgradient contamination, flexibility in design should be considered.

We appreciate your consideration in providing us with a draft copy of this report. If you have any questions, please contact the undersigned or Richard A. Rhone of Bookman-Edmonston Engineering, Inc.

Sincerely,

John G. Joham, Jr.
General Manager

JGJ:js

cc: Bookman-Edmonston Engineering, Inc.
Thomas Stetson
Suburban Water Systems
Upper San Gabriel Valley Municipal Water District

Postmarked on
22 JUL 1988

July 22, 1988

Neil Ziemba
E.P.A.
215 Fremont St.
San Francisco, CA. 94105

Dear Sir:

I attended the public meeting on July 13, 1988, in Whittier regarding groundwater contamination in Whittier Narrows.

My comments are as follows:

1. If the air-stripping systems are used, please have the off-gas carbon absorption treatment filters installed. I have 3 persons with Asthma in our home and we have no choice but to breathe the air (we do have a choice in the water we drink).

   I would like to see the emissions reduced even further, if possible (98%). If another type of filter becomes available that would do this, please use it in the future.

   If you should decide not to have the off-gas carbon filters installed, that you have a public meeting on this issue.

   The air coming into the system should have an additional filter, as we are in a smog zone.

2. Request that a study be made by the E.P.A. to ascertain the level of contamination in store-bought and home grown produce in the affected areas. Request that locations be set up where our produce can be taken to be tested.

3. Request that the E.P.A. put more restrictions on the use of the VOC's and that any industrial polluters are prosecuted and fined heavily.

4. Within 2 sq. miles of my residence 4 neighbors/friends have come down with various cancers during the past 12 months. A partial profile of these cancer victims is:

	Kind
1. A middle-aged man	UNK.
2. A 9-year old boy	Bone Cancer
3. A 39 year old female	UNK.
4. A 19 year old female	Lymph Gland Canc

Consequently, I request that the E.P.A. take a survey of the Suburban Water Customer to ascertain Cancer incidences among them.

The E.P.A. is the logical agency to do this study because each of these persons goes to different medical centers.

I am sure that there aree other cancer victims in our area that I am not aware of. Please make your findings public.

Please reply to me personally on each one of these points.

Sincerely,

Patricia Estrada
8524 S. Davista Dr.
Whittier, CA. 90605

cc: Ralph Nader
Congressman David Drier
Senator Bill Campbell
Assemblyman Frank Hill

Judith Ann Henry
14451 Manna Drive
La Mirada, California 90638
(213) 946-5285

July 22, 1988

Mr. Niel Ziemba
Remedial Project Manager
U. S. Environmental Protection Agency
215 Fremont Street (T-4-1)
San Francisco, California 94105

Dear Mr. Ziemba:

Enclosed are my comments on the draft Operable Unit Feasibility Study for Suburban Water Systems' Bartolo Well Field of San Gabriel Areas 1-4, Los Angeles County, California (EPA Work Assignment No. 14-9L27.1). I assume I'll be notified when this study is finalized and a Record of Decision issued.

I'd also like to be informed when the feasibility study for the Whittier Narrows Operable Unit is issued for comment, and of any public meetings or documents released relating to Whittier Narrows or the San Gabriel Basin.

Thank you for your assistance.

Sincerely,

Judy Henry

Judy Ann Henry

jah
Enclosure

cc (w/enclosures): Mr. Tim Jocham
Surburban Water Systems

Ms. Mary Johnson
League of Women Voters

Judith Ann Henry
14451 Masa Drive
La Mirada, California 90638
(213) 946-5285

Comments

Draft Operable Unit Feasibility Study
Suburban Water Systems Bartolo Well Field
San Gabriel Areas 1-4
Los Angeles County, California

Review of Figures 3-1 through 3-9 of this OUFS, and data obtained from other sources, indicate a widespread problem with contamination in the San Gabriel Basin, and further problems with migration from the San Gabriel Basin into the Central Basin through the Whittier Narrows area. Large areas of the San Gabriel Basin show high levels of contamination with volatile organic compounds. This OUFS presents convincing arguments for maximum air stripping with off gas carbon treatment as the optimal method for removal of volatile organics from groundwater from Suburban Water's supply. By extension, similar treatment methods are likely to be the treatment of choice for the larger Whittier Narrows area as a whole, and for portions of the San Gabriel Basin. No decision has yet been reached (nor is one anticipated in the near future) on the San Gabriel Basin. However, a feasibility study for the Whittier Narrows Operable Unit is now in preparation and can be expected within a reasonable period.

The OUFS makes numerous mentions of future integration of its recommended facility with remediation of the encompassing Whittier Narrows problem. It also goes into some detail on the difficulties and increased costs of constructing such a facility on a flood plain. Additional problems with earthquake safety, soil liquifaction during earthquakes, and the difficulty of constructing a facility which is both "floodable" (as described in Appendix "F") and which conforms to earthquake safety requirements will surely be addressed in the design review phase. These considerations will, of course, require significant expenditures to overcome. No doubt due to the limited scope of this OUFS, it has failed to consider that these siting difficulties and the associated site preparation and design costs will be encountered with ANY facility contemplated on the Whittier Narrows floodplain.

The OUFS has evaluated only two sites, both owned by Surburban Water and recommends that a facility for maximum air stripping with off gas carbon treatment be constructed on the site currently owned by Suburban Water at the well field itself. I must strongly disagree with this siting recommendation as NOT the most cost-effective alternative.

Certain phrases contained in this OUFS hint that an expanded facility may be under consideration as part of the Whittier Narrows Operable Unit. (Page 1-4: "facilities for the Bartolo Well Field could be incorporated directly or with modification into a larger Whittier Narrows groundwater treatment facility"; page 8-12: ". . . it is anticipated to include additional . . . treatment systems throught the area. . . Alternatives A through H will . . . compliment any new treatment remedial actions. . . Including these treatments facilities in a larger treatment system for the Whittier Narrows will be easy to implement because the Bartolo Well Field is located at the Whittier Narrows."; and other references.)

This OUFS has not considered the possiblity of acquiring a more suitable site either specifically for a Suburban-owned facility, for a shared facility serving all of Whittier Narrows, or for a regional facility (see the mention of a regional facility in Vernon mentioned in Table 6-1) serving the entire Whittier Narrows area and portions of the San Gabriel Valley Basin. A regional facility would, of course, require added expenditures for pipelines, a decision on administration (jointly, as a separate

commercial venture, or EPA-operated), and a longer lead-time for planning and construction. Its advantages would include improved safety and disaster-preparedness, more consistency in the handling of related water-quality problems, and economies of scale. Costs of construction may be less than for a series of small, independently-operated facilities. There is a large range of options between multiple, small facilities and a single regional facility.

Suburban Water has been delivering water in conformance with all applicable standards and, per tables in Section 3 of this OUFS, can continue to do so for at least two years without capital modifications of their existing facility. This OUFS estimates a 9-month implementation schedule for its recommended alternative. An OUFS for the Whittier Narrows Operable Unit is now in preparation, and will surely address these overall issues.

In light of the foregoing comments, please respond specifically to the following questions:

1. The relatively short lead time for the facility proposed does not seem to justify moving ahead with this project before a unified plan has been prepared for the entire Whittier Narrows. Why is EPA proceeding to a Record of Decision on the Bartolo Wells Operable Unit before the Whittier Narrows feasibility study is available?

2. EPA has advanced this project as important in containing migration of volatile organic compounds from the San Gabriel Basin to the Central Basin. The proposed facility will not, in itself, constitute a complete barrier. What plans does EPA have to contain the balance of this flow, and what is the time frame for such plans?

3. Why has EPA chosen to treat the Bartolo Wells unit independently from the Whittier Narrows unit?

4. Should an air stripping facility be constructed at the Bartolo Well Field site, what impact is this likely to have on EPA's plans for Whittier Narrows as a whole?

5. Why have only two sites been considered?

Also, I have been provided with a copy of the preliminary geotechnical investigation for the Whittier Narrows area. The preliminary report recommends deep compaction procedures to reduce liquifaction during seismic events. Questions on this subject:

1. What is the estimated cost of such procedures?
2. Has experience during the October, 1987 Whittier Narrows earthquake (and discovery of the associated fault) altered these recommendations?
3. How will flooding episodes impact a site prepared with these procedures? Will repeated flooding reduce its effectiveness?

10606 Cordoba Court
Whittier, Ca 90601
July 22, 1988

Mr. Neil Ziemba
Remedial Project Manager
U.S. Environmental Protection Agency
215 Fremont Street (T-4-1)
San Francisco, CA 94105

Dear Mr. Ziemba:

Re: San Gabriel Valley Superfund Site
Bartolo Well Field

I am a resident of the neighborhood near the intersection of Strong Avenue and Workman Mill Road, the alternative location for the proposed air-stripping facility. There are over 200 condominiums immediately adjacent to this alternative location and many lovely homes nearby. The facility would not be appropriate in this location.

My recommendation would be that, if the proposed location at the Bartolo Well Field does not prove feasible, the site of Suburban Water Systems Chlorination Station be seriously considered as the alternate site. It is not located in the 100-year flood plain and there would be no homeowners affected.

In addition, I am strongly in favor of the off gas carbon treatment to reduce air pollution.

Sincerely,

Mary W. MacDonald

Mary W. MacDonald

22 JUL 1988

July 22-88.

Neil Ziemba
Remedial Project Manager
U.S.Environmental agency
215 fremont St.T-4-1.
San Francisco Ca 94105.

Dear Sir:

As a resident of the Whittier area since 1942.I have been aware of water problems for a long time. Although my water comes from the ground I am aware of geberal conditions that may jeopardize the water table.

Permit me to bring up the subject of pollution from the standpoint of too many animals on the ground.

In my immediate neighborhood, there is a heavily occuppied horse Ranch, next door are too many horses etc. on a small acreage, and in the government area along the San Gabriel River are many horses and horse involved activities.

We are, all concerned about the pollution of our drinking water and feel that too many animals on the water producing areas is a problem to be seriously considered.

Hoping you will take notice of this in solving the problrm and that something can be done to solve this serious situation.

Respectfull yours,

Erma & Wilmott

Mr. and Mrs. J.H.Wilmott
10044 E. Kratt Lane
Whittier Ca. 90601.

APPENDIX G

NATIONAL PRIMARY DRINKING WATER REGULATIONS

Revisions to 40 CFR 141
National Primary Drinking Water Regulations

(l) All community and non-transient, non-community water systems shall repeat the monitoring required in § 141.40 no less frequently than every five years from the dates specified in § 141.40(a).

g. Section 141.50 is amended by revising paragraph (b) to read as follows:

§ 141.50 Maximum contaminant level go s for organic contaminants.

* * * * *

(b) MCLGs for the following contaminants are as indicated:

Contaminant	MC G in m /l
(1) 1,1-Dichloroethylene	0. 7
(2) 1,1,1-Trichloroethane	0.
(3) para-Dichlorobenzene	0. s

h. Section 141.60 is revised to read a follows:

§ 141.60 Effective dates.

(a) The effective date for § 141.61 is January 9, 1989.

(b) The effective date for § 141.62(b)(2) is October 2, 1987.

i. Section 141.61 is added as follows:

§ 141.61 Maximum contaminant levels fo organic contaminants.

(a) The following maximum contaminant levels for organic contaminants apply to community wate systems and non-transient non-community water systems.

CAS No.	Contaminant	Maximu contamin level in m
71-43-2	Benzene	0.
75-01-4	Vinyl chloride	0. 2
56-23-5	Carbon tetrachloride	0.
107-06-2	1,2-Dichloroethane	0.
79-01-6	Trichloroethylene	0.
75-35-4	1,1-Dichloroethylene	0.
71-55-6	1,1,1-Trichloroethane	0.2
106-46-7	para-Dichlorobenzene	0.0

(b) The Administrator, pursuant to section 1412 of the Act, hereby identifie the following as the best technology, treatment techniques, or other means generally available for achieving compliance with the maximum contaminant level for synthetic organic chemicals (§ 141.61(a)): Central treatment using packed tower aeration central treatment using granular activated carbon for all these chemica except vinyl chloride.

j. Part 141 is amended by adding a new Subpart J, consisting of §141.100 and § 141.101, to read as follows. Subparts H and I are reserved.

Subpart J—Use of Non-Centralized Treatment Devices

Sec.
141.100 Criteria and procedures for public water systems using point-of-entry devices.
141.101 Use of other non-centralized treatment devices.

Subpart J—Use of Non-Centralized Treatment Devices

§ 141.100 Criteria and procedures for public water systems using point-of-entry devices.

(a) Public water systems may use point-of-entry devices to comply with maximum contaminant levels only if they meet the requirements of this section.

(b) It is the responsibility of the public water system to operate and maintain the point-of-entry treatment system.

(c) The public water system must develop and obtain State approval for a monitoring plan before point-of-entry devices are installed for compliance. Under the plan approved by the State, point-of-entry devices must provide health protection equivalent to central water treatment. "Equivalent" means that the water would meet all Primary and Secondary Drinking Water Standards and would be of acceptable quality similar to water distributed by a well-operated central treatment plant. In addition to the VOCs, monitoring must include physical measurements and observations such as total flow treated and mechanical condition of the treatment equipment.

(d) Effective technology must be properly applied under a plan approved by the State and the microbiological safety of the water must be maintained.

(1) The State must require adequate certification of performance, field testing, and, if not included in the certification process, a rigorous engineering design review of the point-of-entry devices.

(2) The design and application of the point-of-entry devices must consider the tendency for increase in heterotrophic bacteria concentrations in water treated with activated carbon. It may be necessary to use frequent backwashing, post-contractor disinfection, and Heterotrophic Plate Count monitoring to ensure that the microbiological safety of the water is not compromised.

(e) All consumers shall be protected. Every building connected to the system must have a point-of-entry device installed, maintained, and adequately monitored. The State must be assured that every building is subject to treatment and monitoring, and that the rights and responsibilities of the public water system customer convey with title upon sale of property.

§ 141.101 Use of other non-centralized treatment devices.

Public water systems shall not use bottled water or point-of-use devices to achieve compliance with an MCL. Bottled water or point-of-use devices may be used on a temporary basis to avoid an unreasonable risk to health.

PART 142—[AMENDED]

2. In Part 142:

a. The authority citation for 40 CFR Part 142 continues to read as follows:

Authority: 42 U.S.C. 300g–2, 300g–3, 300g–4, 300g–5, 300j–4, and 300j–9.

b. A new § 142.56 is added to Subpart , to read as follows:

142.56 Bottled water and point-of-use evices.

(a) A State may require a public water ystem to use bottled water or point-of-se devices as a condition for granting n exemption from the requirements of § 141.61(a) of this part.

(b) Public water systems that use ottled water as a condition of obtaining n exemption from the requirements of § 141.61(a) must meet the requirements et out in § 142.62(f) of this part.

(c) Public water systems that use oint-of-use devices as a condition for eceiving an exemption must meet the equirements set out in § 142.62(g) of his part.

c. A new § 142.62 is added to Subpart to read as follows:

142.62 Variances from the maximum ontaminant levels for synthetic organic hemicals.

(a) The Administrator, pursuant to ection 1415(a)(1)(A) of the Act, hereby dentifies the following as the best echnology, treatment techniques, or ther means available for achieving ompliance with the maximum ontaminant levels for synthetic organic hemicals: Removal using packed tower eration; removal using granular ctivated carbon (except for vinyl chloride).

(b) A State shall require community water systems and non-transient, non-community water systems to install and/or use any treatment method identified in § 141.62(a) as a condition for granting a variance except as provided in paragraph (c). If, after the system's installation of the treatment method, the system cannot meet the MCL, that system shall be eligible for a variance under the provisions of section 1415(a)(1)(A) of the Act.

APPENDIX H

SCAQMD AIR QUALITY DATA--1987

AIR QUALITY DATA 1987
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Source/ Receptor Area No.	Location of Air Monitoring Station	Carbon Monoxide						Ozone			Nitrogen Dioxide				Sulfur Dioxide				Visibility	
		Max. Conc. in PPM 1-Hour	Max. Conc. in PPM 8-Hour	No. Days Standard Exceeded Federal ≥ 9.5 PPM 8-Hr.	Federal > 35 PPM 1-Hr.	State ≥ 9.1 PPM 8-Hr.	State > 20 PPM 1-Hr.	Max. Conc. in PPM 1-Hour	No. Days Standard Exceeded Federal > .12 PPM 1-Hour	State ≥ .10 PPM 1-Hour	Max. Conc. in PPM 1-Hour	Standard Criterion[a] Federal AAM in PPM	State % AAM Exc'd.	No. Days St'd. Exc'd. State > .25 PPM 1-Hour	Max. Conc. in PPM 1-Hour	Standard Criterion Federal AAM in PPM	No. Days St'd. Exc'd.[b] Federal > .14 PPM 24-Hr.	State ≥ .05 PPM 24-Hr.[c]	Location	Days not Meeting State St'd.[d]
1	Los Angeles	15	10.9	1	0	1	0	.22	36	91	.42	.0537	0.56	4	.03	.0042	0	0	Burbank Airport	242
2	W. Los Angeles	13	7.5	0	0	0	0	.28	16	58	.27	.0378	0	1	.03	.0022	0	0		
3	Hawthorne	22	14.1	18	0	22	2	.20	3	10	.23	.0353	0	0	.03	.0038	0	0	Los Angeles	
4	Long Beach	13	9.4	0	0	1	0	.17	4	11	.26	.0432	0	1	.06	.0058	0	0	International	129
5	Whittier	13	9.7	1	0	1	0	.23	40	71	.25	.0486	0	0	.07	.0038	0	0		
6	Reseda	15	12.1	1	0	2	0	.22	60	121	.15	.0319	0	0	.02	.0022	0	0	Long Beach	
7	Burbank	15	12.5	9	0	11	0	.23	76	130	.26	.0516	0	1	.02	.0023	0	0	Airport	177
8	Pasadena	15	11.3	2	0	2	0	.28	95	150	.21	.0420	0	0	.02	.0020	0	0		
9	Azusa	9	6.0	0	0	0	0	.30	111	163	.23	.0498	0	0	.03	.0024	0	0		
9	Glendora	NM	NM	NM	NM	NM	NM	.33	135	180	.17	.0380	0	0	NM	NM	NM	NM	William J. Fox	
10	Pomona	14	10.0	1	0	1	0	.29	72	122	.22	.0547	2.40	0	NM	NM	NM	NM	Airport	1
11	Pico Rivera	12	10.0	1	0	2	0	.28	63	120	.24	.0486	0	0	.09	.0036	0	0	(Lancaster)	
12	Lynwood	26	19.6	40	0	47	10	.24	11	24	.26	.0429	0	1	.06	.0054	0	0		
13	Newhall	NM	NM	NM	NM	NM	NM	.21	67	129	NM	NM	NM	NM	NM	NM	NM	NM		
14	Lancaster	12	3.9	0	0	0	0	.17	32	105	.09	.0161	0	0	NM	NM	NM	NM		
16	La Habra	21	10.6	2	0	3	1	.24	41	77	.22	.0382	0	0	.04	.0042	0	0		
17	Anaheim	16	8.7	0	0	0	0	.22	25	48	.22	.0421	0	0	.03	.0028	0	0		
17	Los Alamitos	NM	NM	NM	NM	NM	NM	.17	4	15	NM	NM	NM	NM	.03	.0024	0	0		
18	Costa Mesa	12	8.4	0	0	0	0	.16	2	23	.19	.0281	0	0	.03	.0020	0	0		
19	El Toro	8	6.3	0	0	0	0	.20	16	36	NM	NM	NM	NM	NM	NM	NM	NM		
22	Norco	NM	NM	NM	NM	NM	NM	.24	73	139	NM	NM	NM	NM	NM	NM	NM	NM	March Field	
23	Rubidoux	9	6.1	0	0	0	0	.29	113	168	.21	.0269	0	0	.02	.0015	0	0	(Riverside)	215
23	Riverside (Magnolia)	13	7.6	0	0	0	0	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM		
24	Perris	NM	NM	NM	NM	NM	NM	.20	82	136	NM	NM	NM	NM	NM	NM	NM	NM		
28	Hemet	NM	NM	NM	NM	NM	NM	.18	27	83	NM	NM	NM	NM	NM	NM	NM	NM		
29	Banning	NM	NM	NM	NM	NM	NM	.21	53	96	NM	NM	NM	NM	NM	NM	NM	NM		
30	Palm Springs	5	2.9	0	0	0	0	.17	33	74	.08	.0190	0	0	NM	NM	NM	NM		
30	Indio[e]	NM	NM	NM	NM	NM	NM	.16	14	41	NM	NM	NM	NM	NM	NM	NM	NM		
32	Upland	7	5.1	0	0	0	0	.28	101	150	.20	.0472	0	0	.02	.0011	0	0	Norton Air	
33	Ontario	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	Force Base	237
33	Chino[f]	NM	NM	NM	NM	NM	NM	.04	0	0	NM	NM	NM	NM	NM	NM	NM	NM	(San Bernardino)	
34	Fontana	6	4.0	0	0	0	0	.29	116	165	.18	.0383	0	0	.02	.0014	0	0	Ontario	
34	San Bernardino	11	6.7	0	0	0	0	.25	117	166	.19	.0430	0	0	.03	.0019	0	0	Airport	235
35	Redlands	NM	NM	NM	NM	NM	NM	.24	120	161	NM	NM	NM	NM	NM	NM	NM	NM		
37	Crestline	NM	NM	NM	NM	NM	NM	.29	119	156	NM	NM	NM	NM	NM	NM	NM	NM		

PPM - Parts by volume per million parts of air.

AAM - Annual Arithmetic Mean.

NM - Pollutant not monitored.

* - Data received from FAA.

a) - The federal Standard is annual arithmetic mean NO_2 greater than 0.0534 ppm.

b) - The other federal (3-hour average > 0.50 PPM; 0.03 PPM, AAM) and state (1-hour > 0.25 PPM) standards were also not exceeded.

c) - Twenty-four hour average $SO_2 \geq 0.05$ PPM with 1-hour Ozone ≥ 0.10 PPM, or with 24-hour TSP ≥ 100 ug/m^3.

d) - Visibility standard is less than 10 miles for hours with relative humidity less than 70%.

e) - Ozone monitored July 1 - September 18, 1987.

f) - Ozone monitoring terminated January 30, 1987.

SOUTH COAST
AIR QUALITY MANAGEMENT DISTRICT
9150 Flair Drive
El Monte, CA 91731

AIR QUALITY DATA 1987
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Source/ Receptor Area No.	Location of Air Monitoring Station	Suspended Particulates PM_{10} [g]								Particulates TSP [h]			Lead [h]			Sulfate [h]	
				No. (%) Samples Exceeding Standard				Percent Standard Exceeded [i]					Occasions Exceeding Std.			Number of No. Samples Exceeding Std.	
				Federal	State			Federal	State								
		Number of Samples	Max. 24-Hr. Conc. ug/m^3	>150 ug/m^3 24-Hour	>50 ug/m^3 24-Hour	AAM Conc. ug/m^3	AGM Conc. ug/m^3	>50 ug/m^3	>30 ug/m^3	Number of Samples	Max. 24-Hr. Conc. ug/m^3	AGM Conc. ug/m^3	Max. 24-Hr. Conc. ug/m^3	Federal >1.5 ug/m^3 Qrtly Avg.	State ≥1.5 ug/m^3 Mo. Avg.	Max. 24-Hr. Conc. ug/m^3	State ≥25 ug/m^3 24-Hr.
1	Los Angeles	58	158	1 (1.7)	36 (62.1)	56.6	50.6	13.2	68.7	61	216	91.4	0.43	0	0	14.5	0
2	W. Los Angeles	NM	NM	NM	NM	NM	NM	NM	NM	59	125	57.2	NM	NM	NM	15.2	0
3	Hawthorne	NM	NM	NM	NM	NM	NM	NM	NM	59	150	76.5	0.44	0	0	20.6	0
4	Long Beach	55	113	0 (0)	18 (32.7)	50.5	45.8	1.0	52.7	60	174	86.3	0.53	0	0	17.6	0
5	Whittier	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
6	Reseda	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
7	Burbank	59	147	0 (0)	36 (61.0)	60.2	53.7	20.4	78.9	61	180	91.9	0.44	0	0	17.5	0
8	Pasadena	NM	NM	NM	NM	NM	NM	NM	NM	59	139	70.0	NM	NM	NM	14.0	0
9	Azusa	59	188	2 (3.4)	38 (64.4)	68.2	58.7	36.4	95.7	61	254	111.8	NM	NM	NM	15.4	0
9	Glendora	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
10	Pomona	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11	Pico Rivera	NM	NM	NM	NM	NM	NM	NM	NM	60	263	95.0	0.72	0	0	17.8	0
12	Lynwood	NM	NM	NM	NM	NM	NM	NM	NM	53	221	115.2	0.54	0	0	18.2	0
13	Newhall	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
14	Lancaster	NM	NM	NM	NM	NM	NM	NM	NM	60	187	64.2	NM	NM	NM	7.3	0
16	La Habra	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
17	Anaheim	NM	NM	NM	NM	NM	NM	NM	NM	61	202	84.6	0.28	0	0	14.6	0
17	Los Alamitos	59	163	1 (1.7)	21 (35.6)	48.6	42.4	0	41.3	57	648 [l]	91.9	NM	NM	NM	18.2	0
18	Costa Mesa	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
19	El Toro	61	107	0 (0)	15 (24.6)	40.0	36.1	0	20.3	60	150	68.8	NM	NM	NM	14.3	0
22	Norco	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
23	Rubidoux	60	219	7 (11.7)	46 (76.7)	89.6	73.5	47.0	145.0	60	305	116.9	0.20	0	0	16.1	0
23	Riverside (Magnolia)	NM	NM	NM	NM	NM	NM	NM	NM	61	234	106.5	0.27	0	0	19.7	0
24	Perris	15 [j]	187	0 (0)	5 (33.3)	49.2	31.8	0	6.0	59	255	88.2	NM	NM	NM	15.6	0
28	Hemet	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
29	Banning	61	163	1 (1.6)	22 (36.1)	44.1	34.0	0	13.3	61	213	68.7	NM	NM	NM	15.2	0
30	Palm Springs	20 [k]	121	0 (0)	5 (25.0)	33.4	24.1	0	0	61	180	58.8	NM	NM	NM	10.4	0
30	Indio	61	115	0 (0)	25 (41.0)	51.4	44.2	2.8	47.3	60	331	100.6	NM	NM	NM	10.3	0
32	Upland	NM	NM	NM	NM	NM	NM	NM	NM	61	212	92.2	0.23	0	0	18.0	0
33	Ontario	60	182	1 (1.7)	41 (68.3)	69.8	60.3	39.6	101.0	55	242	106.0	NM	NM	NM	17.8	0
33	Chino	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
34	Fontana	60	203	3 (5.0)	38 (63.3)	73.9	57.6	47.8	92.0	59	298	108.3	NM	NM	NM	18.7	0
34	San Bernardino	61	211	2 (3.3)	36 (59.0)	70.0	55.2	40.0	84.0	60	271	107.6	0.23	0	0	17.6	0
35	Redlands	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
37	Crestline	NM	NM	NM	NM	NM	NM	NM	NM	60	218	48.2	NM	NM	NM	13.1	0

ug/m^3 - Micrograms per cubic meter of air.

AGM - Annual Geometric Mean.

g) - suspended particulates PM_{10} samples were collected every 6 days using the size-selective inlet high volume sampler with quartz filter media (PM_{10} refers to fine particles with aerodynamic diameter of 10 micrometers or less).

h) - Total suspended particulates, lead, and sulfate were determined from samples collected every 6 days by the high volume sampler method, on glass fiber filter media. Federal TSP standard superSeded by PM_{10} standard, July 1, 1987.

i) - Federal PM_{10} standard is AAM >50 ug/m^3; state standard is AGM >30 ug/m^3.

j) - Sampling period: October - December.

k) - Sampling period: September - December.

l) - Adjacent parking lot was being swept during sampling period. Second high concentration 310 ug/m^3