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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

215 Fremont Street

San Francisco, Ca. 94105

23 SEP 1987

MEMORANDUM

SUBJECT: Record of Decision for a Remedial Action  
for Area 1 of the San Fernando Valley  
Superfund sites

FROM: *Jeff Melikson*  
Jeff Melikson  
Acting Director,  
Toxics and Waste Management Division (T-1)

TO: Judith E. Ayres  
Regional Administrator (RA)

A Record of Decision to select a remedial action (RA) for Area 1 of the San Fernando Superfund sites is attached for your signature. Also attached are briefing documents from the briefing for you and the Division Directors on August 14, 1987 describing the selection process and the basis for our determination that a groundwater collection and conveyance system of shallow groundwater extraction wells and collector pipeline, aeration tower, and granular activated carbon-air filtering units, is the most cost-effective remedial alternative for the site that adequately protects human health and the environment.

As you know, EPA Headquarters delegated the authority to sign this Record of Decision from the Assistant Administrator for Solid Waste and Emergency Response to the Regional Administrator. Upon your signature, the Los Angeles Department of Water and Power will be given authorization to begin construction of the RA. The construction of the selected alternative will require six months to complete.

Based on the Operable Unit Feasibility Study, the Administrative Record, the Summary of Alternatives Analysis, and the Community Relations Responsiveness Summary, I request that you sign the Record of Decision selecting groundwater extraction and treatment as the cost-effective remedial action for Area 1 of the San Fernando Valley Superfund sites. I am available to discuss this matter in more detail if you have any questions concerning the attached Record of Decision package.

Attachment

DAS07352

Record of Decision  
Concurrence PageSITE: San Fernando Valley Superfund Site, Los Angeles County,  
California

The attached Record of Decision package for Area 1 of the San Fernando Valley Superfund sites has been reviewed and I concur with the contents.

9.21.87

Date

Mary Ann Murked

Regional Counsel

8/31/87

Date

Harry KisselDirector, Water Management  
Division9/8/87

Date

David HowellDirector, Air Management  
Division9.9.87

Date

Charles W. UrmayAssistant Regional Administrator,  
Office of Policy and Management

DECLARATION FOR THE RECORD OF DECISIONSITE NAME AND LOCATION

North Hollywood/Burbank Well Field Area 1 of the San Fernando Valley Sites, Los Angeles County

STATEMENT OF PURPOSE

This decision document represents the selected remedial action for this site developed in accordance with CERCLA, as amended by SARA, and to the extent practicable, the National Contingency Plan.

The State of California has concurred on the selected remedy.

This decision is based upon the administrative record (index attached). The attached index identifies the items which comprise the administrative record upon which the selection of a remedial action is based.

DESCRIPTION OF SELECTED REMEDY

The purpose of this project is to mitigate the observed rapid spread of groundwater contaminants in Area 1 by extraction and hydraulic containment. The selected remedy includes a groundwater collection and conveyance system of shallow groundwater extraction wells and collector pipeline, aeration facility for volatile organic chemicals primarily trichloroethylene (TCE) and perchloroethylene (PCE) and granular activated carbon-air filtering units. The contaminated groundwater will be treated down to the Maximum Contaminant Level (MCL) for all observed or expected volatile organic substances at 5ppb for TCE and the State Action Level for PCE at 4 ppb. Treated groundwaters will be conveyed by gravity via an existing pipeline to the Los Angeles Department of Water and Power's North Hollywood Pumping Station for chlorination and distribution. Spent carbon from the tower will be removed and replaced with fresh carbon, with the spent carbon scheduled either for disposal or regeneration.

DECLARATION

The selected remedy is protective of human health and the environment, attains Federal and State requirements that are applicable or relevant and appropriate and is cost effective. This remedy satisfies the preference for treatment that reduces toxicity, mobility, or volume as a principal element. Finally, it is determined that this remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable.

John C. Wise ACTING

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Signature of the Regional Administrator

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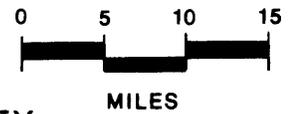
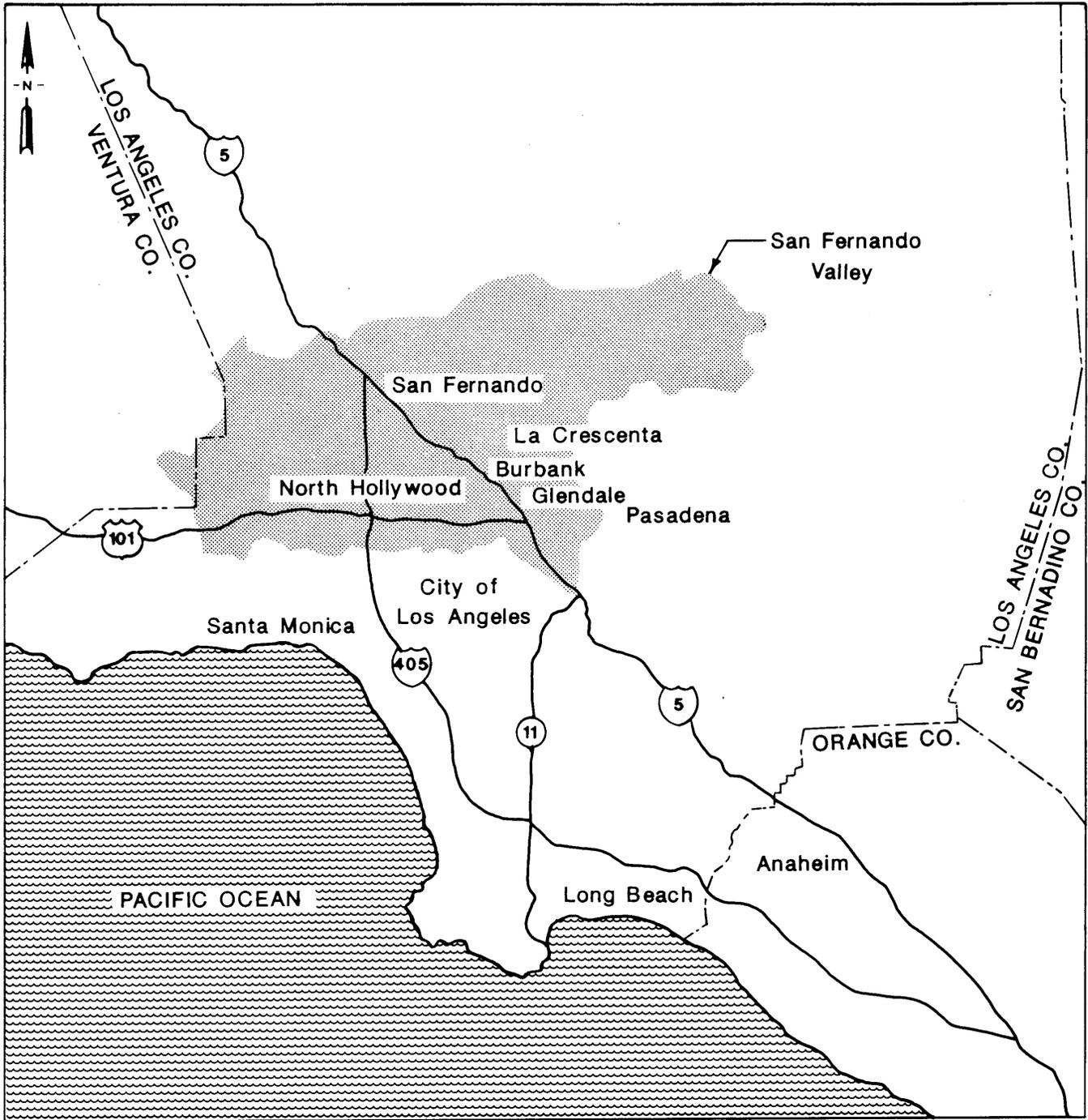
SUMMARY OF REMEDIAL ALTERNATIVES  
SELECTION, OPERABLE UNIT FOR THE  
NORTH HOLLYWOOD-BURBANK WELL FIELD  
OF THE SAN FERNANDO VALLEY SITES

August, 1987

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VICINITY MAP OF THE SAN FERNANDO VALLEY

## 1.0 SITE LOCATION AND DESCRIPTION

The North Hollywood-Burbank Well Field is located within the North Hollywood National Priorities List (NPL) Site, which is one of four NPL sites in the San Fernando Valley. It is also located in the San Fernando Valley Groundwater Basin. The sites were proposed for inclusion on the NPL because of the discovery of trichloroethylene and other volatile organic contaminants (VOCs) in the groundwater. The San Fernando Valley Groundwater Basin comprises 112,000 acres of valley fill situated among the Coastal Ranges within the Los Angeles metropolitan area (Figure 1-1). The area is used for residential, commercial, and industrial purposes. Groundwater from the basin is distributed by various municipalities and water districts to the residents of the metropolitan area. The Los Angeles Department of Water and Power (DWP) operates the North Hollywood-Burbank Well Field to provide drinking water to the residents of the City of Los Angeles, located to the south of the San Fernando Valley.

The North Hollywood-Burbank Well Field is situated in the part of the San Fernando Groundwater Basin with the best aquifer characteristics and therefore provides a large proportion of the groundwater produced from the basin. The eastern half of the basin, which includes the North Hollywood-Burbank Well Field, is underlain by alluvial deposits consisting of coarse materials, such as sands and gravels, interbedded with localized lenses of clays and silts. As a result, the area is characterized by high soil permeabilities and excellent aquifer quality. The North Hollywood-Burbank Well Field provides 80% of the groundwater that DWP produces from the San Fernando Valley Groundwater Basin. This accounts for approximately 10% of DWP's total water supply.

The San Fernando Groundwater Basin can provide drinking water for approximately 500,000 people residing in the San Fernando Valley and Los Angeles. In times of water shortages, the groundwater shortage can be drawn upon to supply about one million people. It is also an important source of water for the Cities of Burbank, Glendale, and San Fernando.

2.0 SITE HISTORY

Investigation of contamination in the North Hollywood-Burbank Well Field began with the discovery, in 1980, of trichloroethylene (TCE) and tetrachloroethylene (PCE) in one quarter of DWP's wells in San Fernando Valley Groundwater Basin. In July, 1981, DWP and the Southern California Association of Governments (SCAG) began a two-year study funded by EPA. The study revealed that the contamination occurs in plume patterns and is spreading with the flow of groundwater toward the southeast, at a rate of approximately 300 feet per year. Following the completion of the study, DWP began a program to control the spread of contamination; this involved preferential pumping and blending of the contaminated groundwater with uncontaminated surface water supplies. In 1984, the North Hollywood area, including DWP's North Hollywood-Burbank Well Field, was proposed by EPA, along with three other well field sites within the San Fernando Valley Groundwater Basin, for inclusion on the National Priorities List (NPL).

In 1985, EPA and its contractor, Camp Dresser & McKee Inc. (CDM), evaluated existing data concerning the North Hollywood NPL Site and concluded that adequate information was available to justify a Fast-Track evaluation of the North Hollywood-Burbank Well Field. In March of 1986, a cooperative agreement was signed between EPA and DWP, authorizing DWP to perform a Fast-Track evaluation by preparing an Operable Unit Feasibility Study (OUFS). The objective of the OUFS is to recommend an interim remedial measure, consistent with the final remedial solution, that will slow down or halt the migration of contamination in the groundwater prior to the Remedial Investigation/Feasibility Study (RI/FS) process. An OUFS report was prepared documenting the decision process in recommending a remedial alternative for the well field. The DWP recommended the extraction of contaminated groundwater and its treatment, using aeration and granular activated carbon, to lower contaminant levels to State Action Levels and Federal Maximum Contaminant Levels (MCLs) before combining the groundwater with other water supplies.

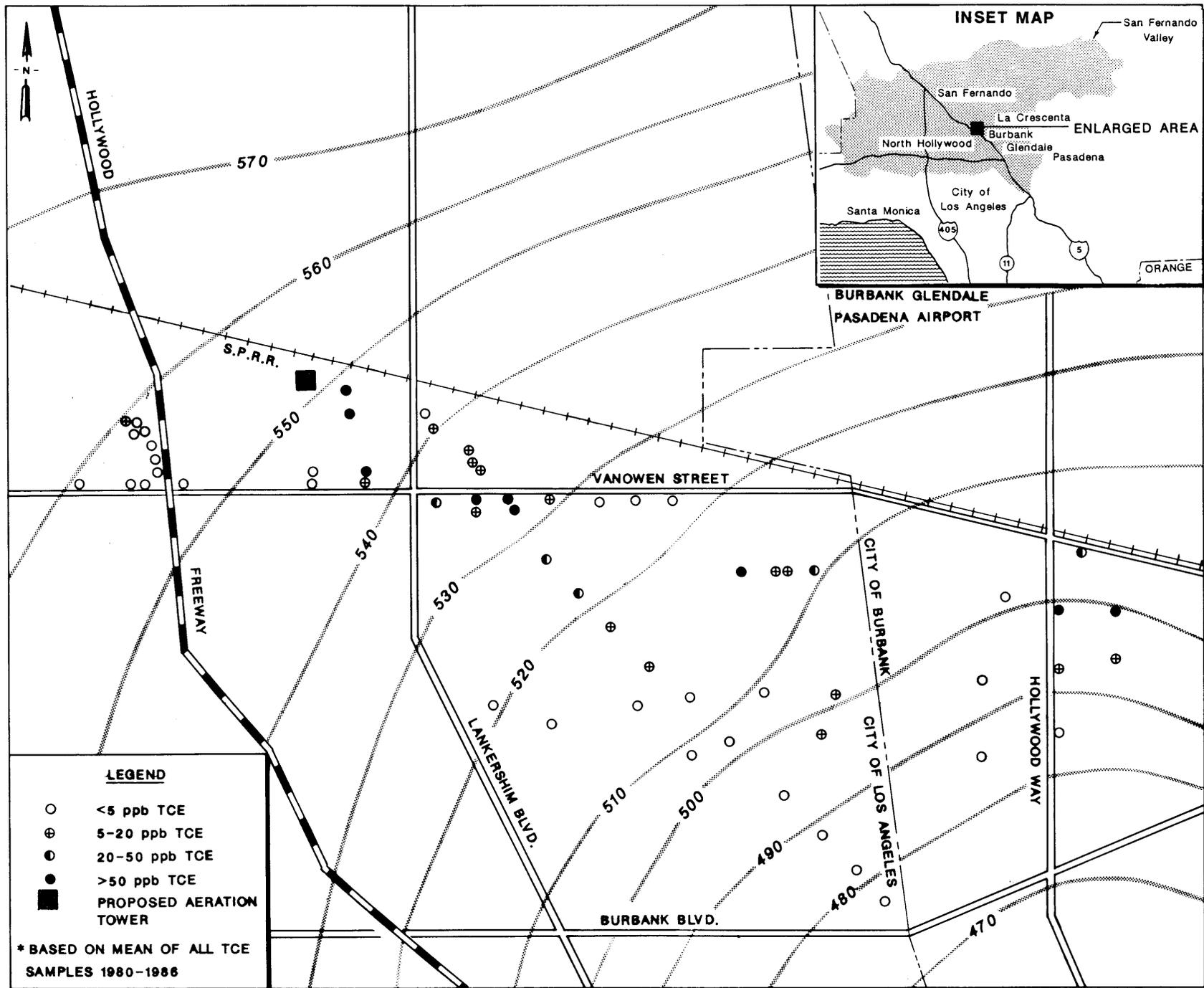
### 3.0 CURRENT STATUS

The following describes the type and extent of contamination that is presently known about the site on the basis of preliminary investigations. Because the RI/FS has not yet begun, the contamination has not been fully characterized, however enough monitoring information exists to justify an operable unit for the North Hollywood/Burbank area.

According to preliminary investigations, TCE is the primary contaminant present in the North Hollywood-Burbank Well Field; PCE is also present, but to a lesser extent and in lower concentrations. Scanning results for 45 volatile organic compounds (VOCs) indicate that trace quantities of other contaminants are present as well. However, the measured concentrations of all other detected contaminants varied considerably according to sampling location and time, and exhibited no discernable pattern of contamination.

As of August, 1985, water from 27 of DWP's wells within the North Hollywood area exceeded the State Action Level and Federal MCL for TCE, which is five parts per billion (ppb). In several of the wells, the level exceeded 40 ppb. PCE is present in water from four wells in the area at levels exceeding the State Action Level of four ppb. The locations of wells exceeding Action Levels are indicated on Figure 3-1. Levels of contamination by TCE, in wells of the North Hollywood area are presented on Table 3-1. The highest TCE level found was 1500 ppb. This contamination problem affects approximately 500,000 people.

Plume patterns extend from the northern limit of the well field toward the southeast. Historical data indicate that the contamination plumes have migrated approximately 1,100 feet in four years, a rate that approximates the flow of groundwater in the region. At present, water from 27 of the wells in the field contain TCE in levels greater than the State Action Level and MCL. At the current rate of plume migration, another 5 to 10 wells may reach contamination levels greater than the State Action Levels and MCL within the next two years.



AVERAGE\* TCE CONCENTRATIONS SAN FERNANDO VALLEY GROUNDWATER BASIN WELLS

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TABLE 3.1

MEAN, LOWEST, AND HIGHEST TCE LEVELS IN  
NORTH HOLLYWOOD-BURBANK AREA WELLS

WELL NAME	NUMBER OF SAMPLES 1980-86	MEAN TCE LEVEL 1980-86 (PPB TCE)	LOWEST TCE LEVEL 1980-86 (PPB TCE)	HIGHEST TCE LEVEL 1980-86 (PPB TCE)
NH-2	38	4.65	0.70	11.00
NH-5	46	61.60	2.00	175.00
NH-10	14	262.57	82.00	360.00
NH-11	27	96.41	6.00	624.00
NH-13	6	86.33	7.00	315.00
NH-14A	30	22.45	2.50	62.00
NH-15	16	7.74	1.29	13.00
NH-16	10	1.06	0.10	2.10
NH-17	20	4.07	0.10	8.90
NH-18	32	3.68	0.10	7.50
NH-19	10	60.33	26.80	111.00
NH-20	33	16.71	1.30	77.00
NH-21	22	46.29	1.50	142.00
NH-22	10	0.77	0.10	2.00
NH-23	13	1.25	0.40	2.00
NH-24	59	73.97	0.50	189.90
NH-25	16	1.65	0.42	2.60
NH-26	16	1.65	0.50	2.70
NH-27	49	10.99	0.00	45.00
NH-28	13	67.95	0.90	235.00
NH-29	10	17.07	2.00	32.00
NH-30	17	0.62	0.00	2.00
NH-31	68	11.85	1.54	48.60
NH-34	13	0.83	0.00	2.00
NH-35	39	10.04	0.00	34.00
NH-36	12	0.80	0.00	2.00
NH-37	14	0.87	0.00	4.80
NH-38	39	19.24	0.00	53.00
NH-39	44	14.16	0.53	59.40
NH-40	14	16.11	0.00	91.00
NH-41	58	10.11	0.80	40.00
NH-42	43	1.64	0.00	9.50
NH-43A	22	1.61	0.10	5.40
NH-44	5	0.58	0.20	0.80
NH-45	3	0.17	0.00	0.50
WH-1	16	27.50	11.00	97.00
WH-2	30	25.31	5.00	92.00
WH-3	49	10.67	3.00	41.00
WH-4	27	5.11	0.10	11.00
WH-5	16	2.19	0.90	4.00
WH-6A	17	0.17	0.00	0.60
WH-7	9	0.79	0.17	1.60
WH-8	12	2.77	1.00	8.60
WH-9	11	1.01	0.30	1.60
WH-10	8	1.17	0.14	3.60
EW-1	11	2.21	0.10	6.30
EW-2A	41	2.27	0.10	7.40

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EW-3	39	5.35	0.00	9.46
EW-4	11	0.74	0.00	3.00
EW-5	36	12.35	0.00	62.00
EW-6	8	0.46	0.00	1.80
EW-10	22	0.49	0.00	8.40
FSD-6	20	0.35	0.00	1.00
FSD-9	5	55.65	15.00	73.00
FSD-10	18	593.50	110.00	1500.00
FSD-11A	5	15.80	10.00	21.00
FSD-12	15	7.29	0.70	22.00
FSD-13A	18	2.72	0.10	12.00
FSD-14A	1	44.00	44.00	44.00
FSD-17	5	3.82	1.70	5.80
FSD-18	15	0.43	0.00	1.00
*** Total ***				
	1347			

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The public may be exposed to contaminants within the groundwater of the North Hollywood-Burbank Well Field through drinking water. Water from the field is extracted and then blended with surface water supplies. This water is then delivered to approximately one million people served by LADWP. Groundwater from this centrally located well field can be distributed to many parts of the City of Los Angeles through various reservoirs and supply lines.

Because TCE and PCE are suspected carcinogens, the California Department of Health Services (DOHS) has set Action Levels for these compounds of five ppb and four ppb, respectively. EPA has adopted a corresponding Maximum Contaminant Level (MCL) of five ppb for TCE. Additionally, EPA has set the Maximum Contaminant Level Goal (MCLG, previously called Recommended Maximum Contaminant Level, or RMCL) for TCE at zero ppb and has proposed a MCLG of zero ppb for PCE. There is no proposed MCL for PCE.

Under normal conditions, groundwater from the North Hollywood-Burbank Well Field provides only ten percent of DWP's water supply and, because of dilution, water delivered to DWP customers contains TCE and PCE at levels less than the State Action Levels and MCL. During periods of drought or high demand, however, groundwater contributes a greater proportion of the water destined for DWP customers. During these situations, well water composes 20 to 30 percent of demand, and DWP may be forced to serve water that exceeds State and Federal standards. Evaluation of water usage and contaminant levels during previous periods of drought and high demand indicates that the result could be TCE concentrations of 8 to 13 ppb delivered to the customer tap.

#### 4.0 ENFORCEMENT

In August 1985 EPA's contractor compiled a list of Potential Responsible Parties (PRPs) for the four areas within the San Fernando Valley. A priority list of 59 facilities was developed based on facility size, operation type, use of chemical solvents and disposal practices. Types of facilities include electroplating, aircraft and light manufacturing industries.

EPA plans to send RCRA 3007/CERCLA 104 information gathering letters to these facilities to determine the extent of their responsibility for the contamination problem in the San Fernando Valley. The responses will be analyzed and the facilities will be prioritized based on currently available evidence. §122(e) of SARA requires that special notice be given to PRPs whenever such notice would facilitate negotiations for response actions. In this case, PRPs have not yet been identified and evidence on potential sources has not been developed. Therefore, it is inappropriate to issue special notice letters at this time.

## 5.0 ALTERNATIVES EVALUATION

This is a source control measure rather than an offsite measure because the plume will be contained and treated on-site.

### 5.1 OBJECTIVE

The objective of the Operable Unit is to slow down or arrest the migration of the contamination plume at the North Hollywood-Burbank Well Field as an interim measure while the San Fernando Valley RI/FS is being performed. Unless actions are taken quickly, more wells will be lost to contamination, which will impact the ground-water supplies of the DWP, the City of Burbank, the City of Glendale, the City of San Fernando, and the Crescenta Valley County Water District.

### 5.2 SCREENING

#### 5.2.1 SCREENING ALTERNATIVES

In evaluating alternatives for a Superfund remedial action, the first step is to evaluate those technologies or operational strategies that may be effective for the site. The following remedial action alternatives were considered:

- No action
- Containment of the Plume
- Extraction and Disposal
- Extraction and Treatment
- Extraction and Blending

Initial consideration of the approaches that could be used at the North Hollywood-Burbank Well Field resulted in the decision to utilize extraction. The No Action alternative was eliminated from consideration because it would not meet the objective of the Operable Unit; the contamination plumes would continue to migrate downgradient, rendering additional wells unuseable. The containment alternative was not given further consideration because it was infeasible due to the great areal extent of the plumes and the depth to the water table (approximately 200 feet).

Extraction is considered necessary because it will preserve a valuable natural resource, clean water, by preventing the loss of additional wells to contamination. Once extracted, the groundwater may be disposed of, blended with uncontaminated water, or treated. These three options are discussed below.

The disposal option was eliminated from consideration because it would constitute the loss of water supply and because of the possible expense involved in disposing of the water. DWP would have to replace the pumped groundwater with alternate water supplies, which are not assured during times of drought. The groundwater could be discharged directly into sewers or storm drains if contamination levels are low. Should contamination levels exceed limits set by the Los Angeles Regional Water Quality Control Board and the Los Angeles County Sanitation District, who are responsible for permitting such discharge, however, disposal would require pretreatment or the use of an approved hazardous waste facility, either of which would be expensive.

Blending of contaminated water with uncontaminated supplies was also removed from consideration. This is because adequate supplies of uncontaminated water may not always be available with which to blend the contaminated supplies. Should contaminant levels in the well water exceed approximately 40 ppb, the quantity of blending water will exceed the available supply of uncontaminated water or the hydraulic capacity of the collection system.

The third option, treatment of the extracted groundwater, meets the objective of the Operable Unit and preserves the water resource. It was therefore decided to extract groundwater from the contaminated plume at a rate that would arrest the migration of the plume, treat the water and distribute the treated water to DWP customers.