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STATE OF CALIFORNIA

REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

In the Matter of the Petition of H.R. TEXTRON, INC. re Cleanup AND Abatement Order No. 89-104	EXHIBITS TO PETITION TO REQUEST FINAL DECISION

35 of 65

EXHIBIT A

TECHNICAL EVALUATION OF UNDERGROUND TANK RELEASE

HR TEXTRON PACOIMA FACILITY

Prepared for:
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January 1990

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INTRODUCTION

ERM-West has been retained by HR Textron to provide environmental consulting services for HR Textron's Pacoima facility. These services are in three areas: (1) perform remediation of shallow soil containing volatile organic chemicals and petroleum hydrocarbons, (2) review the administrative record concerning actions at the facility, and (3) provide technical opinions on migration of contaminants from an underground tank release at the HR Textron facility at 10445 Glenoaks Boulevard, Pacoima, California.

With respect to that CAO, this report addresses the following two questions:

1. Do the data cited by the RWQCB demonstrate that the tank releases have probably migrated to ground water; and

2. What would be the estimated cost to HR Textron for each ground water monitoring well which would be required under the CAO.

The remainder of this report addresses those questions.

CONCLUSIONS

The Regional Water Quality Control board cited as evidence in paragraph 6c that "VOC contamination was found in soil samples at a depth of 78 feet and petroleum hydrocarbons were detected at a depth of 110 feet on-site." The "VOC contamination...in soil samples at a depth of 78 feet..." refers to methylene chloride detected at a concentration of 0.150 milligrams per kilogram (mg/kg) in sample LB3-16B from borehole LB-3. The "petroleum hydrocarbons ... detected at a depth of 110 feet on-site" refers to those constituents found in the following samples:

- LB3-S23(3) (5 mg/kg) and LB3-S23B (2 mg/kg) in borehole LB-3;
- LB-100-111.5 (8 mg/kg) in borehole LB-100;
- LB-101-110 (2 mg/kg) in borehole LB-101;
- LB4-S23A (2 mg/kg) in borehole LB-4;
- LB-102A-110 (9 mg/kg) in borehole LB-102A; and
- LB-104-110 (9 mg/kg) in borehole LB-104.

It is our professional engineering judgement that (a) "VOC contamination" cited is a laboratory anomaly, and (b) the "petroleum hydrocarbons ... detected at a depth of 110 feet on-site" did not emanate from the tank and do not demonstrate that any tank releases at the site have probably migrated to ground water.

VOC Data

The VOC data referred to in paragraph 6(c) of the CAO do not demonstrate that any tank release has probably migrated to ground water because the analytical laboratory has confirmed that the presence of methylene chloride in the samples should be attributed to laboratory contamination of the samples.[1] This finding of laboratory contamination also holds for the methylene chloride detected in samples taken at depths of 68 and 73 feet from this borehole.

TPH Data

The data referred to in paragraph 6(c) of the CAO do not demonstrate that any tank release has probably migrated to ground water for three reasons:

1. No VOCs were detected in any of the samples at 100 feet, even though such VOCs (whose presence is a characteristic fingerprint of the chemical release) should migrate through the soils at the same or greater rate as TPH migrates.

2. The absence of any lateral or vertical spatial trend in the TPH distribution surrounding the samples at 100 feet is inconsistent with the premise that it is attributable to migration from a tank release.

3. The reported TPH concentrations are attributable to background conditions generally present in the vicinity.

It is should further be noted that, without regard to its source, the TPH concentration does not justify ground water monitoring under the California Water Resources Control Board LUFT Guidance Manual.

Ground Water Monitoring Well Costs

The CAO does not specify the total number of ground water monitoring wells which the RWQCB staff wishes to require. However, it appears from Paragraph 1 at Page 4 of the CAO that more than one such well is desired. Assuming a five-year quarterly monitoring program, the estimated cost of each ground water monitoring well completed to a depth of 225 feet would be at least $106, 275.

REVIEW OF SITE GEOLOGY AND HYDROGEOLOGY

A review of the site geology and hydrogeology provides key supporting information for the technical discussions concerning the two questions that addressed in this report. The lithologic and stratigraphic characteristics of the soil profile has a major influence on the movement of chemicals released from the tank, while the site hydrogeology determines the depth to, as well as the direction and magnitude of ground water velocity.

For example, the clay layer at a depth of 46.5 to 52.5 feet (which is approximately 100 feet above ground water)[2] in the soil profile has caused the chemical release to form a roughly cylindrical volume extending from the tank release to, but not through the clay layer. These and other geologic and hydrogeologic conditions are discussed below as they apply to the release.

General Soil Profile

Leighton and Associates (L&A) in their Progress Report Number 3 presented a summary interpretation of the subsurface soil conditions at the site through interpretations of logs from borings drilled at the site.[3] We find no reason to disagree with these interpretations of subsurface soil conditions. Presented below is L&A's description of the subsurface soil conditions. The description of soil conditions presented in paragraphs 6a and 6c of the CAO is in agreement with the following description of soil conditions. It should be further noted, however, that paragraph 6(c) of the CAO identifies "clay lenses [that] occur at around 50-55 feet below ground surface" are confirmed in the boring logs as a continuous clay layer extending from 46.5 to 52.5 feet below ground surface.[3]

"A total of 13 borings have been drilled at the site adjacent to and within the Tank 2 excavation (Plate 3). These borings range in depth from 38 to 120 feet.

The stratigraphic sequence underlying the subject site is a thick sequence of unsaturated stream deposits. These deposits consist mostly of loose and unconsolidated, poorly sorted, alternating layers of coarse sands, silty sands, and clays as illustrated in Plate 2. The source of this material is the surrounding hill sides and mountains which consist of Tertiary marine and non-marine sedimentary and older crystalline bedrock.

Three sand layers have been identified and were encountered at depths of 12 to 20 feet, 30 to 35 feet, and 40 to 45 feet below grade... (see Plates 2 and 3). The thickness of these sands range from 9 to 20 feet, 11 to 19 feet, and greater than 52.5 feet thick, respectively. These sands range from very fine- to coarse-grained with the finer silty sands being encountered in the upper portions of each sand layer. The deeper coarse sand layer (greater than 52.5 feet below grade) becomes progressively coarser with depth and appears to grade into the underlying cobble/boulder bed. The top of this continuous cobble/boulder bed begins at 110± feet below grade. Drilling rates and sample recovery dropped considerably in this very coarse zone.

Interbedded in these sands are two fine-grained clay layers, except for Boring LB-100 which encountered a clay localized layer of 2± feet in thickness at a depth of 10 to 15 feet below grade. The first continuous clay layer was encountered at a depth of 20 to 23 feet below grade and has a thickness of 3 to 9 feet. The second fine-grained layer consisting of a fine sandy, silty clay was found at depths of 46.5± to 52.5± feet below grade.

Thickness of this fine-grained layer ranges from 2 to 4 feet. These clays were observed to be reddish-brown, [with] scattered, thin, discontinuous lenses of coarse sands and granules.

No indication of refuse fill material was encountered in the borings drilled during this phase of our investigation. On the adjacent property to the southeast, indications of the presence of an fill materials have been observed. This evidence included brick and asphalt debris present in the southeast wall of the tank excavation, brick and wire cable present from 5 to 8 feet below grade in Boring TH-1 located southeast of the excavation on the adjacent property in the lack of a complete stratigraphic sequence in Borings TH-1 and TH-2 as observed in the L&A boring."

Depth to Ground Water

The site is located within the Upper Los Angeles River Area (ULARA) on the northeast side of the San Fernando Valley. To the east and south of the site, the Los Angeles Flood Control District operates the Hansen Spreading Grounds, a flood control and ground water recharge facility. According to the May 1987 ULARA Watermaster report,[4] the site is located north and east of the Verdugo Fault, a ground water barrier in the San Fernando Valley. Only a few water supply wells are present in the vicinity and most are located near the Verdugo Fault to take advantage of the relatively higher elevation of ground water north of the fault.

The close proximity of the Hansen flood control facility to the site complicates interpretation of the regional ground water information. The mean sea level elevation at HR Textron's Pacoima facility ranges from approximately 950 to 960 feet. An interpolation of the regional ground water table from the May 1987 ULARA Watermaster report shows that ground water elevation probably ranges between 750 and 800 feet. Mr. Melvin Blevins, the ULARA water master, confirms this interpretation.[2] The regional ground water gradient is generally toward the south. The nearby spreading grounds likely induce strong fluctuations in the ground water table and local ground water gradients with periods of quickly rising water table following precipitation and snow melt events and periods of steady declines during dry seasons.

Based on the regional information combined with the probable influences of the spreading grounds, ground water beneath the site may be present as shallow as 150 feet below the ground surface, but probably averages less than 200 feet deep. Short-term influences of drier seasons and droughts likely create conditions where the ground water table may decline to a depth of 200 feet or greater. Locally, ground water gradients probably vary from the regional southerly flow direction, particularly following events which fill Hansen Lake and increase dramatically the percolation rates.

REVIEW OF ANALYTICAL DATA

Analytical Results from Soils

The extent of chemicals released into the soil from the tank forms a roughly cylindrical volume with a estimated radius of approximately 25 feet and which extends from the base of the tank excavation to an underlying clay layer from approximately 46.5 to 52.5 feet below the ground surface.[3] The lateral and vertical extent of the chemical release has been well-defined, and to such an extent that remediation will begin in the near future.[3,5,6,7]

The investigative program for the chemical release was performed by L&A and consisted of the drilling and sampling and chemical analyses of soil samples from 13 boreholes.

The "fingerprint" of the chemical release from the tank exhibits two consistent distinguishing characteristics. The first characteristic is concentrations of TPH (from EPA Test Method 418.1) in the range of 1,000 to 20,000 mg/kg. The second characteristic is a certain suite of volatile organic constituents from EPA Test Methods 8240 or 8010) that are consistently an order of magnitude less, in the range of 10 to 200 mg/kg, than the total petroleum hydrocarbons concentrations. The VOCs consist primarily of 1,1,1-trichloroethane (TCA), with the occasional presence of low concentrations (usually less than 5 mg/kg) of toluene, tetrachloroethylene (PERC), trichloroethylene (TCE), xylene, benzene, and dichloroethane (DCA).

This fingerprint is clearly seen in the reported concentrations for soil samples in boreholes LB-102 and LB-1 that were drilled through the central portion of the chemical release. Laboratory analyses of soil samples taken above the 50-foot clay layer show this pattern of TPH and VOCs; however, soil samples taken below the clay layer show only background levels (less than 10 mg/kg) of TPH.

During the 13 borehole investigative program, soil samples were obtained and analyzed primarily for VOCs, TPH, and less frequently oil and grease, chromium and lead. The specific distribution of sample analyses is:

- VOCs (EPA Methods 8240 or 8010) - 146 samples;
- TPH (EPA Method 418.1) - 145 samples;
- Oil and Grease (EPA Method 413.2) - 75 samples; and
- chromium and lead (CAC Title 22, Wet Method/EPA Method 6010 and 7241) - 45 samples.

The samples are distributed equally above and below the major clay layer from 49.5 to 52.5 feet that forms the bottom of the chemical release. As described previously, the samples above the clay layer show a roughly cylindrical volume, while samples below the clay layer show TPH concentrations at background levels. Specifically, the samples below the

clay layer that are cited in the CAO constitute less than 5% of the total samples obtained and analyzed below the clay layer.

Extensive sampling and chemical analyses to date have adequately characterized site conditions to allow site remediation without need for ground water sampling at this time.

Validity of Chemical Analyses

The Regional Water Quality Control board cited as evidence (in paragraph 6c) that "VOC contamination was found in soil samples at a depth of 78 feet and petroleum hydrocarbons were detected at a depth of 110 feet on-site." It is our professional engineering judgement that (a) "VOC contamination" cited is a laboratory anomaly, and (b) the "petroleum hydrocarbons ... detected at a depth of 110 feet on-site" do not demonstrate that migration of material released from the tank to soil below the clay layer has occurred or that any tank releases at the site have probably migrated to ground water.

VOC Data

The "VOC contamination...in soil samples at a depth of 78 feet..." refers to methylene chloride detected at a concentration of 0.150 milligrams per kilogram (mg/kg) in sample LB3-16B from borehole LB-3. The methylene chloride analyses do not demonstrate that any tank release probably has migrated to ground water because the analytical laboratory has confirmed that the presence of methylene chloride in the samples should be attributed to laboratory contamination of the samples.[1] This finding of laboratory contamination also hold for the methylene chloride detected in samples taken at depths of 68 and 73 feet from this borehole. It should further be noted that methylene chloride was not detected in soil samples taken at the same depths in immediately adjacent confirmation borings.

The two confirmation borings, labeled LB-103 and LB-103A, were completed immediately adjacent (within 10 feet radial distance) to boring LB-3. Soil samples were obtained at depth intervals from 35 to 68 feet below ground surface and were analyzed by two analytical laboratories for VOCs and TPHs.[3] The depth intervals of these confirmation samples are at the same level as that in boring LB-3, as well as depth intervals above and below the target interval. Methylene chloride was not detected in any soil samples from these borings.

Petroleum Hydrocarbons

The "petroleum hydrocarbons ... detected at a depth of 110 feet on-site" refers to those constituents found in the following samples:

- LB3-S23(3) (5 mg/kg) and LB3-S23B (2 mg/kg) in borehole LB-3;
- LB-100-111.5 (8 mg/kg) in borehole LB-100;

- LB-101-110 (2 mg/kg) in borehole LB-101;
- LB4-S23A (2 mg/kg) in borehole LB-4;
- LB-102A-110 (9 mg/kg) in borehole LB-102A; and
- LB-104-110 (9 mg/kg) in borehole LB-104.

The presence of TPH at these concentrations are not attributable to the tank release for three reasons and do not demonstrate a probable threat of ground water contamination.

First, these TPH concentrations are low levels, between 2 and 10 mg/kg, that are in the range representative of background levels. Specifically, the magnitude of these levels are not consistent with, or attributable to a release from the tank, but are instead consistent with background TPH levels found throughout the area. Organic chemicals, some of which fall within the petroleum hydrocarbon range, are naturally present in soils.[8] Deep borehole LB-4 completed approximately 400 feet from the tank area at a location where there is no influence from the tank release represents background subsurface soil conditions.

Soil samples were obtained from this borehole beginning at a depth of 10 feet, and continuing every 10 feet to and including a depth of 105 feet, and included a sample at a depth of 110 feet. The range of reported TPH concentrations in all of these samples was approximately 1 to 10 mg/kg. Background TPH concentrations for the area should be considered to be, at minimum, in the range of 1 to at least 10 mg/kg. This range brackets those TPH values found a depths of 110 feet in boreholes at the site.

Second, there is no discernable spatial trend, either vertically or laterally, to the reported values of TPH in soil samples beneath the clay layer (at a depth greater that 53 feet). This is in direct contradiction to the clear vertical and lateral trends in reported TPH values in soil samples above the clay layer. These trends show a a roughly cylindrical shape with a bottom at the clay layer. This cylindrical pattern is entirely consistent with the historical release from the underground tank. In contrast, the complete lack of trends beneath the clay layer do not support a hypothesis of movement of TPH in the soil beneath.

Third, no VOCs were detected in any of these samples. The presence of such VOCs is a distinct characteristic of the chemical release. These VOCs would also migrate at least as fast through soils as would TPHs.

Without regard to the source, the reported TPH concentrations do not justify ground water monitoring under RWQCB published criteria. The California LUFT Guidance Manual[9] has set specific guidelines for determining the approximate levels of TPH that may be left in soil, based upon site-specific conditions. Table 2-2 in the LUFT Manual is a worksheet for calculating the levels of TPH that may be left in soil at a site. Table 2-3 is used to determine how applicable the allowable levels may be. When these guidelines are applied to the site, the LUFT guidelines show that

Table 2-2
Leaching Potential Analysis for Diesel
Using Total Petroleum Hydrocarbons(TPH)
and Benzene, Toluene, Xylene and Ethylbenzene (BTX&E)

The following table was designed to permit estimating the concentrations of TPH and BTX&E that can be left in place without threatening ground water. Three levels of TPH and BTX&E concentrations were derived (from modeling) for sites which fall into catagories of low, medium or high leaching potential. To use the table, find the appropriate description for each of the features. Score each feature using the weighting system shown at the top of each column. Sum the points for each column and total them. Match the total points to the allowable BTX&E and TPH levels.

SITE FEATURE	SCORE	SCORE 10 PTS IF CONDITION IS MET	SCORE	SCORE 9 PTS IF CONDITION IS MET	SCORE	SCORE 5 PTS IF CONDITION IS MET
Minimum Depth to Ground Water from the Soil Sample (feet)		>100	9	51-100		25-50\1
Fractures in subsurface (applies to foothills or mountain areas)	10	None		Unknown		Present
Average Annual Precipitation (inches)		<10	9	10-25		26-40\2
Man-made conduits which increase vertical migration of leachate	10	None		Unknown		Present
Unique site features: recharge area, coarse soil, nearby wells, etc		None		At least one	5	More than one
COLUMN TOTALS-TOTAL PTS	20	+	18	+	5	= 43
RANGE OF TOTAL POINTS	49pts or more		41 - 48 pts		40pts or less	
MAXIMUM ALLOWABLE B/T/X/E LEVELS (PPM)	1/50/50/50		.3/.3/1/1		NA\3	
MAXIMUM ALLOWABLE TPH LEVELS (PPM)	10,000		1000		100	

\1 If depth is greater than 5 ft. but less than 25 ft., score 0 points.
If depth is 5 ft. or less, this table should not be used.
\2 If precipitation is over 40 inches, score 0 points.
\3 Levels for BTX&E are not applicable at a TPH concentration of 100ppm

TABLE 2-3

GENERAL RISK APPRAISAL FOR PROTECTION OF WATER QUALITY: APPLICABILITY CHECKLIST	YES	NO
1. Is the site in a mountainous area? (shaded moist areas &/or areas with rocky subsurface conditions)		✓
2. Is the site in an area that could collect surface runoff or intercept water from a source other than the natural precipitation?		✓
3. Does the areal extent of soil contamination exceed 100 meters^2?		✓
4. Do the concentrations of fuel constituents in any soil samples exceed the following amounts: benzene - 100 ppm, toluene - 80 ppm, xylene - 40 ppm, ethylbenzene - 40 ppm.		✓
5. Are there any records or evidence of man-made or natural objects which could provide a conduit for vertical migration of leachate?		✓
6. Do any boring or excavation logs show the presence of fractures, joints or faults that could act as a conduit for vertical migration of leachate?		✓
7. Do any boring logs show that contaminated soil could be within 5 ft. of highest ground water?		✓
8. Do any boring logs show the presence of a layer of material, 5 ft. thick or more, which is more than 75% sand and/or gravel?	✓	

Directions:

1. Boring logs taken during the general risk appraisal can be used to answer questions 5-8. In addition, analytical results of the soil samples taken during the general risk appraisal can be used to answer questions 3 and 4.
2. Lateral migration of constituents to problem areas should also be considered in questions 5-8.
3. The above checklist contains questions which are designed to identify sites with environmental conditions which could produce a greater risk to ground water than was modeled. The results of the general risk appraisal are most applicable if all of the questions on the checklist can be answered "no" with reasonable certainty. If any of the questions on the checklist cannot be answered "no", then the results of the general risk appraisal may be less valid.

approximately 1,000 mg/kg could be left in the soil at the site. These levels far exceed the concentrations of TPH found beneath the clay layer.

For these reasons the reported concentrations of TPH in soil samples below the clay layer at the site, and in particular those cited in the CAO, do not demonstrate that the release from the tanks is a probable threat to ground water.

CONTAMINANT MIGRATION IN THE SOIL

One of the key arguments presented by the RWQCB is that VOC's and TPH have migrated below the clay layer at approximately 50 feet below ground surface by forming "fingers". The finger theory of contaminant migration applies to non-aqueous phase liquids (NAPLs), liquids that have low solubility in water. The chlorinated compounds that were released into the soils at the Pacoima facility are NAPLs although they were mixed with a much greater volume of cutting oil.

Summary of Leighton and Associates Discussions

In L&A's February 1989 report (pages 14-17)[3], the finger theory was discussed in relation to the Pacoima site. The discussion was triggered by speculation by the RWQCB that fingers of VOC's may have preceded the bulk of the released contaminants in migrating downward through the soil.

Fingers are preferred paths of migration created by density and viscosity contrasts between invading and resident fluids in the soil. Finger formation and direction of migration are also affected by heterogeneities in the soil. L&A concluded that "based on the data collected to date [February 1989] from the close spacing of the borings, our knowledge of the subsurface stratigraphy and the results of the chemical analysis, we believe that the existence of contaminant 'fingers' below the fine-grained layer at a depth of 46 to 52.5 feet is improbable."

ERM-West concurs with that finding for the following reasons. The subsurface stratigraphy at the site is such that finger pathways could theoretically form. The presence of clay layers in the sandy soils beneath the site provide a permeability contrast that could result in lateral spreading and finger formation. A key element of finger formation is the application rate of the NAPLs. The small lateral and restricted vertical extent of the soil contaminants is consistent with a small leak over an extended period of time. Given the apparent low rate of release from the underground tanks, the high porosity and strong adsorption properties of clay [10,11,12,13,14,15] would tend to distribute VOC's throughout the clay layer and retard both horizontal and vertical migration. The close spacing of borings at the facility have adequately characterized the soil profile and should have encountered any fingers that may have formed at the 50-foot clay layer and extended into the soils below that level. However, the results of chemical analyses of soil samples beneath the clay layer do not

demonstrate that VOC's are migrating along finger pathways beneath the clay layer.

RWQCB Concerns

Subsequent to the submittal of the L&A February report, a meeting with the RWQCB was held on September 26, 1989. In that meeting, staff stated a belief that the finger theory might still be viable for the site despite the possibility that no trace of the alleged fingers may still exist. In this scenario, the fingers would have migrated through and below the clay layer, saturating the soil in the finger and creating a preferred path. In the 3-year time period between removal of the tank and completion of the 13-borehole investigative program, the fingers would then have lost all trace of VOCs by continuing to migrate downward.

The problem with this scenario is the lack of detectable VOC's below the clay layer combined with substantial concentrations of VOC's remaining above the clay layer. Once the preferred finger pathways were created, additional VOC's would very likely have continued to follow these finger pathways given the existing concentrations of VOC's above the clay layer. In this case, substantial VOC's should be found beneath the clay layer if finger pathways exist.

Based on the data gathered by L&A combined with the above reasoning, ERM-West does not believe that sufficient evidence exists to support a finding that such finger transport was a major mechanism for contaminant migration in the soils beneath the tanks.

Site Mitigating Circumstances

From an environmental engineering standpoint, the clay layer beneath the facility appears to be thick enough to retard the vertical migration of contaminants for some time. There is extensive information in scientific literature that demonstrates the chemical migration retardation properties of clay.[8,10,11,12,13,14,15] Clay minerals present a very large surface area through which migrating liquids and vapor must pass during migration. In addition, most clay deposits contain significant organic matter which through absorption can halt or significantly retard the movement of constituents and solvents. Since HR Textron is proposing to implement a soil remediation work plan that will soon be submitted to the RWQCB, the long term threat that the release may present to ground water in the absence of soil remediation will be alleviated.

Percolation of precipitation is one mechanism that can increase the rate of downward migration through the soil of released contaminants. Direct infiltration of either precipitation or surface water runoff from adjacent properties is significantly reduced because the site is completely covered by either buildings or pavement.

ESTIMATED COST OF INSTALLATION AND SAMPLING OF ONE MONITORING WELL

As shown on the cost estimate sheets below, the cost of installing and sampling one monitoring well quarterly for five years is over $100,000. This cost estimate does not include the cost of disposal of the soil cuttings or the cost for a registered surveyor to establish elevations for more than one monitoring well.

Drilling Subcontractor

MOB	$4000
Air Rotary Drilling (3.5 days rig time @$2760/day)	$9660
Materials	
15 feet 4-inch ID stainless steel screen	$738
10 feet 4-inch ID stainless steel blank	$358
200 feet 4-inch PVC casing	$1142
1 stainless steel bottom plate	$50
1 PVC cap	$6.35
22 cubic feet filter pack material	$220
1 bag bentonite	$45
40 bags of Volclay Grout	$1160
1 Christie box	$250
Rental - drive casing	$1000
Well development and purge	$4000
Per diem	$720
Total	$23,349.35

Laboratory Analyses

601, 602 and 418.1 (CLP procedure)	$525

ERM-West

Field Work and Installation Report	
Field team 65 hours @ $145/hr	$9425
Office 30 hours @ $70/hr	$2100
ODC's (Equipment, phone, per diem, copier, computer, etc)	$2000
Total	$13,525

TOTAL FOR ONE WELL SAMPLED ONCE - $37,400

QUARTERLY SAMPLING FOR FIVE YEARS

Well Purge Subcontractor	$1000
Laboratory Analyses	$525
ERM-West	
Field Labor, ODC's and Letter Report	$2100
Total per Quarter	$3625
SAMPLING FOR 19 QUARTERS AFTER INITIAL GROUND WATER SAMPLE	$68,875
TOTAL COST FOR GROUND WATER MONITORING WELL	$106,275

ATTACHMENTS

ATTACHMENT A

SELECTED LABORATORY DATA SHEETS

LEIGHTON AND ASSOCIATES, INC.
Geotechnical and Environmental Engineering Consultants

PROGRESS REPORT NUMBER 3 FOR PHASE II SUBSURFACE INVESTIGATIONS AT HR TEXTRON'S PACOIMA FACILITY 10445 GLENOAKS BOULEVARD PACOIMA, CALIFORNIA

February 15, 1989

Project No. 7841189-16

Prepared for:

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LABORATORY REPORT

CRL MOBILE LABORATORIES
11631 Seaboard Circle
Stanton, CA 90680
ATTN: Walter Berger

Sample ID: 010788-3 LB3 S16B 78'

ANALYSIS NO.: 800808-003
ANALYSES: EPA Method 8010
DATE SAMPLED: 01/08/88
DATE SAMPLE REC'D: 01/08/88
DATE ANALYZED: 01/11/88
SAMPLE TYPE: Solid
PROJECT: HR Textron 10445 Glenoaks Pacoima

EPA METHODS 601/8010 VOLATILE POLLUTANTS DATA SHEET

	(ug/kg)		(ug/kg)
Chloromethane	ND(50.)	1,2-Dichloropropane	ND(50.)
Bromomethane	ND(50.)	Trans-1,3-Dichloropropene	ND(50.)
Vinyl Chloride	ND(50.)	Trichloroethene	ND(50.)
Chloroethane	ND(50.)	Dibromochloromethane	ND(50.)
Methylene Chloride	150.	1,1,2-Trichloroethane	ND(50.)
1,1-Dichloroethene	ND(50.)	Cis-1,3-Dichloropropene	ND(50.)
1,1-Dichloroethane	ND(50.)	2-Chloroethylvinylether	ND(50.)
Trans-1,2-Dichloroethene	ND(50.)	Bromoform	ND(50.)
Chloroform	ND(50.)	Tetrachloroethene	ND(50.)
1,2-Dichloroethane	ND(50.)	1,1,2,2-Tetrachloroethane	ND(50.)
1,1,1-Trichloroethane	ND(50.)	Chlorobenzene	ND(50.)
Carbon Tetrachloride	ND(50.)	Bromodichloromethane	ND(50.)
1,2-Dichlorobenzene	ND(50.)	1,3-Dichlorobenzene	ND(50.)
Trichlorofluoromethane	ND(50.)	1,4-Dichlorobenzene	ND(50.)

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited

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(714) 891-0405 • FAX: (714) 893-6709 • (800) LAB-1CRL

LABORATORY REPORT

TO:
Leighton & Associates
25020 West Avenue., Ste. 190
Valencia, CA 91355
ATTN: Ms. Mimi Maki
PROJECT:
HR Textron, 10445 Glenoaks, Pacoima

ANALYSIS NO.: 010888-1/7
DATE SAMPLED: 1/08/88
DATE REC'D: 1/08/88
BATCH: 282
MATRIX: Soil

Results (mg/kg)

Sample Identification	Total Recoverable Hydrocarbons (EPA418.1)
LB3 S23A 110'	2.
LB4 S1B 0.5'	2.
LB4 S2B 3'	*ND(1.)
LB4 S3B 8'	ND(1.)
LB4 S4B 13'	1.
LB4 S5B 18'	ND(1.)
LB4 S6B 23'	ND(1.)

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* ND - Not detected at the detection limit expressed within the parentheses.

Note: Samples were received intact and with the chain of custody.

Walter Bein
Reviewed and approved

1-15-88
Date

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Analytical Technologies, Inc. Corporate Offices: 5550 Morehouse Drive San Diego, CA 92121 (619) 458-9141

ATI I.D. 809143

October 6, 1988

RECEIVED
RECEIVED
OCT 6 1988
OCT 7 1988
LEIGHTON & ASSOC. INC.
SANTA CLARITA VALLEY

Leighton & Associates, Inc.
25020 W. Avenue Stanford, Suite 190
Valencia, California 91355

Project No.: 7841189-08

Project Name: HR Textron-Pacoima

Attention: Mimi Maki

Privileged and Company
Private Attorney
Client Communication
and Work Product

On September 14, 1988, Analytical Technologies, Inc. received twenty-two soils and four water samples. Eleven of the soil samples and four waters were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. Please see the attached sheet for the sample cross reference.

The results of these analyses and the quality control data are enclosed.

Carolyn A. Sites
GC/MS Supervisor

Richard M. Amano
Laboratory Manager

CAS:mag

Analytical Technologies, Inc.

CLIENT : LEIGHTON & ASSOC.-VALENCIA
PROJECT # : 7841189-08
PROJECT NAME : HR TEXTRON-PACOIMA
ATI I.D. : 809143

DATE RECEIVED : 09/14/88
REPORT DATE : 10/06/88

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	LB-100-51	SOIL	09/14/88
02	LB-100-60	SOIL	09/14/88
03	LB-100-69	SOIL	09/14/88
04	LB-100-81.5	SOIL	09/14/88
05	LB-100-90.5	SOIL	09/14/88
06	LB-100-101.5	SOIL	09/14/88
07	LB-100-111.5	SOIL	09/14/88
08	LB-100-9.5	SOIL	09/13/88
09	LB-100-20	SOIL	09/13/88
10	LB-100-31	SOIL	09/13/88
11	LB-100-40	SOIL	09/13/88
12	MW-100-A	WATER	09/13/88
13	MW-100-B	WATER	09/13/88
14	MW-14-A	WATER	09/14/88
15	MW-14-B	WATER	09/14/88
16	LB-100-5	SOIL	09/13/88
17	LB-100-15.5	SOIL	09/13/88
18	LB-100-24.5	SOIL	09/13/88
19	LB-100-35.5	SOIL	09/13/88
20	LB-100-46.5	SOIL	09/13/88
21	LB-100-55.5	SOIL	09/14/88
22	LB-100-64.5	SOIL	09/14/88
23	LB-100-75.5	SOIL	09/14/88
24	LB-100-86	SOIL	09/14/88
25	LB-100-96	SOIL	09/14/88
26	LB-100-106	SOIL	09/14/88

Privileged and Company Private Attorney Client Communication and Work Product

----- TOTALS -----

MATRIX	# SAMPLES
WATER	4
SOIL	22

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

ATI I.D. 809143

ANALYTICAL SCHEDULE

CLIENT: LEIGHTON & ASSOC.-VALENCIA
PROJECT NAME: HR TEXTRON-PACOIMA

PROJECT NO.: 7841189-08

ANALYSIS	TECHNIQUE	REFERENCE/METHOD
PETROLEUM HDYROCARBONS	IR	EPA 418.1 (MODIFIED)
VOLATILE ORGANICS	GC/MS	EPA 624, 8240

Privileged and Company
Private Attorney
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and Work Product

Analytical Technologies, Inc. GENERAL CHEMISTRY RESULTS

ATI I.D. : 809143

LIENT : LEIGHTON & ASSOC.-VALENCIA
ROJECT # : 7841189-08
ROJECT NAME : HR TEXTRON-PACOIMA

DATE RECEIVED : 09/14/88
REPORT DATE : 10/06/88

ARAMETER	UNITS	06	07	08	09	10
ETROLEUM HYDROCARBONS, IR	MG/KG	3	8	2	3	2

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Client Communication
and Work Product

CMM

Analytical Technologies, Inc. Corporate Offices 5550 Morehouse Drive San Diego CA 92121 (619) 458-9141

[illegible] and Company
[illegible] Attorney
[illegible] Communication

ATI I.D. 809184

October 7, 1988

RECEIVED
OCT 10 1988
LEIGHTON & ASSOC. INC.
SANTA CLARITA VALLEY

Leighton & Associates, Inc.
25020 W. Avenue Stanford, Suite 190
Valencia, California 91355

Project No.: 7841189-08

Project Name: HR Textron-Pacoima

Attention: Mimi Maki

On September 16, 1988, Analytical Technologies, Inc. received twenty-six soils, three liquids, and four water samples. Twenty-four samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. Please see the attached sheet for the sample cross reference.

The results of these analyses and the quality control data are enclosed.

Carolyn A. Sites
GC/MS Supervisor

Richard M. Amano
Laboratory Manager

CAS:mag

Analytical Technologies, Inc.

ATI I.D. 809184

ANALYTICAL SCHEDULE

CLIENT: LEIGHTON & ASSOC.-VALENCIA
PROJECT NAME: HR TEXTRON-PACOIMA

PROJECT NO.: 7841189-08

ANALYSIS	TECHNIQUE	REFERENCE/METHOD
PETROLEUM HYDROCARBONS	IR	EPA 418.1 (MODIFIED)
OIL & GREASE	IR	EPA 413.2
VOLATILE ORGANICS	GC/MS	EPA 624, 8240

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Private Attorney
Client Communication
and Work Product

Analytico Technologies

CLIENT : [redacted] ASSOC.-VALENCIA DATE RECEIVED : 09/16/88
PROJECT # : 7841189-08
PROJECT NAME : HR TEXTRON-PACOIMA REPORT DATE : 10/07/88
ATI I.D. : 809184

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	LB-101-S	SOIL	09/15/88
02	LB-101-15	SOIL	09/15/88
03	LB-101-25	SOIL	09/15/88
04	LB-101-35	SOIL	09/15/88
05	LB-101-40	SOIL	09/15/88
06	LB-101-45	SOIL	09/15/88
07	LB-101-46	SOIL	09/15/88
08	LB-101-48	SOIL	09/15/88
09	LB-101-49	SOIL	09/15/88
10	LB-101-51	SOIL	09/15/88
11	LB-101-57	SOIL	09/15/88
12	LB-101-60	SOIL	09/16/88
13	LB-101-70	SOIL	09/16/88
14	LB-101-80	SOIL	09/16/88
15	LB-101-90	SOIL	09/16/88
16	LB-101-100	SOIL	09/16/88
17	LB-101-110	SOIL	09/16/88
18	LB-102-20	SOIL	09/15/88
19	RT-1A	LIQUID	09/15/88
20	RT-2B	LIQUID	09/15/88
21	RT-3C	LIQUID	09/15/88
22	MW-15A	WATER	09/15/88
23	MW-15B	WATER	09/15/88
24	MW-16A	WATER	09/16/88
25	MW-16B	WATER	09/16/88
26	LB-101-61.5	SOIL	09/16/88
27	LB-101-75	SOIL	09/16/88
28	LB-101-85	SOIL	09/16/88
29	LB-101-95	SOIL	09/16/88
30	LB-101-10	SOIL	09/15/88
31	LB-101-20	SOIL	09/15/88
32	LB-101-30	SOIL	09/15/88
33	LB-101-52	SOIL	09/15/88

Dykstra and Company
Private Attorney
Client Communications
and Work Product

----- TOTALS -----

MATRIX	# SAMPLES
WATER	4
SOIL	26
LIQUID	3

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Anciytica Technologies, inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 809184

CLIENT : LEIGHTON & ASSOC.-VALENCIA
PROJECT # : 7841189-08
PROJECT NAME : HR TEXTRON-PACOIMA

DATE RECEIVED : 09/16/88
REPORT DATE : 10/07/88

PARAMETER	UNITS	16	17	18
PETROLEUM HYDROCARBONS, IR	MG/KG	3	2	9800

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AnalyticalTechnologies, Inc. Corporate Offices 5550 Morehouse Drive San Diego CA 92121 (619) 458-9141

ATI I.D. 810029

October 21, 1988

RECEIVED
OCT 24 1988
LEIGHTON & ASSOC. INC.
SANTA CLARITA VALLEY

Leighton & Associates
25020 Ave. Stanford, Ste. 190
Valencia, California 91355

Privileged and Company
Private Attorney
Client Communication
and Work Product

Project Name: HR Textron-Pacoima

Project No.: 7841189-08

Attention: Mimi Maki

On October 4, 1988, Analytical Technologies, Inc. received four water samples and thirteen soil samples for analyses. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. Please see the attached sheet for the sample cross reference.

The results of these analyses and the quality control data are enclosed.

Marcilen Lindsey
Inorganics Supervisor

ML:bc

Richard M. Amano
Laboratory Manager

Analytical Technologies, Inc.

ATI I.D. 810029

ANALYTICAL SCHEDULE

CLIENT: LEIGHTON & ASSOCIATES
PROJECT NAME: HR TEXTRON-PACOIMA

PROJECT NO.: 7841189-08

ANALYSIS	TECHNIQUE	REFERENCE/METHOD
PETROLEUM HYDROCARBONS	IR	EPA 418.1 (MODIFIED)
VOLATILE ORGANICS	GC/MS	EPA 624, 8240

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Analytical Technologies

CLIENT : [illegible] & ASSOC.-VALENCIA
PROJECT # : 7841189-08
PROJECT NAME : HR TEXTRON-PACOIMA
ATI I.D. : 810029

DATE RECEIVED : 10/04/88
REPORT DATE : 10/20/88

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	LB-104-10	SOIL	10/03/88
02	LB-104-20	SOIL	10/03/88
03	LB-104-30	SOIL	10/03/88
04	LB-104-40	SOIL	10/03/88
05	LB-104-50	SOIL	10/03/88
06	LB-104-60	SOIL	10/03/88
07	LB-104-70	SOIL	10/03/88
08	LB-104-80	SOIL	10/03/88
09	LB-104-105	SOIL	10/03/88
10	LB-104-110	SOIL	10/03/88
11	LB-102A-110	SOIL	10/04/88
12	LB-102A-115	SOIL	10/04/88
13	LB-102A-120	SOIL	10/04/88
14	MW-2A	WATER	10/03/88
15	MW-2B	WATER	10/03/88
16	MW-4A	WATER	10/04/88
17	MW-4B	WATER	10/04/88

Privileged and Company Private Attorney Client Communication and Work Product

----- TOTALS -----

MATRIX	# SAMPLES
WATER	4
SOIL	13

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc. GENERAL CHEMISTRY RESULTS

ATI I.D. : 810029

CLIENT : LEIGHTON & ASSOC.-VALENCIA
PROJECT # : 7841189-08
PROJECT NAME : HR TEXTRON-PACOIMA

DATE RECEIVED : 10/04/88
REPORT DATE : 10/20/88

PARAMETER	UNITS	06	07	08	09	10
PETROLEUM HYDROCARBONS, IR	MG/KG	4	5	5	8	9

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Analytical Technologies, Inc. GENERAL CHEMISTRY RESULTS

ATI I.D. : 810029

CLIENT : LEIGHTON & ASSOC.-VALENCIA
PROJECT # : 7841189-08
PROJECT NAME : HR TEXTRON-PACOIMA

DATE RECEIVED : 10/04/88
REPORT DATE : 10/20/88

PARAMETER	UNITS	11	12	13
PETROLEUM HYDROCARBONS, IR	MG/KG	9	11	32

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LEIGHTON AND ASSOCIATES
Geotechnical and Environmental Engineering Consultants

Privileged and Company Private Attorney Client Communication and Work Product

PROGRESS REPORT NUMBER 2 FOR PHASE II SUBSURFACE CONTAMINATION INVESTIGATION AT HR TEXTRON'S PACOIMA FACILITY LOCATED AT 10445 GLENOAKS BOULEVARD, PACOIMA, CALIFORNIA

VOLUME 3 OF 3

March 14, 1988

Project No. 40841189-05

Prepared for:

HR TEXTRON, INC.
25200 West Rye Canyon Road
Valencia, California 91355
Attention: Mr. William C. Moses

Corporate Headquarters: 1151 DURYEA AVENUE, IRVINE, CALIFORNIA U.S.A. 92714
Telex 249208 LAGEO UR
(714) 250-1421 • (800) 253-4567
FAX (714) 250-1114

Analytical Technologies, Inc. Corporate Offices 5550 Morehouse Drive San Diego, CA 92121 (619) 458-9141

ATI I.D. 801081

January 25, 1988

Leighton & Associates
25020 Avenue Stanford, Suite 190
Valencia, California 91355

Project Name: HR Textron

Project No.: 40841189-05

Attention: Mimi Maki

On January 11, 1988, Analytical Technologies, Inc. received eight soil samples, a trip blank, and a field blank for analyses. On January 12, 1988, three additional soil samples, a trip blank, and a field blank were received. Three additional soil samples and one water sample were received for analyses on January 14, 1988. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. Please see the attached sheet for the sample cross reference.

The results, sample cross reference, and the quality control data are enclosed.

Carolyn A. Sites
GC/MS Supervisor

CAS:bc

Richard M. Amano
Laboratory Manager

Privileged and Company
Private Attorney
Client Communication
and Work Product

Analytical Technologies, Inc.

ATI I.D. 801081

ANALYTICAL SCHEDULE

CLIENT: LEIGHTON & ASSOCIATES
PROJECT NAME: HR TEXTRON

PROJECT NO.: 40841189-05

ANALYSIS	TECHNIQUE	REFERENCE/METHOD
PETROLEUM HYDROCARBONS	IR	EPA 418.1, 418.1 (MODIFIED)
OIL & GREASE	IR	EPA 413.2, 413.2 (MODIFIED)
SOLUBLE CHROMIUM	ICAP	EPA 6010
SOLUBLE LEAD	AA/GF	EPA 7421
CHLORINATED PESTICIDES & POLYCHLORINATED BIPHENYLS	GC/ECD	EPA 8080
VOLATILE ORGANIC COMPOUNDS	GC/MS	EPA 624, 8240

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Analytical Technologie .c.

CLIENT : LEIGHTON & ASSOC.-VALENCIA
PROJECT # : 40841189-05
PROJECT NAME : HR TEXTRON

DATE RECEIVED : 01/11/88
REPORT DATE : 01/25/88

ATI I.D. : 801081

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	LB4-S2A	SOIL	01/08/88
02	LB4-S4A	SOIL	01/08/88
03	LB4-S6A	SOIL	01/08/88
04	LB4-S8A	SOIL	01/11/88
05	LB4-S10A	SOIL	01/11/88
06	LB4-S12A	SOIL	01/11/88
07	LB4-S14A	SOIL	01/11/88
08	LB4-S16A	SOIL	01/11/88
09	TRIP BLANK (1/08/88)	WATER	01/08/88
10	FIELD BLANK (1/11/88)	WATER	01/11/88
11	LB4-S2A (WET)		01/08/88
12	LB4-S4A (WET)		01/08/88
13	LB4-S6A (WET)		01/08/88
14	LB4-S8A (WET)		01/11/88
15	LB4-S10A (WET)		01/11/88
16	LB4-S12A (WET)		01/11/88
17	LB4-S14A (WET)		01/11/88
18	LB4-S16A (WET)		01/11/88
19	LB4-S18A	SOIL	01/11/88
20	LB4-S20A	SOIL	01/12/88
21	LB4-S22A	SOIL	01/12/88
22	TRIP BLANK (1/12/88)	WATER	01/12/88
23	FIELD BLANK (1/12/88)	WATER	01/12/88
24	LB4-S18A (WET)		01/11/88
25	LB4-S20A (WET)		01/12/88
26	LB4-S22A (WET)		01/12/88
27	LB4-S23A	SOIL	01/12/88
28	BIN-S1	SOIL	01/13/88
29	BIN-S2	SOIL	01/13/88
30	SCF	WATER	01/13/88

----- TOTALS -----

MATRIX	# SAMPLES
WATER	5
SOIL	14

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ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 801081

CLIENT : LEIGHTON & ASSOC.-VALENCIA
PROJECT # : 40841189-05
PROJECT NAME : HR TEXTRON

DATE RECEIVED : 01/11/88
REPORT DATE : 01/25/88

PARAMETER	UNITS	21	27	28	29
OIL AND GREASE, IR	MG/KG	4	2	260	130
PETROLEUM HYDROCARBONS, IR	MG/KG	3	2	210	130

Privileged and Company Private Attorney Client Communication and Work Product

ATTACHMENT B

REFERENCES

REFERENCES

1. Shah, Rashmi, Letter to Dr. David Marcus (ERM-West), January 11, 1990.

2. Blevins, M.L., Personal Communication, January 12, 1990.

3. Leighton and Associates, Progress Report No. 3 for Phase II Subsurface Contamination Investigation at HR Textron's Pacoima Facility, Project No. 7841189-16, dated February 15, 1989.

4. Blevins, M.L., Watermaster Service in the Upper Los Angeles River Area, Los Angeles County, October 1, 1987 - September 30, 1988, May 1989.

5. Leighton and Associates, Soils Sampling and Testing at Tank Site 2, 10445 Glenoaks Boulevard, Pacoima, California, Project No. 7841189-01, dated March 6, 1985.

6. Leighton and Associates, Progress Report No. 1 for the Phase II Subsurface Contamination Investigation at HR Textron Pacoima Facility, Project No. 7841189-05, dated February 8, 1988.

7. Leighton and Associates, Progress Report No. 2 for the Phase II Subsurface Contamination Investigation at HR Textron Pacoima Facility, Project No. 7841189-05, dated March 14, 1988.

8. Dragun, J., The Soil Chemistry of Hazardous Materials, Hazardous Materials Control Research Institute, 1988.

9. State of California Leaking Underground Fuel Tank Task Force, Leaking Underground Fuel Tank Manual, May 1988.

10. Fetter, C.W. Jr., Applied Hydrogeology, Charles E. Merrill Publ. Co., 1980.

11. Fuller, W.H. and Warrick, A.W., Soils in Waste Treatment and Utilization, Volume I: Land Treatment, CRC Press Inc., 1985.

12. English, C.W. and Loehr, R.C., Sorption of Volatile Organic Compounds, in Proceedings of the Conference on Petroleum Hydrocarbons in Ground Water: Prevention, Detection and Restoration, November 15-17, 1989.

13. Jury, W.A., Chemical Movement through Soil, in Vadose Zone Modeling of Organic Pollutants, S.C. Hern and S.M. Melancon, eds., Lewis Publishers Inc., 1986.

14. Pignatello, J.J., Sorption Dynamics of Organic Compounds in Soil and Sediments, in Reactions and Movements of Organic Chemicals in Soils, SSSA Special Publ. No. 22, 1989.

15. Zielke, R.C., Pinnavaia, J.J. and Mortland, M.M., Adsorption and Reactions of Selected Organic Molecules on Clay Mineral Surfaces, in Reactions and Movements of Organic Chemicals in Soils, SSSA Special Publ. No. 22, 1989.

ATTACHMENT C

EXCERPTS FROM TECHNICAL REFERENCES

Enseco

January 11, 1990

David M. Marcus, Ph.D
ERM-West, Inc.
1920 Main Street
Irvine, CA 92714

Dear Dr. Marcus:

Please be advised that the methylene chloride values reported in the laboratory reports 800702 and 800808 should be considered incidental laboratory contamination at these low levels.

It is now standard policy at Enseco-CRL to include the following footnote with all positive hits at low levels for acetone and methylene chloride. "The analytical results for methylene chloride and acetone should not be considered representative unless the concentration in the sample exceeds five times the detection limit".

If I can be of additional assistance, please do not hesitate to call.

Sincerely,

Rashmi Shah
Laboratory Director

RS/lj

Enseco - CRL
7440 Lincoln Way
Garden Grove, CA 92641
(714) 898-6370 • (800) LAB-1-CRL
FAX: (714) 891-5017

Enseco - Ventura
2810 Bunsen Ave., Unit A
Ventura, CA 93003
(805) 650-0546
FAX: (805) 650-0756

Enseco - Santa Maria
2325 Skyway Dr., Unit K
Santa Maria, CA 93455
(805) 922-2776
FAX: (805) 922-6307

Enseco - El Monte
9537 Telstar Ave., Suite 118
El Monte, CA 91731
(818) 442-8400
FAX: (818) 442-3768

Enseco - Mobile Laboratories
7440 Lincoln Way
Garden Grove, CA 92641
(714) 898-6370 • (800) ENSEC-
FAX: (714) 891-6709

THE SOIL CHEMISTRY OF HAZARDOUS MATERIALS

James Dragun, Ph.D.

Hazardous Materials Control Research Institute
Silver Spring, Maryland

ADSORPTION AND ORGANIC CHEMICAL STRUCTURE

The extent that any organic chemical is adsorbed onto soil surfaces is directly affected by its structure. Structure determines the magnitude of the organic chemical's gross properties such as molecular volume, water solubility, octanol-water partition coefficient, and vapor pressure that influence the overall adsorptive behavior of the chemical. The chemical structure of any molecule can be subdivided into substructures or fragments. Many gross chemical properties are, in essence, the sums of the fragment contributions to that property. For example, the total lipophilicity or hydrophobicity, P_R, for any chemical structure R can be construed by the simple addition of the proper pi values characterizing the X_n fragments[1]:

$$\log P_R = \sum_n \pi (X_n) \qquad (6.1)$$

However, it is most important to note that one fragment may overwhelmingly influence adsorption relative to the other fragments; its contribution may be relatively large, or it may introduce an interaction that was previously absent. This section will discuss how organic chemical structure and substructure affects its adsorption onto soil particle surfaces. Specifically, this section will discuss six aspects of chemical structure that govern adsorption: molecular size, hydrophobicity, molecular charge, organic molecular fragments that undergo hydrogen bonding, the three-dimensional arrangement and interaction of molecular fragments, and molecular fragments that undergo coordination bonding.

Molecular Size. First, the overall size of the organic molecule significantly influences its adsorption potential. In general, the larger the molecule, the greater its propensity to exist in the adsorbed state. The larger the molecule, the greater the contribution of van der Waal's forces to the adsorption potential. Van der Waal's forces are relatively weak, induced forces existing between otherwise nonattracting atoms and molecules. The *average* distribution of charge on a neutral organic molecule such as octane or decane is symmetrical; as a result, there is no permanent electrostatic polarization or charge separation in terms of positive and negative polar regions or poles on the molecule. However, the electrons within the neutral molecule are not stagnant but mobile so that the electron distribution is somewhat distorted at any instant in time. As a result, small dipoles exist on the molecule's surface. These small, momentary dipoles affect the electron distribution in an adjacent molecule or on the soil surface: the negative regions of the dipole molecule repel electrons in the adjacent soil surface, and the positive regions of the dipole molecule will attract electrons in the adjacent soil surface. The net result of the close proximity of the molecule to the soil surface is the induction of momentary electrostatic polarizations on the soil surface. Although the momentary and induced dipoles are constantly migrating on the molecule's surfaces and the soil surface, the net result is an attraction between the molecule and the soil surface.

In general, van der Waal's forces are weak and of very short range. They act only between molecules and surfaces that are in close proximity. Within a class of organic chemicals, the larger the molecular size, the larger the van der Waal's forces between the molecule and the soil surface, and as a result, the greater the extent of adsorption. For example, even very water soluble organic molecules possessing large molecular volumes such as poly(galacturonic acid)[2], amylose[2], dextran[2], polyvinyl alcohol[3,4], poly(ethylene glycols)[4], poly(vinyl acetate)[4], poly(acrylic acid)[4], poly acrylamide[4], poly(acrylonitrile)[4], antibiotics[5], and water-soluble dyes[6] are adsorbed extensively onto soil surfaces and are extremely difficult to desorb due to multiple van der Waal's forces arising from many points of contact between the surface and the adsorbed molecule. As a general rule, van der Waals forces become the dominating adsorption mechanism in non-sandy soils when the molecular weight of the organic chemical exceeds 400 - 500.

Recent research has shown that a number of organic chemicals—PCBs[7], polynuclear aromatic hydrocarbons[8], bis(2-ethylhexyl)phthalate[8], toluene[9], and cholesterol[10]—as well as a number of pesticides—DDT[8], bromacil[11], triazines[11], diuron[11], chlortoluron[11], and glyphosphate[11]—bind onto dissolved organic macromolecules such as humic acid, fulvic acid, or organic matter. However, it is most important to recognize that in most soil-water systems, these macromolecules are not mobile. They tend to be extensively adsorbed onto soil surfaces due to a large part to van der Waals forces.

Hydrophobicity. The second factor that affects organic chemical adsorption onto soil surfaces is the molecule's hydrophobicity or lipophilicity. Hydrophobicity refers to the preferential migration to and accumulation of an organic chemical in hydrophobic solvents or on hydrophobic surfaces such as soil organic matter in preference over aqueous solvents or hydrophilic surfaces. In general, molecular fragments comprised of C, H, Br, Cl, and I are hydrophobic fragments, while molecular fragments which contain N, S, O, and P are primarily hydrophilic fragments. The net hydrophobicity of any molecule is governed by the combined effect of hydrophobic and hydrophilic fragments that comprise the molecule.

The preferential accumulation of an organic chemical on hydrophobic soil particle surfaces has been referred to as "hydrophobic bonding" or as "par-

titioning." The mechanism causing this phenomenon is a subject of considerable controversy. One mechanism proposes that hydrocarbons tend to associate with one another and with hydrophobic surfaces so that restructuring of adsorbed water will not occur[12]. Solution and adsorbed water exists in an ice-like structure with an isotropic network of H_2O-H_2O bonds[13]; because hydrophobic organic chemical-solvent attractive forces should be weak in both the aqueous medium and in a hydrophobic environment, the hydrophobic organic chemical is squeezed out of the aqueous medium due to the strong cohesive forces between water molecules[13]. In thermodynamic terms, this mechanism views hydrophobic bonding as an entropy effect caused by solvent structure.

Another mechanism proposes that hydrophobic attractions between molecules can be entirely ascribed to van der Waal's forces. This position is substantiated in part on thermodynamic calculations[14].

Theoretically and practically, the accumulation of an organic chemical by a soil cannot be defined simply as either "partitioning" or "adsorption." It is a continuum of possible interactions starting with fixed site adsorption and ending with partitioning at both organic and inorganic particles.

Although soil organic matter is usually implicated as the soil solid responsible for accumulating organic chemicals, it is most important to recognize that soil mineral surfaces also possess hydrophobic regions that can preferentially accumulate organic chemicals. An analysis of the information presented in Table 6.1 will reveal that several inorganic particle surfaces, especially clay, have been found to govern the extent of adsorption of various organic chemicals. The organic matter in most soil is intimately bound to clay as a clay-organic complex. As a result, two major types of adsorbing surfaces are available to an organic chemical: clay-organic and clay alone. The relative contribution of organic and inorganic surface areas to adsorption will depend upon the extent to which the clay is coated with organic matter. The influence of clay on organic chemical adsorption can be significant, especially in soils with organic matter contents below one percent; for example, the adsorption of PCBs in a subsurface soil with an organic carbon content of 0.4 percent was greater than PCB adsorption to topsoil with an organic carbon content of 1.2 percent[38].

Molecular Charge. The third factor that affects organic chemical adsorption onto soil surfaces is the intrinsic positive or negative charge possessed by some organic molecules. A few organic molecules such as the quaternary ammoniums, R_4N^+, oxoniums, R_3O^+, diazoniums, $R\text{-}N \equiv N:^+$, and some metallo-organics possess functional groups that possess permanent, positive charges. These organic molecules are adsorbed onto the cation exchange sites discussed in Chapter 4.

TABLE 9.3 Classes of Naturally-Occurring Organic Chemicals Found in Soil.

alkaloids
n-alkanes, c < 34
n-alkanoic acids, c = 12 – 34
alkanoic diacids
n-alkanols, c = 12 – 30
alkyl alkanoates, c = 12 – 24
alkyl benzenes
n-alkyl methanoates, c = 18 – 34
alkylnaphthalenes
alkylphenanthrenes
antibiotics
auxins
benzenepolycarboxylic acid polymethyl esters
branched alkanoic acids
B vitamins
carotenoids
catechin-type polymers
coumarins
cyclic alkanes
dialkyl phthalates
flavonoids
galloyl derivatives of catechin
galloyl derivatives of leuco-anthocyanins
hydroxamic acids
hydroxyalkanoic acids
hydroxydecanoic acids
inositols
leucoanthocyanins
lichen acids
lignins
methyl alkanones, c = 17 – 37
mucopeptides
mucopolysaccharides
nucleic acids
organic cyanides
penicillins
pheophytins
phospholipids
phthalates
pigments
polysaccharides (glycans)
polyuronides
porphyrins
quinones
steroids
sterols
tannins
teichoic acids
terpenes
triterpenoids
uronic acids

HOW MICROORGANISMS DEGRADE ORGANIC CHEMICALS

The biodegradation of an organic chemical is the modification or decomposition of the chemical by soil microorganisms to produce ultimately microbial cells, carbon dioxide, and water[27]. It is most important to recognize that microorganisms possess numerous enzymes within their cells which are responsible for the biodegradation of organic chemicals.

After an organic chemical has penetrated into the interior of the micro-

TABLE 9.4 Naturally-Occurring Organic Chemicals Found in Soil.

acetic acid
aminoacetic acid
L-2-amino-4-[(2-amino-2-carboxyethyl)-thio]butanoic acid
2-amino-1,4-butanedioic acid
2-aminobutanoic acid
4-aminobutanoic acid
2-amino-4-carbamylbutanoic acid
2-amino-3-carbamoylpropanoic acid
2-amino-3-(3,4-dihydroxyphenyl)propanoic acid
2-aminoethanesulfonic acid
2-aminoethanol
1-amino-4-guanidinopentanoic acid
2-amino-3-hydroxybutanoic acid
2-amino-3-hydroxypropanoic acid
2-amino-4(or 5)-imidazolepropanoic acid
2-amino-3-indoylpropanoic acid
2-amino-3-mercaptopropanoic acid
2-amino-3-methylbutanoic acid
2-amino-4(or 5)-methylimidazolepropanoic acid
2-amino-3-methylpentanoic acid
2-amino-4-methylpentanoic acid
1-amino-2-methylpropane
4-amino-5-methyl-2(1H)-pyrimidinone
2-amino-4-(methylsulfinyl)butanoic acid
2-amino-4-(methylsulfonyl)butanoic acid
2-amino-4-(methylthio)butanoic acid
2-aminooctanoic acid
2-aminopentanedioic acid
3-aminopentanoic acid
2-amino-3-phenylpropanoic acid
1-aminopropane
2-aminopropanoic acid
3-aminopropanoic acid
6-aminopurine
2-aminopurin-6(1H)-one
4-amino-2(1H)-pyrimidinone
2-amino-3-sulfinopropanoic acid
2-amino-3-sulfopropanoic acid
2-amyrenol
anthanthrene
anthracene
9,10-anthraquinone
ascorbic acid

benzo[a]anthracene
benzene
benzenedicarboxylic acid
benzo[b]fluoranthene
benzo[k]fluoranthene

TABLE 9.4 Naturally-Occurring Organic Chemicals Found in Soil. (cont.)

10,11-benzofluoranthene
benzofluorene
benzoic acid
1,2-benzopyrene
3,4-benzopyrene
1,12-benzoperylene
benzylbutyl phthalate
biotin
bis-(2-ethylhexyl)phthalate
1,4-butanediamine
1,4-butanedioic acid
butanoic acid
n-butanol
cis-butenedioic acid
trans-2-butenoic acid

carbazole
carbon disulfide
carbon monoxide
carbonyl sulfide
catechin
chrysene
chrysotalunin
citric acid
coronene
cyanuric acid
cycloheximide

decanoic acid
dehydroabietin
dehydrodivanillin
2,7-diaminoheptanedioic acid
2,6-diaminohexanoic acid
2,5-diaminopentanoic acid
dibutyl phthalate
dicyclohexyl phthalate
diethyl sulfide
1,2-dihydroxybenzene
1,3-dihydroxybenzene
3,4-dihydroxybenzoic acid
2,3-dihydroxy-1,4-butanedioic acid
2,4-dihydroxy-7-methoxy-1,4-benzoxazine-3-one
2,4-dihydroxy-6-methylbenzoic acid

TABLE 9.4 Naturally-Occurring Organic Chemicals Found in Soil. (cont.)

9,10-dihydroxyoctadecanoic acid
dihydroxyperylenquinone
3,4-dihydroxyphenylpropanoic acid
3-(3,4-dihydroxyphenyl)propenoic acid
3,5-dihydroxytoluene
diisoamylphthalate
4,5-dimethoxy-1,2-benzenedicarboxylic acid dimethyl ester
3,5-dimethoxy-4-hydroxybenzoic acid
3-(3,5-dimethoxy-4-hydroxyphenyl)propenoic acid
dimethyldisulfide
dimethyl hexadecane
dimethylsulfide
dimethyl undecane
dioctylphthalate
5-[3-(1,2-dithioanyl)]pentanoic acid
3,3'-dithiobis(2-aminopropanoic acid)
docosane
docosanedioic acid
docosanoic acid
dodecanoic acid
dodecanol
dotriacontane

eicosane
eicosane cyclohexane
eicosanedioic acid
eicosanoic acid
epicatechin
epifriedelanol
ethanedioic acid
ethanol
8-ethoxydecanoic acid
ethylamine
ethylbenzene
ethylene
ethyl methyl pentanol

3,3',4',5,7-flavanpentol
flavonol
fluoranthene
formic acid
N-formyl-N-hydroxyaminoacetic acid
friedelin
friedelin-3B-ol
fumaric acid

gliotoxin
glutathione

TABLE 9.4 Naturally-Occurring Organic Chemicals Found in Soil. (cont.)

heneicosane
n-hentriacontane
heptacosane
heptacosane cyclohexane
heptacosanoic acid
heptadecane
heptadecanedioic acid
heptadecanoic acid
heptanoic acid
hexacosane
hexacosane cyclohexane
hexacosanoic acid
1-hexacosanol
hexadecane
hexadecanedioic acid
hexadecanoic acid
9-hexadecenoic acid
hexanedioic acid
hexanoic acid
hydroxyacetic acid
hydroxyanthraquinone
o-hydroxybenzaldehyde
p-hydroxybenzaldehyde
o-hydroxybenzoic acid
p-hydroxybenzoic acid
2-hydroxy-1,4-butanedioic acid
8-hydroxydecanoic acid
hydroxydocosanoic acid
3-hydroxydodecanoic acid
(B-hydroxyethyl)trimethylammonium hydroxide
3-hydroxyhexadecanoic acid
4-hydroxy-3-methoxybenzoic acid
3-(4-hydroxy-3-methoxyphenyl)-2-oxopropanoic acid
3-(4-hydroxy-3-methoxyphenyl)-2-propen-1-aldehyde
3-(4-hydroxy-3-methoxyphenyl)propenoic acid
3-(4-hydroxy-3-methoxyphenyl)-1,2,3-trihydroxypropane
3-hydroxy-4-methylbenzoic acid
3-hydroxy-5-methylbenzoic acid
8-hydoxynonanoic acid
2-hydroxyoctadecanoic acid
11-hydroxyoctadecanoic acid
3-hydroxyoctanoic acid
8-hydroxyoctanoic acid
3-(4-hydroxyphenyl)-2-aminopropanoic acid
3-(4-hydroxyphenyl)propanoic acid
3-(4-hydroxyphenyl)propenoic acid

TABLE 9.4 Naturally-Occurring Organic Chemicals Found in Soil. (cont.)

2-hydroxypropanoic acid
4-hydroxy-2-pyrrolidinecarboxylic acid
3-hydroxytetradecanoic acid
1-hydroxy-1,2,3-tricarboxypropane
hypoxanthine

2-(4-imidazolyl)ethylamine
2-imino-1-methyl-4-imidazolidinone
indeno(1,2,3-cd)-pyrene
indole-3-acetic acid

1-ketopropionaldehyde

levopimaric acid

methane
methanethiol
methanol
2-methoxy-1,3,4,5-benzenetetracarboxylic acid tetramethyl ester
4-methoxy-1,2,3-benzenetricarboxylic acid trimethyl ester
4-methoxybenzoic acid
3-methoxy-4-hydroxybenzaldehyde
4-methoxy-5-methyl-o-phthalaldehyde-3-carboxylic acid
2-methoxy-1,4-naphthoquinone
methylamine
4-methylbutanoic acid
2-methyl-4-carboxypyridine
20-methyldocosanoic acid
11-methyldodecanoic acid
18-methyleicosanoic acid
20-methylheneicosanoic acid
15-methylheptadecanoic acid
16-methylheptadecanoic acid
methylhexadecane
15-methylhexadecanoic acid
1-methyl-7-isopropylphenanthrene
18-methylnonadecanoic acid
16-methyloctadecanoic acid
17-methyloctadecanoic acid
13-methylpentadecanoic acid
14-methylpentadecanoic acid
3-methylpropanoic acid
5-methyl-2,4(1H,3H)-pyrimidinedione

TABLE 9.4 Naturally-Occurring Organic Chemicals Found in Soil. (cont.)

13-methyltetradecanoic acid
11-methyltridecanoic acid
12-methyltridecanoic acid
22-methyltricosanoic acid

naphthalene
n-nonacosane
nonacosane cyclohexane
nonacosanoic acid
nonadecane
nonadecane cyclohexane
nonadecanedioic acid
nonadecanoic acid
nonanoic acid

octacosane
octacosanoic acid
octadecane
octadecanedioic acid
octadecanoic acid
cis-9-octadecenoic acid
trans-9-octadecenoic acid
octadecyl(4-propionylphenyl)ester
octanoic acid
2-oxobutanedioic acid
2-oxopropanoic acid

pantothenic acid
pentacosane
pentacosane cyclohexane
pentacosanedioic acid
pentacosanoic acid
pentadecane
pentadecanedioic acid
pentadecanoic acid
3,3',4',5,7-pentahydroxyflavone
1,5-pentanediamine
pentanoic acid
pentatriacontane
perylene
phenanthrene
phenylacetic acid
2-phenyl-1,4-benzopyrone
3-phenylpropenoic acid
propanedioic acid

TABLE 9.4 Naturally-Occurring Organic Chemicals Found in Soil. (cont.)

propanoic acid
n-propanol
propanoic acid
2,6(1,3)-purinedione
pyrene
pyridine-3-carboxylic acid
2,4(1H,3H)-pyrimidiendione
2-pyrrolidinecarboxylic acid

quercetin

B-sitosterol
stigmastanol

taraxerol
taraxerone
tetracosane
tetracosanoic acid
tetradecane
tetradecanoic acid
1,3,4,5-tetrahydroxycyclohexanecarboxylic acid
3,4',5,7-tetrahydroxyflavone
1,2,3,4-tetrahydroxyhexanedioic acid
tetramethylhexadecane
tetratriacontane
thiamine
toluene
triacontane
triacontyl octadecanoate
triacosanoic acid
tricosane
tricosanedioic acid
tridecanoic acid
1,2,3-trihydroxybenzene
1,3,5-trihydroxybenzene
3,4,5-trihydroxybenzoic acid
3,4,5-trihydroxy-1-cyclohexene-1-carboxylic acid
2',4',6'-trihydroxy-3-(4-hydroxyphenyl)propiophenone
trihydroxyoctadecanoic acid
1,2,3-trihydroxypropane
trimethylamine
trimethyldecane
trimethyldodecane
trimethylhexadecane
triphenylamine

TABLE 9.4 Naturally-Occurring Organic Chemicals Found in Soil. (cont.)

triphenylene
trithiobenzaldehyde
tritriacontane
uncosane cyclohexane
uncosanedioic acid
uncosanoic acid
undecanoic acid
untriacontane
untriacontane cyclohexane
5-ureidohydantoin
m-xylene
o-xylene
p-xylene

bial cell, it will collide with enzymes[27]. Whether or not the chemical transforms as a result of this collision will depend upon (a) the chemical binding to the enzyme and (b) conformational changes at the enzyme's active site. In most enzymes, chemical induced conformational changes (i.e. induction) play a vital role. Degradable chemicals will produce the ideal alignment of the enzyme and the organic chemical; persistent chemicals will produce a less favorable alignment. Recalcitrant or non-reacting chemicals are not bound at all or fail to produce an alignment that leads to reaction.

The reaction of an organic chemical with an enzyme can be expressed like any other chemical reaction:

$$C + E \underset{\text{Incorrect Alignment}}{\rightleftharpoons} CE \xrightarrow[\text{Correct Alignment}]{} P + E \qquad (9.1)$$

where

C = organic chemical

E = enzyme

CE = enzyme-chemical complex

P = reaction product, a modified or decomposed organic chemical

TABLE 9.5 Concentrations of Some Naturally-Occurring Organic Chemicals Found in Soils.

Chemical	*Concentration (mg/kg soil)*	*Reference*
acetic acid	3.8 - 74.2	6
	265 - 530[a]	2
	995 - 1358[b]	8
alkanes	0 - 286	9, 10
n-alkanoic acids	700 - 2080[c]	11
	< 60	12
n-alkanols	90 - 810[c]	11
alkyl phthalates	0 - 60.6	10
aminoacetic acid	0.21 - 800	6, 13
2-amino-1,4-butanedioic acid	0.2 - 1820	6, 13
4-aminobutanoic acid	0.08 - 128	6, 13
2-amino-3-hydroxybutanoic acid	0.2 - 810	6, 13
2-amino-3-hydroxypropanoic acid	0.16 - 734	6, 13
2-amino-4(or 5)-imidazole-propanoic acid	0.33 - 130	6, 13
2-amino-3-methylbutanoic acid	0.2 - 810	6, 13
2-amino-3-methylpentanoic acid	0.12 - 477	6, 13
2-amino-4-methylpentanoic acid	0.13 - 634	6, 13
2-amino-4-(methylthio)butanoic acid	11 - 33	14
2-aminopentanedioic acid	0.31 - 1370	6, 13
2-amino-3-phenylpropanoic acid	0.12 - 340	6, 13
2-aminopropanoic acid	0.09 - 173	6, 13
3-aminopropanoic acid	0.18 - 1090	6, 13
aromatic acids	< 40	12
benz(a)anthracene	0 - 0.01	15
benzene	1 - 5	16
benzo(b)fluoranthene	0 - 0.03	15
benzo(k)fluoranthene	0 - 0.015	15
benzoic acid	0.14 - 11	12
	7 - 350[a]	7
benzo(g,h,i)perylene	0 - 0.02	15
benz(a)pyrene	0 - 8	15
benzylbutylphthalate	0 - 48[c]	17
bis(2-ethylhexyl)phthalate	150 - 925[c]	17
butanoic acid	0.1 - 0.6	6
n-butanol	0 - 1220	18
carotene	600[c]	11
chrysene	5	11
2,6-diaminohexanoic acid	13 - 700	13
	0.52	6
dibutylphthalate	19 - 56[c]	17
dicyclohexylphthalate	29 - 65[c]	17
diisoamylphthalate	32 - 47[c]	17
4,5-dimethoxy-1,2-benzene dicarboxylic acid dimethyl ester	0 - 19[c]	17

TABLE 9.5 Concentrations of Some Naturally-Occurring Organic Chemicals Found in Soils. (cont.)

Chemical	*Concentration (mg/kg soil)*	*Reference*
3,5-dimethoxy-4-hydroxybenxoic acid	0.11 - 5.3	12
dioctylphthalate	0 - 13[c]	17
docosanoic acid	0.16 - 1.7	10
dodecanoic acid	0.14 - 0.78	10
eicosanoic acid	0.05 - 11.6	10
ethanol	0 - 52	18
8-ethoxydecanoic acid	0.28 - 24	12
ethylbenzene	1 - 5	16
fluoranthene	0 - 0.04	15
formic acid	230 - 525[a]	7
	26 - 897[b]	8
heptadecanoate	0.06 - 0.52	10
hexadecanoic acid	0.17 - 6.5	10
9-hexadecnoic acid	0.15 - 1.4	10
hexanoic acid	<0.4	10
hydroxy acids	160 - 3000[c]	11
4-hydroxybenzaldehyde	70 - 550[d]	19
2-hydroxybenzoic acid	0.24 - 11.8	12
4-hydroxybenzoic acid	60 - 11,820[d]	19
	0.2 - 4.3	12
hydroxydecanoic acid	0.05 - 7.34	12
8-hydroxydecanoic acid	0.59 - 29	12
4-hydroxy-3-methoxybenzoic acid	0.33 - 8.7	12
	110 - 230[d]	19
3-(4-hydroxy-3-methoxyphenyl)-propenoic acid	0.02 - 7.9	12
	100 - 7440[d]	19
3-hydroxy-5-methylbenzoic acid	800[a]	7
8-hydroxynonanoic acid	0.03 - 12	12
3-hydroxyoctanoic acid	0.23 - 20	12
8-hydroxyoctanoic acid	0.03 - 13	12
3-(4-hydroxyphenyl)-2-aminopropanoic acid	0.27 - 233	6, 13
3-(4-hydroxyphenyl)propenoic acid	0.01 - 3.3	12
	40 - 7730[d]	19
ideno(1,2,3-cd)pyrene	0 - 0.015	15
inositols	0 - 400[a]	20
methanol	0 - 31	18
2-methoxy-1,3,4,5-benzene-tetracarboxylic acid tetramethyl ester	0 - 12[c]	17

TABLE 9.5 Concentrations of Some Naturally-Occurring Organic Chemicals Found in Soils. (cont.)

Chemical	*Concentration (mg/kg soil)*	*Reference*
4-methoxy-1,2,3-benzene-tricarboxylic acid trimethyl ester	0 - 32[c]	17
4-methoxybenzoic acid	0.12 - 5.4	12
3-methoxy-4-hydroxybenzaldehyde	40 - 390[d]	19
2-methoxy-1,4-naphthoquinone	8.6	21
methyl alkanones	100,000 - 400,000[c]	11
4-methylbutanoic acid	0.2 - 1.0	6
20-methyleneicosanoic acid	0.88	10
16-methylheptadecanoic acid	0.08 - 0.1	10
18-methylnonadecanoic acid	0.18 - 0.37	10
3-methylpropanoic acid	0.1 - 0.7	6
22-methyltricosanoic acid	0.7	10
naphthalene	1 - 5	16
nonadecanoate	0.06 - 1.3	10
octadecanoic acid	0.6 - 6.7	10
cis-9-octadecenoic acid	0.15 - 5.7	10
octadecyl(4-propionylphenyl)ester	200[c]	22
pentadecanoic acid	0.1 - 0.7	10
pentanoic acid	0.1 - 2.2	6
phenolic acids (total)	4 - 90[c]	23
polysaccharides	8 - 56,000	14
propanoic acid	0.1 - 9.9	6
	26 - 82[a]	7
n-propanol	0 - 54	18
pyrene	0 - 0.015	15
sterols	0 - 12	11
tetracosanoic acid	0.81	10
tetradecanoic acid	0.14 - 2.2	10
toluene	1 - 5	16
uronic acids	5600	24
	10,000 - 50,000[c]	13
m-xylene	1 - 5	16
o-xylene	1 - 5	16
p-xylene	1 - 5	16

[a] in lbs./acre foot
[b] in kg/hectare
[c] mg/kg organic matter
[d] in mg/kg organic carbon
[e] in mg phosphorus/kg soil

LEAKING UNDERGROUND FUEL TANK FIELD MANUAL:

GUIDELINES FOR SITE ASSESSMENT, CLEANUP, AND UNDERGROUND STORAGE TANK CLOSURE

MAY 1988

STATE OF CALIFORNIA
LEAKING UNDERGROUND FUEL TANK TASK FORCE

D. Category 2: Suspected or Known Soil Contamination

A decision tree flow chart outlining Category 2 is presented in Figure II-3 (page 18).

1. Collect Soil Samples for Laboratory Analysis of BTX&E and TPH

a. Explanation

To substantiate information gathered through a field inspection or background check, quantitative laboratory analysis of soil is needed. The Category 2 investigation can skip the preliminary step (2, page 19) used to confirm soil contamination and go directly to soil borings and general risk appraisal, (4, page 23) in cases where soil is obviously contaminated or where laboratory analysis of soil samples under Category 1 identifies soil contamination. The sample collection procedures described in Appendix C (page 60) should be followed to ensure the quality of the results.

b. Instructions

Chain of custody procedures should be followed to ensure the validity of the samples in the event of a legal challenge. Chain of custody can be summarized as knowing who has the sample and where it has been from the time of collection until the laboratory analyzes it. If the chain of custody is broken, i.e., if someone leaves the sample unattended, then tampering or unacceptable handling can be alleged.

Collecting samples requires keeping both safety and accuracy in mind. The most accurate samples are those collected by causing the least disturbance of soil and thus avoiding loss of volatile constituents. The best place to take undisturbed samples is from the bottom of the excavation. To ensure the accuracy of the samples, they should be taken <u>from</u> the excavation, as opposed to <u>next to</u> the excavation. At some tank sites, it may be safe to enter the hole. At these sites, samples may be collected with a corer or trowel. However, in many cases, samples can only be safely obtained from a backhoe bucket. Commercial or custom-made hand-corer extensions can be used to take samples from minimally disturbed soil.

Soil samples should be taken one to two feet below the bottom of the excavation at suspected worst-case locations. Worst-case locations include: (1) areas around the tank and piping, or where they used to be, that record the highest readings with vapor monitoring instruments; (2) areas around the tank and piping, or where they used to be, that look

to be verified by laboratory analysis for BTX&E and TPH after cleanup has taken place.

4. General Risk Appraisal Based on Profile of Soil Contamination and Depth to Ground Water

a. Explanation

(1) Consultant Qualifications and Selection

Starting with this phase of Category 2, the required technical field work will greatly escalate the site evaluation costs and may exceed the resources of the regulatory agency. The regulatory agency will be reviewing the work of a cleanup consultant or field investigator, both on-site and in the office. In addition, the Business and Professions Code (Sections 6735, 7835, and 7835.1) require licensed or registered professionals to sign work that they perform or supervise.

Because of the range of factors that may affect a site (e.g., chemical migration, vadose zone monitoring, ground water investigation), no single set of qualifications can be specified. The services of a registered geologist (R.G.), certified engineering geologist (C.E.G.), professional engineer (P.E.), or professional with expertise in environmental chemistry should be obtained. Many engineers and geologists have limited backgrounds in vadose zone and ground water evaluation and environmental chemistry. Training and previous experience should be checked carefully before selecting a consultant. Furthermore, more than one signature of a licensed professional may be needed on a site cleanup.

(2) Approach and Limitations of General Risk Appraisal

If any of the BTX&E or the TPH levels derived from the leaching potential analysis exceed allowable limits, then additional site analysis is needed. This next phase of Category 2 has been named "General Risk Appraisal", because it relies on generalized environmental fate and chemistry data and some site-specific information. General risk appraisal is more sophisticated than the leaching potential analysis done as part of the quantitative chemical testing in 2.b (page 20).

As presented in this field manual, general risk appraisal uses a simulated environmental system that adapts two computer models to estimate the

concentrations of BTX&E that can be left in place (using remedial action, if needed) without risking ground water pollution. Appendix E (page 86) describes the elements of these computer models and how they were adapted for this field manual.

This general risk appraisal uses the latest information on observed and calculated properties of chemicals and on environmental fate processes. It also considers a variety of environmental conditions found throughout the State (i.e., climate and depth to ground water). This approach allows for a site-specific and chemical-specific analysis. It is based on a technical foundation which conservatively accounts for influences on pollutant migration.

However, the general risk appraisal uses two models which are subject to the deficiencies of all models. Models are theoretical representations of complex and only partially predictable events. The SESOIL model has been tested and verified by the U.S. Environmental Protection Agency. The extent of the testing and verification includes comparison with other models and field data. However, to the best of the task force's knowledge, it has not been checked using field data from leaking underground fuel tanks. Information regarding testing and verification of the other model (AT123D) and the interfaced combination of the two models could not be found. Data from underground tank site cleanups will be used to assess the validity of this general risk appraisal and make any necessary changes.

(3) Alternative Environmental Risk Analysis

For sites where the general risk appraisal cannot be used, field investigators may use other kinds of environmental risk analysis approved by the regulatory agency. If desired, the general risk appraisal may be substituted with a more detailed site-specific analysis, employing the two models (SESOIL and AT123D) used in the general risk appraisal. These models are available through the Environmental Protection Agency's Graphical Exposure Modeling System (GEMS) maintained on a VAX computer in Triangle Park, North Carolina. In order to use the system, it is necessary to obtain an account, which can be requested by calling (202) 382-3397. The system, consisting of remote access by a computer, can be used once an account is established.

Regulatory agencies should be aware of (a) the complexity of the required analysis (i.e., environmental chemistry and hydrogeology), (b) the need for thorough review of findings and recommendations, and (c) the need for follow-up monitoring of contamination left in place.

Site evaluations should include the following considerations at a minimum. First and foremost, the same observation may be interpreted very differently, depending on perspective. For example, high hydrocarbon concentrations in a deep clayey layer could be used as evidence that the layer retarded pollutant migration. Alternatively, they could be regarded as a source of continuing contamination for years to come due to diffusion and lack of effective chemical or biological breakdown.

Second, site evaluations should assess the potential for hydrocarbon vapors to migrate along or within man-made conduits. These vapors may pose a threat of explosion or fire if concentrations reach explosive levels and an ignition source is present. The acceptable soil contamination levels listed in Tables 2-5 through 2-8 (pages 34 to 37) were developed only for the protection of ground water. A field level that does not threaten ground water may pose a risk of explosion from vapor buildup in sewer lines, for instance.

Finally, regulatory agencies should note that general statements about mitigating effects of confining layers or biodegradation may not be valid in specific cases. The ability of clay layers to effectively retard the movement of hydrocarbons and other organic chemicals is highly questionable. Also, although there is evidence that natural microbiological processes can have a substantial effect on degradation of hydrocarbons, the rates of degradation are very site-specific and seasonal. In addition, natural biodegradation rates in the saturated subsurface environment may be insignificant due to poor aeration.

b. Instructions

The general risk appraisal evaluates three types of site-specific data: (1) precipitation, (2) depth to ground water, and (3) extent of soil contamination. It assumes relatively homogeneous permeable soil and simplified hydrogeological features. The input used with these models is

intended to represent sites with a high potential for ground water contamination.

The checklist in Table 2-3 (page 29) contains questions which are designed to identify sites with environmental conditions which could produce a greater risk to ground water than was modeled. The results of the general risk appraisal are most applicable if all of the questions on the checklist can be answered "no" with reasonable certainty. If any of the questions on the checklist cannot be answered "no", then the results of the general risk appraisal may be less valid.

The environmental fate worksheet (Table 2-4, page 30) is designed to help organize and analyze information on rainfall, ground water, and soil contamination used in the general risk appraisal. Step-by-step instructions for filling in the worksheet follow.

Applied Hydrogeology

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In addition to grain-size sorting, the porosity of sediments is affected by the shape of the grains. Well-rounded grains may be almost perfect spheres, but many grains are very irregular. They can be shaped like rods, disks, or books. Sphere-shaped grains will pack more tightly and have less porosity than particles of other shapes. The fabric or orientation of the particles, if they are not spheres, also influences porosity.

Sediments are classified on the basis of the size (diameter) of the individual grains. Clay particles are 2 microns (2×10^{-3} millimeter) or less in diameter. Silt falls in the range of 2 to 62 microns. Sand is no greater than 2 millimeters and no less than 62 microns. Pebbles or gravel are from 2 to 64 millimeters in diameter, while cobbles are in the range of 64 to 256 millimeters (Figure 4.3).

Clays and some clay-rich or organic soils can have very high porosities. Organic materials do not pack very closely because of their irregular

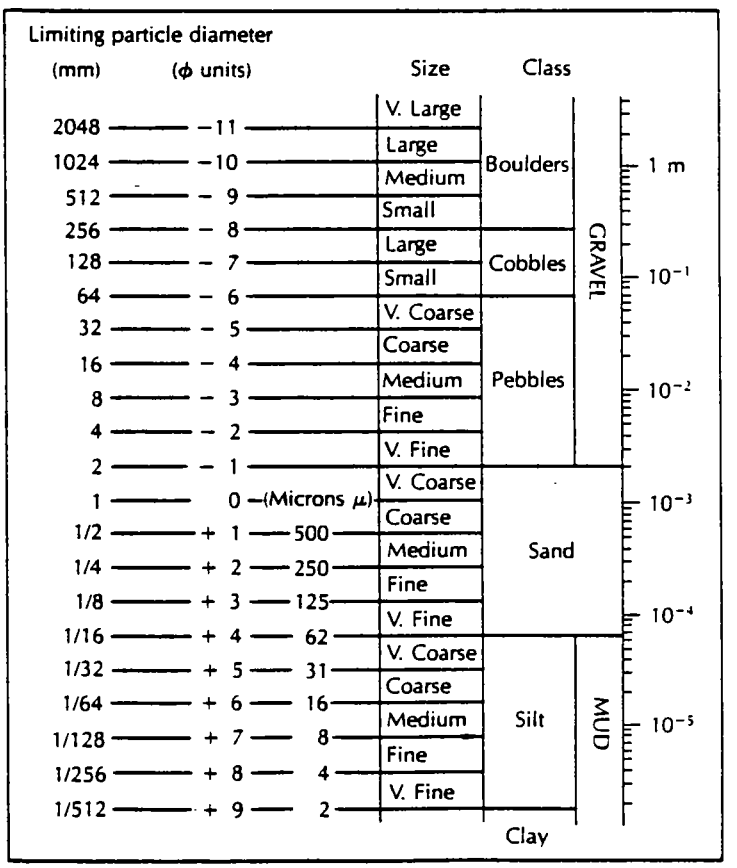


FIGURE 4.3. Standard sizes of sediments with limiting particle diameters and the ϕ scale of sediment size, in which ϕ is equal to $\log_2 s$ (the particle diameter). SOURCE: G. M. Friedman and J. E. Sanders, *Principles of Sedimentology* (New York: John Wiley & Sons, 1978). Used with permission.

shapes. The dispersive effect of the electrostatic charge present on the surfaces of certain book-shaped clay minerals causes clay particles to be repelled by each other. The result is a relatively large proportion of void space.

The general range of porosity that can be expected for some typical sediments is listed in Table 4.1.

TABLE 4.1. Porosity ranges for sediments (1, 2, 8, 9)

Well sorted sand or gravel	25–50%
Sand and gravel, mixed	20–35%
Glacial till	10–20%
Silt	35–50%
Clay	33–60%

4.1.3 POROSITY OF SEDIMENTARY ROCKS

Sedimentary rocks are formed from sediments through a process known as **diagenesis**. A sediment, which may be either a product of weathering or a chemically precipitated material, is buried. The weight of overlying materials and physiochemical reactions with fluids in the pore spaces induce changes in the sediment. This includes compaction, removal of material, addition of material, and transformation of minerals by replacement or change in mineral phase. Compaction reduces pore volume by rearranging the grains and reshaping them. The deposition of cementing materials such as calcite, dolomite, or silica will reduce porosity, although the dissolution of material that is dissolved by the pore fluid will increase porosity. The primary structures of the sediment may be preserved in the sedimentary rock. The porosity of a sandstone, for instance, will be influenced by the grain size, size sorting, grain shape, and fabric of the original sediment. Diagenesis is a complex process, but in general the primary porosity of a sedimentary rock will be less than that of the original sediment. This is especially true of fine-grained sediments (silts and clays) (Figure 4.4).

Rocks at the earth's surface are usually fractured to some degree. The fracturing may be mild, resulting in widely spaced joints. At the other extreme, violent fracturing may completely shatter the rock, resulting in fault breccias. Fractures create secondary porosity in the rock. Groundwater can be found in fractured sedimentary rocks in the pores between grains (**primary porosity**) as well as in fractures (**secondary porosity**). Groundwater flowing through fractures may enlarge them by solution of material. Bedding planes in the sedimentary rocks may have primary porosity formed during deposition of the sediments and secondary porosity if the rock has moved along a bedding plane.

Some cohesive sediments (those rich in silt and/or clay) are also subject to fracturing. In some cases, this is merely from shrinkage cracks that develop when the sediment dries. However, slumping, loading, or tectonic activity can also cause fracturing in nonplastic cohesive sediments. This fracturing can be a significant source of secondary porosity in such deposits.

sample, so that the finer material can fill the voids between larger fragments.

3. Coarser samples show a greater decrease in permeability with an increase in standard deviation than fine samples.
4. Unimodal (one dominant size) samples have a greater permeability than bimodal (two dominant sizes) samples. This is again a result of poorer sorting of the sediment sizes, as the bimodal distribution indicates.

TABLE 4.4. Ranges of intrinsic permeabilities and conductivities for unconsolidated sediments

Material	Intrinsic Permeability (darcys)	Conductivity (cm/sec)
Clay	$10^{-6} - 10^{-3}$	$10^{-9} - 10^{-6}$
Silt, sandy silts, clayey sands, till	$10^{-3} - 10^{-1}$	$10^{-6} - 10^{-4}$
Silty sands, fine sands	$10^{-2} - 1$	$10^{-5} - 10^{-3}$
Well-sorted sands, glacial outwash	$1 - 10^{2}$	$10^{-3} - 10^{-1}$
Well-sorted gravel	$10 - 10^{3}$	$10^{-2} - 1$

4.3.4 PERMEABILITY OF ROCKS

The intrinsic permeability of rocks is due to primary openings formed with the rock and secondary openings created after the rock was formed. The size of openings, the degree of interconnection, and the amount of open space are all significant.

Clastic sedimentary rocks have primary permeability characteristics similar to unconsolidated sediments. However, diagenesis can reduce the size of the throats which connect adjacent pores through cementation and compaction. This could reduce permeability substantially without a large impact on primary porosity. Primary permeability may also be due to sedimentary structures, such as bedding planes.

Crystalline rocks, whether of igneous, metamorphic, or chemical origin, typically have a low primary permeability, in addition to a low porosity. The intergrown crystal structure contains very few openings, so fluids cannot pass through as readily. The exceptions to this are volcanic rocks, which can have a high primary porosity. If the openings are large and well connected, then high permeability may also be present.

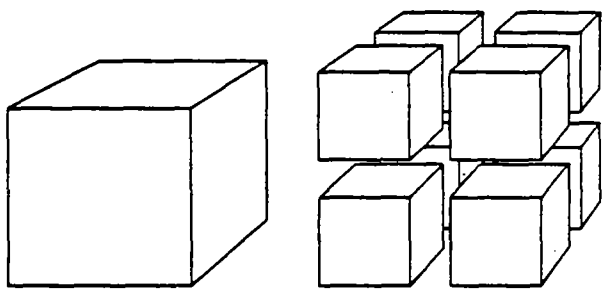
Secondary permeability can develop in rocks through fracturing. The increase in permeability is initially due to the number and size of the fracture openings. As water moves through the fractures, minerals may be dissolved from the rock and the fracture enlarged. This increases the permeabil-

square foot under a gradient of 1 at 60° F. The unit is named the **meinzer** after O. E. Meinzer, a pioneering groundwater geologist with the U.S. Geological Survey. However, the name meinzer is rarely used in practice. For pure water at 15.6° C, a porous medium with an intrinsic permeability of 1 darcy would have a hydraulic conductivity of 18.2 meinzers or 8.61×10^{-4} centimeter per second. In the SI system of units, conductivity is in meters per day. Units of centimeters per second are widely used in soil mechanics.

4.3.3 PERMEABILITY OF SEDIMENTS

Unconsolidated coarse-grained sediments represent some of the most prolific producers of groundwater. Likewise, clays are often used for engineering purposes, such as lining solid waste disposal sites, because of their extremely low intrinsic permeability. There is obviously a wide-ranging continuum of permeability values for unconsolidated sediments.

The intrinsic permeability is a function of the size of the pore opening. The smaller the size of the sediment grains, the larger the surface area the water contacts (Figure 4.11). This increases the frictional resistance to flow, which reduces the intrinsic permeability. For well-sorted sediments, the intrinsic permeability is inversely proportional to the grain size of the sediment (23).



A B

FIGURE 4.11. Relationship of sediment grain size to surface area of pore spaces. **A.** A cube of sediment with a surface area of six square units; **B.** The cube has been broken into eight pieces, each with a diameter of one-half of the cube in Part A. The surface area has increased to twelve square units—an increase of 100 percent.

For sand-sized alluvial deposits, several factors relating intrinsic permeability to grain size have been noted (24). These observations would hold true for all sedimentary deposits, regardless of origin of deposition.

1. As the median grain size increases, so does permeability. This is due to larger pore openings.
2. Permeability will decrease for a given median diameter as the standard deviation of particle size increases. The increase in standard deviation indicates a more poorly sorted

Soils in Waste Treatment and Utilization

Volume I
Land Treatment

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Table 15
THE RELATIONSHIP OF SURFACE AREA TO PARTICLE SIZE

Diameter of sphere	Textural name	Volume per particle ($1/6\ \pi D^3$)	Number of particles in $\pi/6$ cc	Total surface area (cm^2)
1 cm	Gravel	$1/6\ \pi\ (1)^3$	1	3.14
0.1 cm (1 mm)	Coarse sand	$1/6\ \pi\ (1/10)^3$	1×10^3	31.42
0.05 cm (0.5 mm or 500 μ)	Medium sand	$1/6\ \pi\ (5/100)^3$	8×10^3	62.83
0.01 cm (0.1 mm or 100 μ)	Very fine sand	$1/6\ \pi\ (1/100)^3$	1×10^6	314.16
0.005 cm (0.05 mm or 50 μ)	Coarse silt	$1/6\ \pi\ (5/1,000)^3$	8×10^6	628.32
0.002 cm (0.02 mm or 20 μ)	Silt	$1/6\ \pi\ (2/1,000)^3$	125×10^6	1,570.8
0.0005 cm (0.005 mm or 5 μ)	Fine silt	$1/6\ \pi\ (5/10,000)^3$	8×10^9	6,283.2
0.0002 cm (0.002 mm or 2 μ)	Clay	$1/6\ \pi\ (2/10,000)^3$	125×10^9	15,708
0.0001 cm (0.001 mm or 1 μ)	Clay	$1/6\ \pi\ (1/10,000)^3$	1×10^{12}	31,416
0.00005 cm (0.0005 mm or 500 mμ)	Clay	$1/6\ \pi\ (5/100,000)^3$	8×10^{12}	62,832
0.00002 cm (0.0002 mm or 200 mμ)	Colloidal clay	$1/6\ \pi\ (2/100,000)^3$	125×10^{12}	157,080
0.00001 cm (0.0001 mm or 100 mμ)	Colloidal clay	$1/6\ \pi\ (1/100,000)^3$	1×10^{15}	314,160
0.000005 cm (0.00005 mm or 50 mμ)	Colloidal clay	$1/6\ \pi\ (5/1,000,000)^3$	8×10^{15}	628,320

Baver, L. D., Gardner, W. H., and Gardner, W. R., *Soil Physics*, John Wiley & Sons, Inc., New York 1972, 498. With permission.

well as size. Montmorillonitic types expand and shrink extensively, whereas kaolinite types do so only minimally.

Soil properties usually are characterized by the material that passes a 2 mm screen although larger sizes are present in many soils. Cobbles and stones are not uncommon (Table 16), and receive attention in the classification system. The soil scientist refers to the completely dispersed particles as textural separates of sand, silt, and clay. In combinations these form textural classes such as silty clay, sandy loam, etc. (Figure 25). Alternate schemes exist in the literature contributing to some confusion of terminology (Figure 26). The Unified Soil Classification System (USCS) is used primarily by engineers. Soil type criteria in the USCS system is based on particle (grain) size and response to physical manipulation at various water contents. The AASHO system is the old pre-1938 U.S. Department of Agriculture system. The new USDA system serves agricultural requirements and land management. It is based both on physical and chemical properties of soils that are quantitatively measurable as they exist in the field.

The present USDA system of soil classification extends beyond particle size distributions. It is continually being refined and is generally accepted by soil scientists. The nomenclature is used in most of the current U.S. literature. However, the distribution of soil grain or particle size and associated modifiers (stony, gravelly, mucky, diatomaceous, and micaceous) of both systems may be compared directly.

The size ranges for the USDA and the USCS particles designates are listed in Table 16. The USDA uses such textural terms as sandy loam, silty loam, silty clay, etc., whereas.

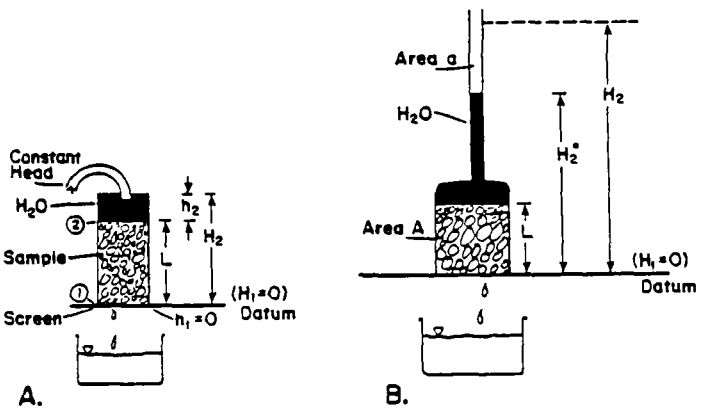

FIGURE 40. Permeameters for measuring hydraulic conductivity. (A) Constant head, and (B) falling head apparati.

sufficient. If the drop from H_2 to H_2^* is not excessive, an average gradient and the steady-state formula Equation (24) give reasonable results.

Of the in situ determinations, the auger-hole, piezometer, and pit-bailing methods require shallow water tables. The basic idea is to excavate below the water table, remove the water and measure how fast the hole refills. For the auger hole the excavation is a cylindrical hole from the surface to below the water table, usually on the order of 10 to 20 cm in diameter. For the piezometer method, a solid-walled pipe is extended below the water table and a small cavity excavated below its end. For the pit-bailing method, the cavity can be a larger pit, such as with a tractor mounted scoop or "back hoe".

The remaining in situ methods do not require a shallow water table, but water must be added to the system. In each case, an initial stage is required in order to reach a steady flow. Infiltration rings approximate the hydraulic conductivity, provided the horizontal flow is negligible, sufficient time has elapsed and the soil is homogeneous. For the reverse auger hole method, water is added to a cylindrical cavity and the intake rate measured. This is a version of the commonly used septic-tank suitability test. The double-tube method is a more elaborate technique, designed to attain one-dimensional flow for the measured volume.

In general, hydraulic conductivity values are highly variable. For several different studies in agricultural fields, Warrick and Nielsen[99] found coefficients of variation the order of 100%. Even for "replicate" samples a considerable variation can occur. Values are obviously influenced by where and how the sample is taken. For some cases an "undisturbed" sample or an in situ method is preferred, although if the site is totally reworked before disposal or very deep samples are needed, disturbed samples are justified. With regard to vertical flow, stratification — whether natural or man-made — requires special consideration. In all of the methods, sufficient time must be allowed to reach steady state, although in some cases volumes continue changing over long periods of time.

3. Unsaturated Flow

For unsaturated conditions, water is under tension. Thus, movement occurs through capillaries and along surfaces or in a vapor form. As a consequence, flow is much slower and more tortuous than for saturated flow. Darcy's law may be assumed of the form

$$q_D = K(\theta_v)i \tag{26}$$

where $K(\theta_v)$ denotes the hydraulic conductivity varies with water content θ_v. The generalization of Darcy's law to unsaturated flow is primarily for convenience, although it has

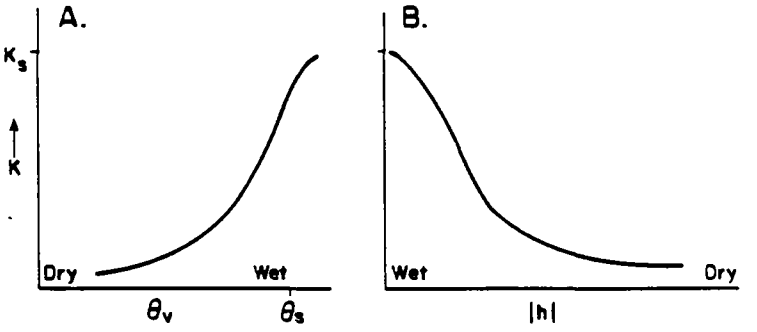

FIGURE 41. Unsaturated hydraulic conductivity as a function of (A) water content, and (B) suction.

proved reasonably satisfactory for many problems. Equation (26) along with a continuity requirement results in the well-known Richards' Equation:

$$\partial\theta/\partial t = \nabla \cdot (K\nabla H) \tag{27}$$

where "∇" is the vector gradient operator. When combined with suitable initial and boundary conditions, Richards' equation may be solved in order to determine water status through space and time. As the relationship is non-linear, the solution is difficult and often only by numerical methods.

A typical unsaturated-hydraulic-conductivity function K as a function of θ_v is shown in Figure 41. The values can change by several orders of magnitude as the water-filled portion of the soil becomes less. Thus, it is often more convenient to plot K on a logarithmic scale. Of course, water status may also be expressed in terms of pressure level h (or the suction, $-h$) and Figure 40B shows this type of a relationship.

In general, methods for determining unsaturated hydraulic conductivity function are much more tedious than the corresponding saturated values. Methods are discussed by Klute (1965)[100] and Hillel (1982)[7] including laboratory and field methods. Shortcuts have been proposed to evaluate the conductivity based on pore-size distribution and capillary-bundle theory. These are reviewed somewhat by van Genuchten.[101] Several alternatives have been used including that by Mualem of the form[102]

$$K/K_s = \theta^{0.5}\left[\int_0^{\theta} dx/h(x)\right]^2\left[\int_0^{1} dx/h(x)\right]^{-2} \tag{28}$$

where $h(\theta)$ is the soil water characteristic relationship and θ is a reduced water content. Mualem compared K values calculated for 45 soils with measured values with generally favorable results.

4. Convective Velocity

In addition to the Darcian velocity, the convective (pore-water) velocity is also often of interest. This is the velocity of translation on a macroscopic basis. For example, if a non-interacting pollutant is moving with the water, how fast does the front move through the soil profile? This is shown schematically as Figure 42. Suppose water is moving vertically downward from 0 at a steady Darcian velocity of q_D. In time t the total volume of fluid passing $z = 0$ is

$$Q = q_D A t \tag{29}$$

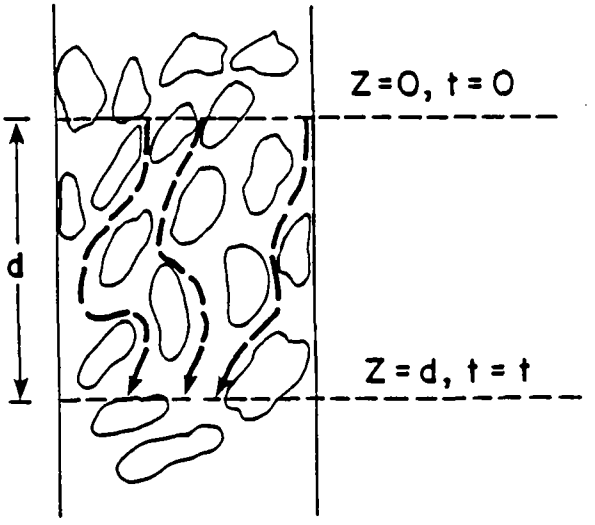

FIGURE 42. Microscopic pathlines of soil water through porous medium. Travel is from z = o to z = d plane in time t.

where A is the cross-sectional area considered. If the advance is along a planar front, this same volume will occupy z = 0 to d where

$$Q = \theta_v A d \tag{30}$$

As the displacement is over a distance d in time t, the corresponding velocity is

$$q_c = d/t$$

or

$$q_c = q_D/\theta_v \tag{31}$$

This relationship is valid for both saturated or unsaturated conditions. For saturated conditions θ_v is the porosity of the system. The same relationship also holds for 2- or 3-dimensional flow.

The convective velocity will always be greater than the Darcian velocity as θ_v is necessarily less than unity for porous material. In fact, generally q_c will be considerably more than twice q_D especially for unsaturated conditions. Similarly if the cumulative discharge is known, the associated depth of displacement for a nonreactive material will be several times the cumulative amount added, even when perfect "piston displacement" occurs without channeling, macro-pore effects or other factors which speed up translation.

Additionally there is a "microscopic" velocity associated with porous media flow. This is the velocity within the pore and along the tortorous path between the soil particles and is greater in magnitude than even q_c.

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Sorption of Volatile Organic Compounds in Soil

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ABSTRACT

To predict the fate of volatile organic compounds (VOCs) in soil, it is necessary to understand the physical and chemical processes that occur in unsaturated soils. An often used assumption is that volatile compounds in the vapor phase pass unaffected through the soil entering the atmosphere without attenuation. This can result in inaccurate predictions. In this research, sorption coefficients were determined at varying soil moisture contents using both the Freundlich and BET sorption models for three compounds: benzene, trichloroethylene (TCE) and o-xylene. Results indicate VOCs are attenuated as they pass through the soil in the vapor phase which suggests that the non-interacting assumption is suspect. Such information can impact decisions on air emissions, transport and fate of volatile compounds, regulatory limits and on-site controls.

INTRODUCTION

The need to provide treatment for soils contaminated with hazardous materials has become increasingly apparent. Many of these hazardous materials contain VOCs that can volatilize and/or interact with the soil. To develop adequate treatment and control for volatile air emissions and to predict the fate of chemical constituents in soil, it is necessary to understand the fundamental processes and interactive mechanisms that occur in the unsaturated soil.

Initially, the major concern with the mobility of hazardous compounds was the movement of contaminants in the aqueous phase into groundwater. This has been expanded to include air emissions. As a result, many contaminant transport models now include volatilization and the subsequent movement of vapor through the unsaturated zone as model parameters (Baehr and Corapcioglu, 1987; Jury et al., 1980; Mayer et al., 1974; Thibodeaux and Hwang, 1982). These models

account for the partitioning of the VOCs between air, water and solid phases, which acts to retard the transport of the compounds from the soil. At the present time, it is commonly assumed that volatile compounds in the vapor phase pass unaffected through the soil and enter the atmosphere with no decrease in total mass. An evaluation of this assumption and the identification of significant removal mechanisms in unsaturated soil are necessary and important.

Interest has been renewed in utilizing the properties of natural soils for removal of VOCs emitted from waste disposal facilities, from waste air streams, and from soil remediation systems (Bohn, 1977; Bohn and Bohn, 1987; Duncan et al., 1982; Kampbell et al., 1987). The removal of VOCs is dependent on continuous interaction between the volatilized compounds and the soil properties. While all soil properties have not been evaluated, those showing increasing importance in vapor sorption are surface area (texture), organic/mineral content and moisture content. In several studies evaluating the removal of VOCs in soil, at least 90% of the applied mass was successfully removed (Ebinger et al., 1987; Kampbell et al., 1987). In these studies, the mechanisms of removal were attributed to sorption onto soil particles, abiotic transformations and biodegradation, but these assumptions were never tested.

This paper presents research that determines the importance of vapor sorption of three VOCs onto unsaturated soils. Sorption coefficients for the three VOCs were empirically determined using the Freundlich and BET models. These data were then used to determine whether a significant amount of sorption of the vapor occurred. The results are part of a larger study directed toward developing protocols for vapor studies, evaluating various removal mechanisms, and determining their roles in vapor removal.

MATERIALS AND METHODS

The compounds used in this study were chosen based on their prevalence in the environment; chemical characteristics (vapor pressure, solubility, partition coefficient, degradation constant); chemical structure and analytical compatibility. The three compounds selected were benzene, TCE and o-xylene. The soil used in the study is a fine sandy loam with an organic content of 3.25 %. It is slightly alkaline, with a pH of 7.8, and has a cation exchange capacity (CEC) of 10.8 meq/100 gm.

The soil was placed in sealed batch reactors of 40 ml VOA vials with PTFE-lined mininert valves. A screening test was conducted with each compound to evaluate leakage from the vials, sorption to the teflon seal, and to determine the equilibration time before proceeding with the sorption tests.

For these sorption tests, a number of vials were prepared for each study. Water was added to a known mass of soil (1,5 or 10 gm) to reach the desired moisture content (0,1,2,8, or 16%). The maximum moisture content of 16%, or greater than 80% field capacity,

VADOSE ZONE MODELING OF ORGANIC POLLUTANTS

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CHAPTER 6

CHEMICAL MOVEMENT THROUGH SOIL

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PROCESS DESCRIPTION

Transport Mechanisms

Chemicals are transported through soil principally by three mechanisms: mass flow of dissolved chemical within moving soil solution, liquid diffusion within soil solution, and gaseous diffusion within soil air-filled voids. The first mechanism, mass flow, refers to the passive transport of dissolved solute within moving soil water. To a first approximation, the solute within an arbitrary volume element of moving soil water is assumed to be uniformly distributed, and hence the mass flux of chemical is given by the product of the volume flux of water times the dissolved solute concentration expressed in units of mass of solute per volume of water (see Appendix A). Liquid diffusion refers to the transport of the dissolved solutes by diffusion in response to molecular scale collisions. The effect of large numbers of these collisions is to move dissolved solutes from regions of higher solute density to lower solute density; thus, the diffusion flux is proportional to the density or concentration gradient. The coefficient of proportionality between the diffusion flux and the concentration gradient is called the liquid diffusion coefficient (see Appendix A). Chemical vapor molecules within the soil air spaces also undergo molecular collisions and spread out by vapor diffusion. As in the case of liquid diffusion, the flux of vapor molecules is proportional to the density or concentration gradient. The coefficient of proportionality is called the vapor diffusion coefficient (see Appendix A).

An additional term is frequently required in the mathematical description of chemical transport. Since the soil water flux is represented as a continuous quantity which is volume-averaged over many pores, the individual complicated water flow paths around soil

grains are mathematically replaced by an equivalent one-dimensional flow. When this one-dimensional flow of water is multiplied by the dissolved solute concentration, the resulting solute mass flux does not take into account the additional spreading of solute which occurs by three-dimensional mass flow at the pore scale in the actual system but which is not represented in the volume-averaged mathematical treatment. This apparent solute diffusion arising from the mass flux effects which are obscured by mathematical volume averaging is called hydrodynamic dispersion [1]. Under certain conditions, this dispersion transport process is mathematically equivalent to transport by liquid diffusion and may be included in the transport equations (see Appendix A) by using an effective liquid diffusion-dispersion coefficient to account for spreading of liquid solute molecules. Because this effect depends on the size of the volume averaging, it is a function of the scale of approximation of the water flux. Thus, hydrodynamic dispersion is considerably more important on the field scale than on the laboratory scale [1,2].

Soil, Environmental, and Management Factors Influencing Chemical Transport Through Soil

There are a host of factors influencing each of the transport mechanisms mentioned above. In the mathematical derivation of the transport equations and the boundary conditions given in Appendix A, the influence of many of these parameters is expressed through the mathematical relationships. In this discussion, reference to these mathematical equations will be made where appropriate; however, most of the discussion will be qualitative, emphasizing the physical rather than mathematical connection between a parameter and a transport mechanism.

Table 6-1 summarizes the various parameters influencing chemical transport through soil and is somewhat arbitrarily divided into groups of soil parameters, environmental parameters, and management parameters. In the discussion below, the effect of each of these parameters on the four transport mechanisms of mass flow, liquid diffusion, liquid dispersion, and gas diffusion will be discussed; literature information will be brought in where appropriate.

Soil Parameters

Soil water content. Volumetric soil water content (θ) has a significant influence on the liquid and gaseous diffusion transport mechanisms. The mass of chemical moved per unit time from point A to point B by diffusion is inversely proportional to the distance between A and B [3]. Thus, the actual path length in soil followed by a vapor molecule or a dissolved solute molecule is strongly affected by water content. For liquid diffusion, diffusive transport increases as water content increases because the cross-sectional area available for flow increases, and the path length decreases as liquid replaces air in the medium. Conversely, for vapor diffusion, the transport by diffusion decreases with increasing water

Table 6-1. Soil, Environmental, and Management Parameters Influencing Chemical Transport Through Soil.

Soil Parameters	Environmental Parameters	Management Parameters
Water Content	Temperature	Chemical Concentration
Bulk Density or Porosity	Precipitation	Irrigation Management
Permeability (Saturated)	Evapotranspiration	Crop Characteristics
Clay Content		
Surface Area		
Organic Matter Content		
Depth to Ground Water		
Water Retention (Field Capacity)		

content because the air space decreases. In fact, as shown in Appendix A, the volumetric air content (a) which is equal to the porosity (ϕ) minus the volumetric water content (θ) plays the same functional role in vapor diffusion as the liquid water content plays in liquid diffusion (see equations A-9 and A-11). Models which describe the change in liquid or vapor diffusion coefficient as a function of water content are called tortuosity models [3]. Although there are a number of different kinds of tortuosity models which have been proposed over the years, the most versatile appears to be the Millington and Quirk model discussed in Appendix A [4]. In this model, the liquid diffusion flux is proportional to the 10/3 power of the water content, and the vapor diffusion flux is proportional to the 10/3 power of the air content. This means that the amount of solute transported by each mechanism will change dramatically as water content changes [5].

Since mass flux of chemical is proportional to water flux multiplied by dissolved solute concentration, it is not directly affected by water content. Since increasing the water content of a given soil will result in higher mass flux, some correlation between chemical movement and water content may be found. Hydrodynamic dispersion is also proportional to water flux. Thus, it is usually not considered to be a function of water content.

The partitioning of chemicals between gaseous, liquid, and solid phases can obviously affect chemical transport by affecting the amount of chemical in solution and in the gaseous phase. When soil water contents decrease below a few monolayers of water (which can

occur in the top few millimeters of soil during intense drying) water molecules which preferentially occupy soil adsorption sites are displaced from the surface, and the chemical adsorption capacity of the soil is greatly increased [6]. This increased adsorption capacity causes liquid and gaseous concentrations to decrease dramatically in this dry region, and all four of the above transport mechanisms are reduced significantly as most of the chemical is displaced to adsorption sites. However, this adsorption effect does appear to be reversible when the soil surface layer rewets [6,7]. For this reason, it may be possible to ignore this aspect of the water content dependence of adsorption provided that the time period during which the surface layer is dry is short-lived. Should a permanently dry surface layer (e.g., a desert soil) be part of a scenario, the effect should definitely be considered.

Bulk density or porosity. Soil porosity ($\emptyset$) is related to bulk density (ρ_b) by a linear relation

$$\emptyset = 1 - \rho_b/\rho_m \qquad (6\text{-}1)$$

where ρ_m is soil mineral density (g/cm^3) which for most soils lies between 2.65 g/cm^3 (clays) and 2.75 g/cm^3 (sands). For this reason, it suffices to discuss only the dependence of the soil porosity ($\emptyset$) on chemical transport with the understanding that decreased porosity implies increased bulk density.

Decreasing soil porosity or increasing bulk density will generally decrease chemical transport by each of the above mechanisms. In the case of liquid or vapor diffusion, decreasing porosity generally decreases the cross-sectional area available for flow and increases the path length by placing more solid obstacles per unit volume in the way of the diffusing molecules.

Although the equations in Appendix A specifically contain a factor of $\emptyset^2$ in the denominator of the tortuosity factor, this implied functional dependence is misleading because the volumetric air and water contents themselves depend on porosity. It is perhaps most instructive to examine the two equivalent problems: vapor transport in very dry soil or liquid transport in very wet soil. In each case, the tortuosity factor and hence the transport flux according to the Millington and Quirk model is proportional to the 4/3 power of the porosity. Thus as porosity decreases, both liquid and vapor diffusion decrease somewhat faster than linearly.

Transport by mass flow is indirectly affected by porosity since regions of low porosity are likely to have lower permeability to water transport. Although no good structural models exist for the relationships between porosity and permeability, permeability of a given soil type strongly decreases as porosity decreases because the pore sizes contract. However, finer-textured soils such as clays generally have a higher porosity and lower permeability than sandy soils.

Hydrodynamic dispersion has not been quantitatively linked to porosity. However, it is proportional to water flux (see equation A-13) which in turn is decreased by decreases in porosity under most conditions.

Another influence of porosity on transport which equally affects all mechanisms is that decreasing soil porosity increases the density of mineral and organic adsorption sites and thus causes increased adsorption of chemical with a corresponding decrease in solution and gaseous concentration. Since transport only occurs in liquid or vapor phases, transport by all four mechanisms decreases as porosity decreases.

Saturated hydraulic conductivity or permeability. Saturated hydraulic conductivity (K_S) is the proportionality coefficient between the saturated water flux and the hydraulic head gradient [8]. An equivalent index frequently used by engineers is the intrinsic permeability (k) which is equal to $K_S\gamma/\rho g$ where γ is the viscosity of water, ρ is water density, and g is the gravitational acceleration. The permeability k thus defined is independent of any fluid properties. For any process where water is ponded on the soil surface, either through intense irrigation or rainfall or because of a deliberate ponding management such as a waste holding pond, permeability will have a dominant influence on the amount of water infiltrating into the soil and hence will strongly influence mass flow and dispersion. When water flow occurs at an unsaturated water content (such as when water is applied at the soil surface at a constant rate less than the saturated hydraulic conductivity), the main influence of the soil hydraulic conductivity is to regulate at what water content the flow will occur. There is no relationship between hydraulic conductivity and liquid or vapor diffusive transport.

Clay content. The clay content of soil is a qualitative index which has been correlated with a number of other soil properties such as water-holding capacity, specific surface area, etc. One of the highest correlations is between clay content and saturated hydraulic conductivity or permeability since soils high in clay tend to be low in permeability [9]. Thus, all of the arguments made above about permeability also apply to clay content. Clay content is also highly correlated with ion exchange capacity and therefore will strongly influence the adsorption of chemical ions. For most non-polar organic chemicals, however, there is usually no correlation between clay content and adsorption [10]. There is also a reasonably high negative correlation between clay content and soil porosity. Therefore, the comments made above about porosity also apply to clay content.

Adsorption site density. The density of adsorption sites for chemicals may be represented by two other soil indices which are specific surface area (surface area per soil volume or mass) and soil organic matter content.

Since clays have a large specific surface area, the comments made above about clay content also apply to surface area. Thus, the correlation between surface area and organic chemical adsorption is likely to be quite low. However, organic matter content has been found to be positively correlated with organic chemical adsorption in a number of studies [10,11]. Thus, one immediate effect of increasing organic matter content is to increase the extent of chemical adsorption and thus decrease liquid and gaseous concentration thereby strongly decreasing the extent of transport by each of the four transport mechanisms.

Depth to ground water. Depth to ground water can strongly influence the extent of upward water flow occurring to a surface layer which has been evaporating without water input for an extended period of time. It has been shown both theoretically and experimentally [12] that finer textured soils can move water (and hence chemicals by mass flow) upward from much greater depths than can coarse textured soils. For this reason, salinization of a surface soil layer from a saline water table is an ever-present problem above shallow saline water tables such as near the Salton Sea area of the Imperial Valley of California.

Depth to ground water also obviously affects the travel time of a chemical leached from the surface to ground water. However, depth to ground water has no direct influence on downward transport processes of any of the four mechanisms other than to create a relatively thin region known as the capillary fringe which is above the ground-water table and which has a high water content.

Water retention (field capacity). An extremely important property of soil which can influence the above processes particularly when inputs of water to the soil surface are infrequent is the amount of water remaining after drainage has become insignificant. This water content, known as the field capacity, is much higher in a finer textured soil than in a sandy soil [8]. Its influence on chemical transport is identical to that of soil water content above.

Environmental Parameters

Temperature. Temperature affects all rate processes in nature including diffusive transport. The diffusion coefficient of a chemical moving through pure water is an increasing function of temperature as is the gaseous diffusion coefficient of a chemical moving through pure air. In addition, chemical vapor pressure is a strongly increasing function of temperature, and hence as temperature increases, the fraction of the total chemical present in the vapor phase increases (see equation A-17). For this reason, vapor diffusion is much more strongly enhanced by increases in temperature than is liquid diffusion. However, transport by both mechanisms will increase for the reasons given above. There have been various models for describing the temperature dependence of the vapor and liquid diffusion coefficients. Standard chemical engineering textbooks indicate that vapor diffusion coefficients have a temperature dependence proportional to $T^{1.75}$ [13]. They also indicate that liquid diffusion coefficients increase with temperature, but no standard functional relationship applies.

The temperature dependence of chemical mass flow depends on the temperature dependence of water flow for reasons given above. Liquid water transport under temperature gradients is poorly understood at present and is likely to be a relatively minor effect compared to the other factors influencing water transport [14]. Thus, the primary factor affecting the temperature dependence of chemical mass flow is the temperature dependence of the liquid concentration in a three-phase soil system. The amount of chemical present in the liquid phase is strongly affected by absorption which generally decreases as temperature increases [15]. Thus, increased liquid concentrations resulting in increased mass flows would be expected as temperature increases.

Precipitation. The characteristics of the precipitation or rainfall events (i.e., intensity and distribution) will have a critical influence on the extent of chemical transport in all phases above. Precipitation will have a dominant influence on mass flow because the rainfall rate is directly related to the water flow rate in the soil. Thus soils with intense, frequent rainfall will have high water fluxes and hence high chemical mass fluxes and dispersion fluxes. Furthermore, an extremely intense rainfall event might induce saturation which could result in a greatly enhanced mass transport through soils of high permeability. The exact response of a soil to a rainfall event can be determined only by solving the transport equations given in Appendix A. However, it is reasonable to conclude that for a given soil the effect of increasing the rainfall intensity in a given time period will be to increase the mass flux and also to increase the water content. The effect of the latter will be to increase the extent of transport by liquid diffusion and to decrease the extent of transport by vapor diffusion.

Evapotranspiration. Evapotranspiration represents the amount of applied water which is removed by plants or water loss from surfaces and hence is unavailable for drainage. Thus the extent of evapotranspiration will strongly affect the water flux below the root zone and hence the extent of chemical leaching by mass flow. For soils not receiving water input by irrigation, rainfall minus evapotranspiration determines the net amount of water leaching beyond the crop root zone. This parameter, if positive, will imply long-term drainage or downward movement, and, if negative, will imply drying processes which will lower water content and induce upward flow from ground water.

Water loss by evapotranspiration (ET) may be regulated by external meteorological conditions (potential ET) or by resistances in the soil or plant. The latter generally dominates only when the soil is dry. The most important meteorological conditions regulating potential ET are solar radiation, wind, air temperature, and air humidity. These meteorological measurements may be used in

Reactions and Movement of Organic Chemicals in Soils

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3 Sorption Dynamics of Organic Compounds in Soils and Sediments

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The thermodynamics of sorption of organic compounds in soils and sediments has been studied extensively. A number of reviews are available (Bailey & White, 1970; Hamaker & Thompson, 1972; Haque, 1975; Rao & Davidson, 1980; Burchill et al., 1981; McCall et al., 1983; Karickhoff, 1984) and the subject is covered further by Chiou (see Chapter 1 in this book) and by Hassett and Banwart (see Chapter 2 in this book). Sorption kinetics (dynamics), on the other hand, have not been well studied. One reason for this inattention is a widely held view that sorption equilibria are established rapidly; that is, on time scales that are short compared to other fate processes. Reflecting this view, fate and transport models usually include only equilibrium terms to represent sorption. It is becoming clear, however, that sorption is not necessarily instantaneous, particularly as equilibrium is approached. It is the intention of this chapter to show that molecules in the sorbed state can possess a wide range of mobilities, from rapidly reversible with "free" states (vapor and aqueous) to highly immobile. This chapter will also attempt to describe slow sorption kinetics mechanistically and discuss implications for environmental fate.

Sorption dynamics are important because of the major role that sorption plays in the fate of organic compounds. Even compounds considered to have a weak affinity for soils and sediments can exist predominantly in the sorbed state. For example, a compound with an equilibrium distribution coefficient K_d of only 1 L kg^{-1} will be 91% sorbed in a soil of 10% moisture at equilibrium. The rates of transport and many natural transformation processes are sensitive to the distribution of the compound among sorbed and free states; potentially, these processes are sensitive to the rates of compound movement between states. Vapor- and aqueous-phase transport are examples of processes that act solely on molecules in the nonsorbed states. Microorganisms are unable, or much less able, to assimilate and transform sorbed molecules compared to those in soil solution (Steen et al., 1980; Ogram et al., 1985). Chemical reactions also may be affected by sorption.

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$$D_{eff} = \frac{D_s \phi}{\phi + (1 - \phi)\rho_s K_d} \quad [5a]$$

where D_s is the diffusion coefficient of a nonsorbing solute, ϕ is the porosity, and ρ_s the density of the solids (Berner, 1980; Wu & Gschwend, 1986). At sufficiently large K_d:

$$D_{eff} = \frac{D_s \phi}{(1 - \phi)\rho_s K_d}. \quad [5b]$$

Thus, the greater the sorptive interaction, the slower the diffusion through a small pore.

3-2.1.2 The Microporosity of Soils

The porosity of soils is a consequence, in part, of its aggregate nature. The aggregate nature of soil in its natural state is well known (Greenland & Hayes, 1981). Pore sizes within aggregates span a tremendous range, including an appreciable proportion of total porosity below 500 nm effective diameter. Even water-stable soil particles—that is, those that can survive mild agitation in suspension—can be aggregated. For example, it is known that clay domains can associate with organic matter to form microaggregates, which can be quite stable (Greenland & Hayes, 1981). These microaggregates can cluster in combination with inorganic precipitates and silt and sand-size particles to form conglomerates (Brewer, 1964; Greenland & Hayes, 1978). A conceptualization of this is given in Fig. 3-4. The aggregate nature of aquatic suspended solids and sediments is also known (references in Wu & Gschwend, 1986). Pores of 100 to 1000 nm effective diameter can exist between clay domains within microaggregates. Advection of water through pores of this size is slow or nonexistent, and thus transport of soil solution solutes must take place primarily by molecular diffusion. Diffusion through micropores may contribute substantially to sorption times.

3-2.1.3 Diffusion Through Organic Solids

It is speculative at this time whether diffusion through soil organic solids is rate-limiting to sorptive processes. With the exception of the experiments of Leenheer and Ahlrichs (1971) and Khan (1973), there are no kinetic studies of sorption to solid soil organic matter. Neither of these studies examined desorption. It is noteworthy that Khan observed uptake of 2,4-D by humic acid particles even after 48 h (Fig. 3-2). Further, the organic fraction of soils dominates sorption of nonionic organic compounds when total organic C exceeds about 0.1% (section 3-2.1.4).

Diffusion of an organic solute through soil organic gels will in general be slower than diffusion through aqueous solution. Soil organic matter is a complex mixture of humic acids, fulvic acids, humins, polysaccharides, and

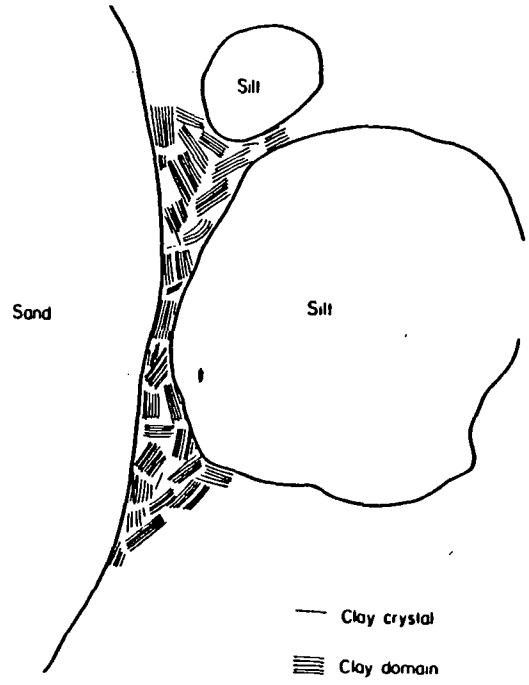

Fig. 3-4. One concept of a soil aggregate (Arnold, 1978). Reprinted by permission from John Wiley and Sons, New York.

partially decomposed cellular structures. Our present understanding of the structures of these solids suggests that there is heterogeneity at the microscopic level; that is, regions of various mass densities, polarities, "hydrophobicities," water concentration, etc. A solute passing through may experience a range of diffusivities.

Hayes and Himes (1986) have reviewed the literature on the structures of humic materials. Humic acid macromolecules in aqueous solution behave as polyanionic electrolytes. They appear to have random coil conformations, with segments that bend randomly to give the molecule a roughly spherical shape. Solvent perfuses the structure but may be restricted toward the center of the sphere where the mass density is greatest. Higher-molecular-weight molecules are more condensed. Lower-molecular-weight fulvic acids, on the other hand, are more expanded and may resemble bent rods in solution. Using transmission electron microscopy, Stevenson and Schnitzer (1982) studied the shapes of humic and fulvic acid particles that formed when solutions were freeze-dried. The shapes they observed progressed, with increasing solution concentration, from small discreet spheriods, to flattened aggregates of spheroids, to linear assemblies of aggregates, to flattened filaments, and finally to perforated sheetlike structures.

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4 Adsorption and Reactions of Selected Organic Molecules on Clay Mineral Surfaces[1]

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Increased concern over agricultural and industrial contamination of groundwater by organic chemicals has resulted in multidisciplinary efforts to elucidate the factors that influence the reactivity and movement of organic molecules through soils. Soils are a heterogeneous mixture of numerous components, many of which are inorganic solids of varying composition and surface chemical reactivity. The inorganic components of soils often result from the alteration of primary and secondary minerals. While numerous physical, chemical, and biological interactions obscure the role of any single component, it is generally agreed that the clay fraction is most important in influencing the reactivity of organic molecules. This hypothesis is supported in part by commonly encountered correlations between the clay content of the soil and the behavior of organic molecules applied to the soil. That estimates of the clay fraction of soils are used to determine application rates of some pesticides and herbicides is testament to the role clay surface chemistry plays in the transport and immobilization of organics in soils.

Over the past 20 yr, a number of excellent review articles on clay-organic interactions have been provided, including those by Greenland (1965); Bailey and White (1970); Mortland (1970); Theng (1974, 1979, 1982); Harter (1977); Solomon and Hawthorne (1983); Mortland (1986); and Raussell-Colom and Serratosa (1987). In addition, a number of reviews on organic reactions catalyzed by synthetic and chemically modified clays have been provided by Thomas (1982), Pinnavaia, 1983), Ballantine et al. (1983), Ballantine (1986), Adams (1987), and Laszlo (1987).

Although clays in the soil environment often times contain adsorbed organic species, usually of biological origin, one must remember that clays are alteration products and that new surfaces are generated constantly. Hence, any understanding of the reactivity of even simple organics on clay mineral

[1] Contribution of Michigan State Univ. Dep. of Chemistry, Center for Fundamental Materials Res., and Dep. of Crop and Soil Science, East Lansing, MI 48824.

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surfaces, whether pristine or chemically modified, can aid in the prediction and perhaps prevention of groundwater contamination. Furthermore, exploration of the surface chemistry of clays may lead to the development of new technologies for waste-water and groundwater management.

In the present review, we summarize briefly the general factors that influence the reactivity of organic molecules on clay mineral surfaces and their pillared and delaminated derivatives. We then focus on selected adsorption and organic chemical conversions that illustrate the broad range of exceptional chemical reactivity that can be realized by the chemical modification of clay surfaces. Some of the chemical modifications used to influence the reactivity of clay surfaces may not be generally encountered in typical soil environments. Nevertheless, such modifications may relate to future detoxification technologies, and there may exist contaminated soils in which the clays have been chemically modified to mimic conditions used in model laboratory experiments.

4-1 FACTORS AFFECTING CLAY SURFACE REACTIVITY

The surface functional groups of 2:1 smectite clays have been succinctly summarized in a model proposed by Solomon and Hawthorne (1983). In this model, shown in Fig. 4-1, the silicate layers are represented as stacked rectangles. Depending on the degree of hydration of the mineral, various types of surface functional groups are available. These functional groups can dramatically mediate the interactions of the clay surface with guest organic molecules.

At the bottom of Fig. 4-1 is represented the state of a smectite clay under idealized conditions of complete dehydration. The gallery exchange ions (M^{n+}) are anhydrous and coordinated to oxygen atoms that define ditrigonal cavities of a Kagome network. Since the galleries are collapsed and inaccessible, no interlamellar adsorption or ion exchange reactions are anticipated unless the organic guest itself is highly polar (e.g., alcohols) and

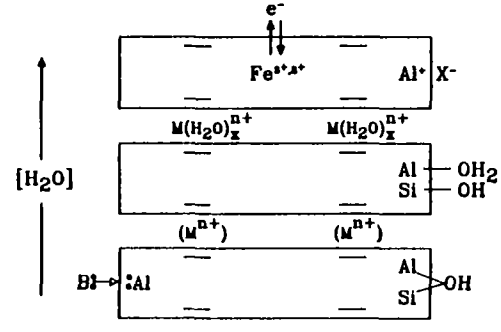

Fig. 4-1. Schematic illustration of surface functional groups in smectite clays. Changes in surface functionality are shown as the water content is increased from lower to upper layers. Adapted from Solomon and Hawthorne (1983).

capable of swelling the interlayers. Thus, the surface functional groups of primary importance under conditions of low hydration are Lewis acid sites and hydroxyl groups located at external edge positions. The coordinatively unsaturated Lewis acid sites (e.g., Al^{3+}) are capable of forming adducts with organic donors as illustrated in Eq. [1].

$$[Al]_{edge} + :B \rightarrow [Al:B]_{edge}. \quad [1]$$

The hydroxyl groups at edge sites may be of two types, bridging and nonbridging, depending in part on the degree of hydration. The hydroxyl groups may be a source of Bronsted acidity on the external surfaces as illustrated in Eq. [2] and as external binding sites for metal ions as illustrated in Eq. [3].

$$[Al\text{-}\overset{H}{O}\text{-}Si]_{edge} \rightarrow [Al\text{-}O^{-}\text{-}Si]_{edge} + H^{+} \quad [2]$$

$$[Al\text{-}O^{-}\text{-}Si]_{edge} + M^{+} \rightarrow [Al\text{-}\overset{M^{+}}{O}^{-}\text{-}Si]_{edge}. \quad [3]$$

At higher degrees of hydration, or in the presence of liquid water, terminal hydroxyl groups and aquated Lewis acid sites should predominate at edge positions. The aquated sites may be an additional source of Bronsted acidity at external surfaces as shown by Eq. [4], or they may act as binding sites for anions through ligand exchange as illustrated in Eq. [5].

$$[Al\text{-}OH_2]_{edge} \rightarrow [Al\text{-}O^{-}\text{-}H]_{edge} + H^{+} \quad [4]$$

$$[Al\text{-}OH_2]_{edge} + X^{-} \rightarrow [Al\text{-}X^{-}]_{edge} + H_2O. \quad [5]$$

Terminal hydroxyl groups can engage in coupling reactions with organics containing functional groups as illustrated in Eq. [6].

$$[Si\text{-}OH]_{edge} + ROH \rightarrow [Si\text{-}OR]_{edge} + H_2O. \quad [6]$$

Equations [1] to [6] above demonstrate the remarkable range of chemical reactivity of smectite clay edges. However, one must bear in mind that under normal environmental conditions, clays may only occasionally be subjected to extreme dehydration. Also, even when such extreme conditions may exist, the available surface area at edge sites is typically quite small (1–10 $m^2\ g^{-1}$).

By far, the most important property of smectite clays is their ability to swell in the presence of water and thereby provide access to the large internal surface area and reactivity of the gallery exchange cations. The importance of interlamellar adsorption and Bronsted acidity resulting from hydrolysis of the exchange ions has been the subject of many earlier reviews. However, it is worth recounting that the extent of gallery ion hydrolysis (cf. Eq. [7])

is extremely dependent on the nature of the exchange cation and the degree to which the galleries are solvated (Mortland & Raman, 1968).

$$[M(H_2O)_n^{x+}]_{gallery} \rightarrow [M(H_2O)_{n-1}(OH)^{(x-1)+}]_{gallery} + H^+. \quad [7]$$

In general, the extent of hydrolysis increases with the charge to radius ratio of the exchange cation and with decreasing solvation of the gallery. Also, smectites with octahedral layer charge such as montmorillonite and hectorite exhibit more extensive gallery hydrolysis than derivatives with tetrahedral layer charge.

Finally, Fig. 4-1 illustrates the ability of smectite clays to shuttle electrons between structural redox centers ($Fe^{2+,3+}$) and organic molecules adsorbed on the external or internal gallery surfaces. It should also be noted that intercalated gallery exchange cations are able to engage in redox reactions with organic guest molecules encapsulated within the galleries. These redox processes can be illustrated by Eq. [8] and [9] below, wherein RH represents hydrocarbon and Ar represents an aromatic residue.

$$[M^{n+}]_{layer} + RH \rightarrow [M^{(n-1)+}]_{layer} + R\bullet + H^+ \quad [8]$$

$$[M^{n+}]_{gallery} + Ar \rightarrow [M^{(n-1)+}]_{gallery} + Ar\bullet^+. \quad [9]$$

4-2 PILLARED, DELAMINATED, AND HYDROXY INTERLAYERED CLAYS

The formation of hydroxy interlayered clays and their interactions with organics in soil environments have been of long-standing interest to soil scientists (Barnhisel, 1977; Brindley & Semples, 1977; Hsu, 1977; Brindley & Yamanaka, 1979). Several hydroxy metal smectite derivatives have been synthesized under conditions approximating those encountered in nature. In most cases, the products are chloritic insofar as the basal spacings are similar to the 14 Å observed for chlorite, and the galleries are almost completely occupied by polyhydroxy-cations.

More recently, pillared forms of interlayered clays have been synthesized for use as catalysts in a wide variety of catalytic conversions (Shabtai, 1979; Vaughan & Lussier, 1980; Pinnavaia, 1983). Clays interlayered with hydroxymetal cations can be converted by thermal dehydration to metal oxide pillared clays. Although there are fundamental differences between naturally occurring hydroxy interlayered clays and synthetic pillared clays, both types of compounds exhibit similar types of functional group activity (i.e., Lewis and Bronsted acidity).

In metal oxide pillared clays, the silicate layers are aggregated primarily face-face and the pillaring oxide aggregates are more or less of equal size and uniformly spaced in the interlamellar gallery region. This gives rise to a uniform pore distribution in the galleries. A related class of microporous materials can be synthesized in which edge-face layer aggregation competes

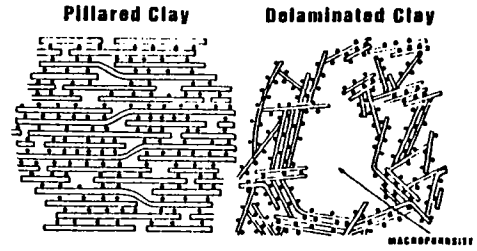

Fig. 4-2. Illustration of the predominately face-face layer aggregation in pillared clays and the card house structure in delaminated clays. In the latter materials, edge-face layer aggregation competes favorably with face-face aggregation. Layers are illustrated as slabs, pillaring agents are shown as filled circles.

with face-face aggregation (Pinnavaia et al., 1984). These latter materials have card-house structures and are referred to as *delaminated clays*. Figure 4-2 schematically illustrates the layer aggregation mechanisms in pillared and delaminated clays. Because of the functional group relationship between synthetic metal oxide pillared and delaminated clays, and naturally occurring hydroxy interlayered clays, it will be instructive here to provide a few examples of organic molecule interactions with these materials.

4-3 ADSORPTION OF PHENOLIC COMPOUNDS

Phenolic compounds can be toxic to soil microorganisms at the mg L^{-1} level (Kuwahara et al., 1970). Indeed, several of the organic compounds classified by the U.S. Environmental Protection Agency as priority pollutants are phenols (Chapman et al., 1982). The fate of phenols in the environment and in industrial waste streams can be complicated by their low solubility, low vapor pressure, ability to act as Bronsted acids, and tendency to ionize. The oxidation of phenols to humic and fulvic acid-type substances has been observed in several modeling experiments (Martin and Haider, 1971; Thompson & Moll, 1973; Flaig et al., 1975; Wang et al., 1978; Stevenson, 1982). The oxidation reactions and the oxidative polymerization processes are facilitated by clays and other mineral surfaces containing redox-active metal ions such as Cu(II), Fe(III), and Mn(IV) (Fenn et al., 1973; Larson & Hufnal, 1980; Sawhney, 1985; Shindo & Huang, 1985).

There have been several recent efforts to modify clay minerals as adsorbents for phenolic compounds. Organo-clays and metal oxide pillared and delaminated clays have been of particular interest. Since these studies may serve as models for the adsorption of other organic toxicants from waste streams, they will be briefly summarized here.

4-3.1 Organo Clays

As noted earlier, inorganic exchange ions greatly mediate the Bronsted acidity of the intercrystalline gallery surfaces. Equally important surface

polarity effects can be introduced by replacing inorganic exchange ions with organic cations such as alkylammonium or pyridinium ions. Binding of organic cations at ion exchange sites is by far the most energetic interaction between organic species and clays. Furthermore, inorganic exchange forms of smectites generally tend to be hydrophilic whereas organo-exchanged forms are more organophilic. Thus, the tendency for smectite clay to absorb organic guest molecules can be facilitated by ion-exchange reactions involving organo-cations.

In an effort to design new adsorbants for the removal of organic toxicants from aqueous waste streams, Mortland et al. (1986) have exploited the changes in surface polarity that occur upon replacing exchangeable Na^+ in smectite with long-chain alkylammonium cations such as hexadecyltrimethyl ammonium (HDTMA) and hexadecylpyridinium (HDPY) cations. Phenol and chlorinated phenols were adsorbed onto the organo-clays from aqueous solution. The binding capacities of the HDTMA and HDPY clays were compared to those for less hydrophobic exchange forms such as trimethylphenylammonium and tetramethylammonium montmorillonite. The HDTMA-montmorillonite exhibited the largest adsorption capacity for trichlorophenol (1.05 mmol g^{-1}). The affinity of the organo-clays for phenols increased in the order:

phenol < 3-chlorophenol < 3,5-dichlorophenol

< 3,4,5-trichlorophenol and 2,4,6-trichlorophenol.

Phenol, deemed the most water-soluble compound in the series, was least absorbed, while trichlorophenols, being the most hydrophobic molecules in the series were most strongly adsorbed. This behavior was reversed when adsorption was studied in the nonpolar solvent, hexane. Thus, solute-solvent-sorbant interactions play an important role in determining the partitioning of the adsorbate in a water-organo-clay system. On the basis of these observations, the authors suggested that organo-clays may have utility as selective adsorbants in waste streams or for use as liners in waste ponds and burial sites.

4-3.2 Metal Oxide Pillared and Delaminated Clays

Smectite clays may be pillared by cations other than the polyoxo cations discussed earlier. For instance, tetraalkylammonium ions (Barrer & Brummer, 1963; Barrer, 1978); bicyclicamine cations (Mortland & Berkheiser, 1976; Shabtai et al., 1977); and tris-metal chelates (Loeppert et al., 1979) have all been used as pillaring agents to induce permanent porosity in smectite clays. However, these reagents are limited in their use for detoxification applications in part because of their limited thermal stability. Improved thermal stability has been achieved recently by the use of polyhydroxy-cations as precursors to metal oxide pillaring reagents.

In a pillared clay, the majority of clay layers are aggregated in a face-to-face manner (cf. Fig. 4-2). Thus, the lateral distribution of pillaring species

in the galleries define a two-dimensional microporous network for the adsorption of guest molecules. By regulating the size of the pillaring agent and the charge density on the layers, one can mediate the lateral pillar distances and thereby regulate the microporosity. Micropores much larger than 8 Å achievable with commercial zeolites can be obtained (Pinnavaia et al., 1984; Yamanaka et al., 1987).

Even greater pore sizes can be achieved by delamination of smectite clays. Delamination can be encouraged by making the platelet size of the clay as small as possible or by increasing the aspect ratio as in the lath-shaped layers of hectorite. Figure 4-2 illustrates the microporosity generated by pillaring the combination of micro- and macroporosity generated by the card-house structure of a delaminated clay. The micro- and macroporosity afforded by pillared and delaminated clays may prove to be useful for the design of new adsorbents for detoxification of contaminated groundwaters.

In an effort to explore the properties of pillared and delaminated clays for the adsorption of organic molecules from aqueous solution, we have undertaken a study of the adsorption of chlorophenols on these materials.

Figure 4-3 illustrates the uptake of 3-chlorophenol (3-MCP), 3,5-dichlorophenol (3,5-DCP), and 3,4,5-trichlorophenol (3,4,5-TCP) by delaminated laponite from aqueous solution at pH 7.4. Laponite is a synthetic hectorite with a particle size <500 Å and the ability to form card-house delaminated structures. Adsorption equilibrium is achieved in <5 h for each adsorbate. Although the binding capacity is substantially smaller than those observed with organo-exchanged smectite clays, several significant features are observed. In these systems, the clay surface has been modified by the introduction of an inorganic polymer, namely a hydroxy metal cation of Al. Although the adsorbant is purely inorganic, the polarity of the clay surface has been substantially modified as illustrated by the increase in adsorption capacity (3,4,5-TCP > 3,5-DCP > 3-MCP) with decreasing water solubili-

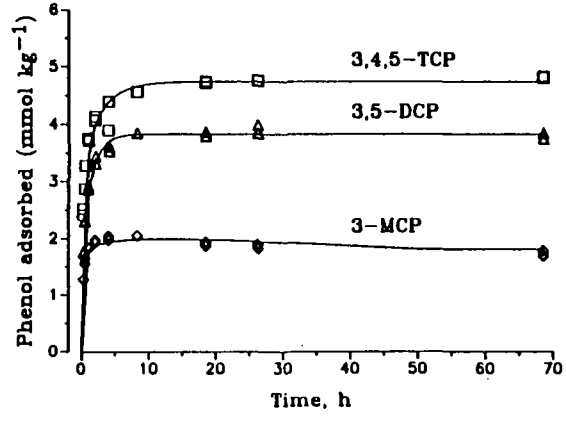

Fig. 4-3. Uptake of selected chlorophenols from water by Al-delaminated laponite at pH 7.4, an initial chlorophenol concentration of 0.1 mmol L^{-1}, and a solid-solution ratio of 20 g L^{-1}.

merization occurs with phenol, but anisole reacts almost exclusively to 4,4'-dimethoxybiphenyl (Fenn et al., 1973).

More recently, Boyd and Mortland (1985) have used ESR, UV-VIS, and IR spectroscopy to show that dibenzo-p-dioxin reacts under mild conditions with Cu(II) smectite to form radical cations. The radical cations react further to form oxidative polymerization products (mainly dimer). No reaction was observed for Ca-smectite. The authors suggest that the oxidative polymerization reaction might be used to convert dioxins to less mobile and, perhaps, less toxic products.

Oxidation reactions of phenolic compounds on clay mineral surfaces have been of long-standing interest to soil scientists in part because of the relevance of the reaction to the formation of humic and fulvic acid substances in the soil environment (Wang et al., 1978; Larson & Hufnal, 1980; Shindo & Huang, 1985). Sawhney (1985) has observed the reactions of *o*-methylphenol, *o*-chlorophenol, and m-methylphenol on dry smectites containing various exchange cations. Monomeric through tetrameric oxidation products and corresponding quinones were observed. The extent of reaction was greater in air than in N_2, thus indicating the importance of O_2 as oxidant. The weight uptake of phenolic products on the clay surfaces increased in the order Ca(II) > Fe(III) > Al(III) > Na(I), thus illustrating that oxidation is possible even in absence of surface transition metal ions. It was suggested that surface activated O_2, as well as surface transition metal ions could contribute to the oxidation process. Related studies of other substituted phenols, both on dry clays and clays in aqueous suspension (Isaacson & Sawhney, 1983; Sawhney et al., 1984) further support these conclusions.

Chlorophenols have been found to react with Cu(II) smectite in refluxing hexane to give radical cations and coupled oxidation products (Boyd & Mortland, 1986). It was also noted that pentachlorophenol formed 2,3,5,6-tetrachlorophenol upon reaction with Cu(II) smectite. In view of the environmental relevance of the dechlorination reaction, Govindaraj et al. (1987) carried out a more complete study of the reaction of 4-chloroanisole. In refluxing hexane or carbon tetrachloride as a solvent, 4-chloroanisole reacted with the clay bound Cu(II) ions to form a radical biphenyl intermediate, observable by ESR spectroscopy. The addition of methanol converted the intermediate to 4,4'-dimethoxybiphenyl, thus completing the oxidative dechlorination. These results suggested the possibility of utilizing clay minerals as support matrices for environmentally relevant detoxification reactions. Further developments along these lines can be expected in the future.

4-5 SUMMARY AND CONCLUSION

The surface chemistry and reactivity of clay minerals toward organic molecules continues to be an exceptionally active area of research not only in environmental, but in chemical and materials science disciplines as well. The mechanisms operating in clay-organic interactions have been extensively studied and are now well understood. In systems that can be studied in the laboratory, the outcome is clearly dependent on the nature, composition, and functionality of both the clay and organic molecule as well as the interaction of each with the solvent or matrix in which they are bathed. Reaction conditions may be manipulated to enhance or suppress particular functional groups, hence directing a reaction pathway to a desirable, and sometimes remarkable end. Similarly, organic and inorganic modification of clay mineral surfaces provides for an almost unlimited number of design possibilities, some of which have contributed to recent advancements in heterogeneous catalysis and synthesis of new organic molecules. In a dynamic matrix such as a soil, reaction conditions are less easily controlled and reaction products are more difficult to separate and identify. Clearly, the diverse surface chemistry of clays described above will be called upon to aid not only in predicting the movement and reactivity of organic molecules in an environmentally relevant situation, but in the development of new preventative and detoxification strategies as well.

ACKNOWLEDGMENT

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UPPER LOS ANGELES RIVER AREA WATERMASTER

CITY OF LOS ANGELES VS. CITY OF SAN FERNANDO, ET AL
CASE NO. 650079 — COUNTY OF LOS ANGELES

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WATERMASTER SERVICE IN THE UPPER LOS ANGELES RIVER AREA LOS ANGELES COUNTY

OCTOBER 1, 1987 - SEPTEMBER 30, 1988

MAY 1989

The base low flows were separated from the surface runoff by the use of the hydrographs of Station F-57C-R. Base flows consist of rising ground water and industrial waste plus reclaimed water. Separation of base flow from surface runoff is based on the following assumptions:

Rising ground water equals base low flow minus the sum of industrial discharge water and reclaimed water. Industrial discharge waters are estimated from City of Los Angeles waste permits, Los Angeles-Glendale and Tillman reclamation plant discharges, and low flows in the Burbank-Western storm drain which include wastewater from the Burbank reclamation plant.

When the City of Los Angeles diverts water at the Headworks spreading grounds, most of the rising water is diverted. However, the operation of the diversion structure (rubber dam) was discontinued in 1982 because of quality concerns by the State Department of Health Services.

Historically, the surface runoff obtained from the hydrographs of Station F-57C-R consisted primarily of storm runoff and Owens River water. The last releases of Owens River water into the Los Angeles River occurred in February 1971 due to the San Fernando earthquake. Releases in the future are expected to be minimal, but if they do occur, separation of surface runoff will be based on the following assumptions:

Net storm runoff equals surface runoff minus Owens River water.

If the Headworks diversion structure is used, all releases of Owens River waters are diverted to the Headworks spreading grounds. If the Headworks diversion structure does not divert water, all releases of Owens River waters are considered as passing Station F-57C-R.

Ground Water Recharge

Local precipitation can have a marked influence on the ground water supply and water in storage. However, there is a wide variation in the annual amount of runoff as a result of changes in both precipitation and retentive characteristics of the watershed.

Urban development during the past years in ULARA has resulted in much of the rainfall being collected and routed into paved channels which discharge into the Los Angeles River and are subsequently carried out of the basin.

To somewhat overcome the increased runoff due to urbanization, Pacoima and Hansen Dams, originally built for flood protection,

were utilized to regulate storm flows to recapture the flow in downstream spreading basins operated by LACDPW, as well as the City of Los Angeles. Operation of Hansen Dam for the purpose of spreading water for recharge continues to be a problem because of the sediment that has accumulated within the forebay of the dam.

LACDPW operates the Branford, Hansen, Lopez, and Pacoima spreading grounds. The City of Los Angeles, in turn, operates the Tujunga and Headworks spreading grounds. Plate 2 shows the locations of these spreading basins. The spreading grounds operated by LACDPW are utilized for spreading native water and imported water under contract. The spreading grounds operated by the City of Los Angeles are utilized to spread Owens River and native waters, ground water, and the discharge from the Reseda wells. Table 6 summarizes the spreading operations for the 1987-88 water year.

Ground Water Table Elevations

During the 1987-88 water year, the Watermaster collected and processed data to determine prevailing ground water conditions during the spring and fall of 1988. Plates 7 and 8 show ground water contours for these two seasons. Change in water surface elevation from the fall of 1987 to the fall of 1988 are shown on Plate 9. The drop in water levels in the North Hollywood area is related to the increase in pumping in the North Hollywood wells and the start-up of the newly installed Rinaldi-Toluca production wells. The rise in water levels northeast of the Verdugo Fault and southerly of the Hansen Spreading Grounds is related to the heavier spreading in 1987-88 (17,252 acre-feet - Table 6) as compared with 1986-87 (7,311 acre-feet). On Plate 10 is a diagrammatic sketch of flow directions and estimated ground water velocities in the San Fernando Basin. On Figures 1 and 2 are shown fluctuations of water levels in wells whose locations are shown in the inset map on Figure 2.

Water Reclamation

Water reclamation presently provides a source of water for irrigation, industrial and recreational uses, and ground water recharge which occurs in the unlined section of the Los Angeles River. Six wastewater reclamation plants are in operation in ULARA. A tabulation of operating water reclamation plants is shown on Table 7. Their locations are shown on Plate 2.

Water Quality

Water resources management must take into account water quality as well as water supply. The total dissolved solids (TDS) concentration in water is the quality indicator that is generally used. A comparison of the TDS content in the various water sources is shown in Figure 3. Representative mineral analyses of imported, surface, and ground waters for 1987-88 are contained in Table 8.

TABLE 11

SAN FERNANDO BASIN
PRECIPITATION COMPARED TO
CHANGE IN STORAGE

Water Year	Valley Floor Precipitation (Inches)	Change in Storage (AF)	Cumulative Change in Storage (AF)
1968-69	29.00	+79240	+79240
1969-70	10.50	-9740	+69500
1970-71	15.57	+15340	+84840
1971-72	8.10	-17090	+67750
1972-73	20.65	+17020	+84770
1973-74	15.75	-21820	+62950
1974-75	14.74	-22580	+40370
1975-76	9.90	-30090	+10280
1976-77	14.19	-50490	-40210
1977-78	35.43	+136150	+95940
1978-79	21.76	+78080	+174020
1979-80	30.25	+99970	+273990
1980-81	11.04	-32560	+241430
1981-82	17.18	-530	+240900
1982-83	39.64	+121090	+361990
1983-84	9.97	-63180	+298810
1984-85	11.00	-31690	+267120
1985-86	20.27	-7980	+259140
1986-87	5.99	-31940	+227200
1987-88	18.62	-5000[E]	+222200[E]
20-yr. average	17.98		

Notes:

(1) 100-year mean precipitation = 16.48 inches.

(2) Stored water through spreading and in-lieu pumping = 244,760 AF.

(3) Change in storage = +222,200 AF - 244,760 AF = -22,573 AF.

(4) The change in storage is based on the methodology used in the Report of Referee (Volume II, Appendix Q) filed with the court in July 1962.

E - Estimate.

PLATE 7

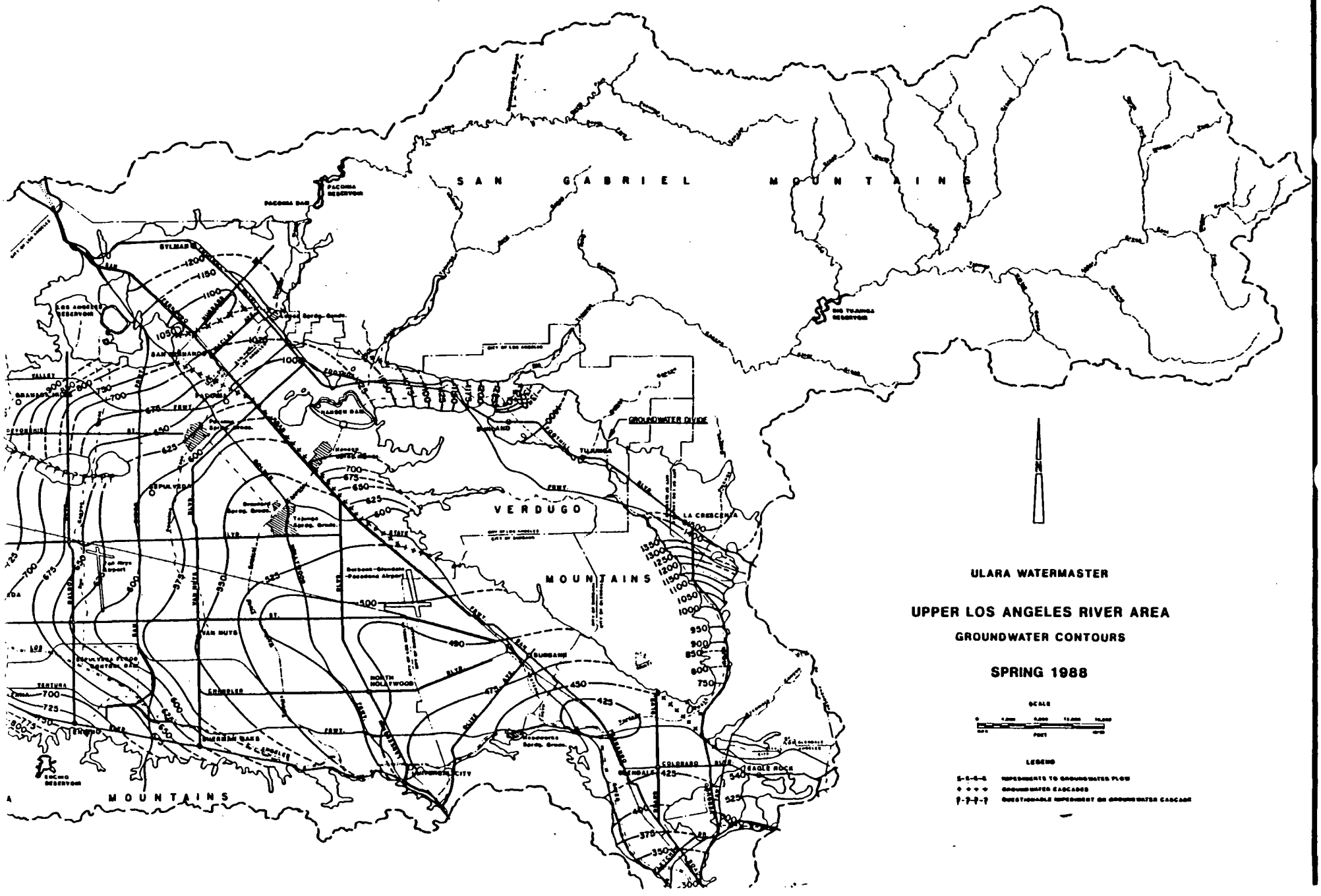
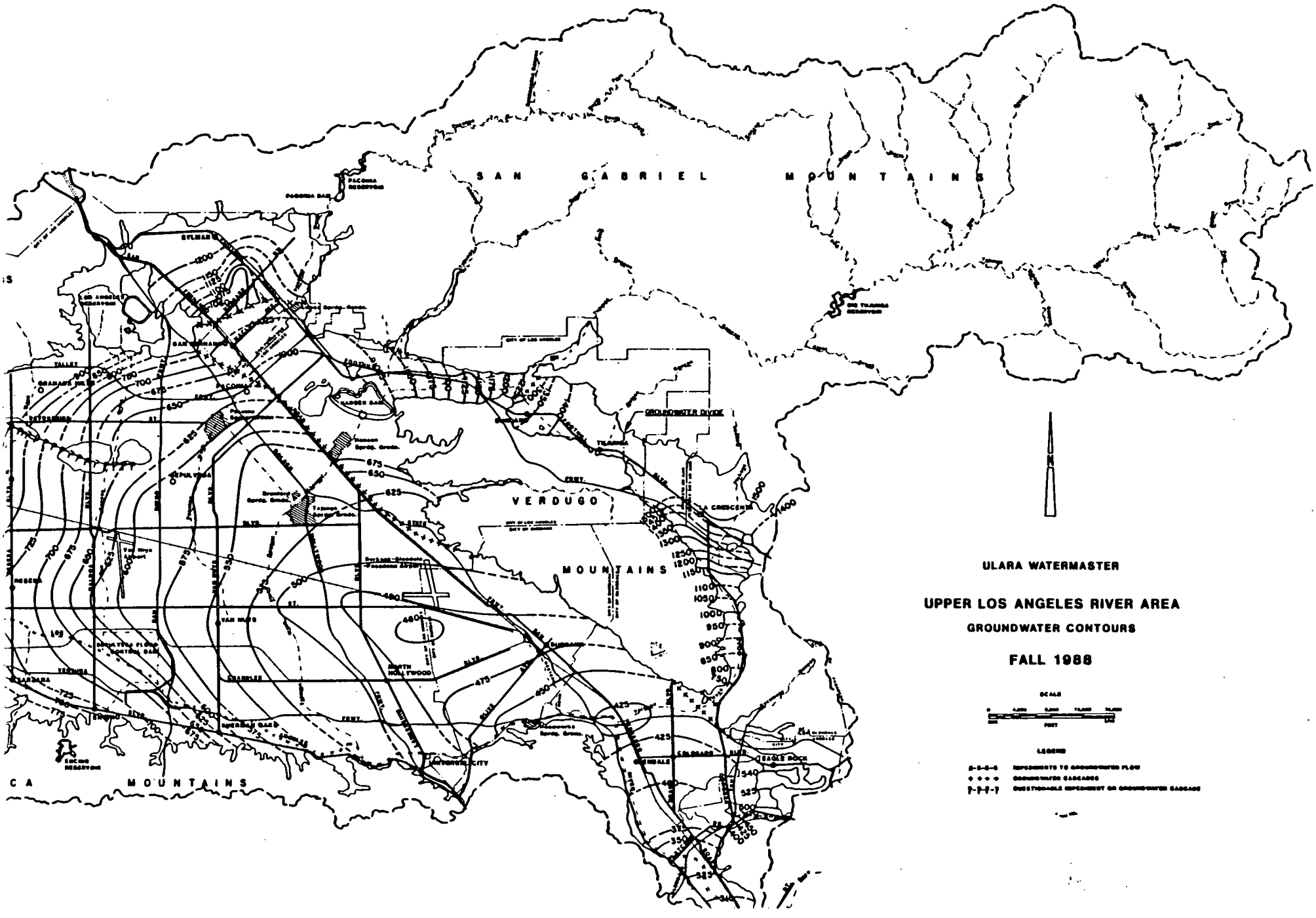

SAN GABRIEL MOUNTAINS
VERDUGO MOUNTAINS
MOUNTAINS
GROUNDWATER DIVIDE
SYLMAR
SAN FERNANDO
PACOIMA
SEPULVEDA
VAN NUYS
NORTH HOLLYWOOD
BURBANK
TUJUNGA
LA CRESCENTA
EAGLE ROCK
SHERMAN OAKS
UNIVERSAL CITY
PACOIMA DAM
PACOIMA RESERVOIR
LOS ANGELES RESERVOIR
BIG TUJUNGA RESERVOIR
ENCINO RESERVOIR
N
ULARA WATERMASTER
UPPER LOS ANGELES RIVER AREA
GROUNDWATER CONTOURS
SPRING 1988
SCALE
LEGEND

PLATE 8


SAN GABRIEL MOUNTAINS
VERDUGO MOUNTAINS
MOUNTAINS
GROUNDWATER DIVIDE
ULARA WATERMASTER
UPPER LOS ANGELES RIVER AREA
GROUNDWATER CONTOURS
FALL 1988
SCALE
FEET
LEGEND

[redacted] EXHIBIT B [redacted]

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES (REGION 4)

UNDERGROUND STORAGE TANKS LEAK LIST

IN LOS ANGELES COUNTY AND VENTURA COUNTY

(OCT. 1989)

UNDERGROUND TANK LEAKS

STAFF	CASE NO.	SITE NAME	NUMBER	STREET NAME	CROSS STREET	CITY	ZIP CODE	REPORT DATE	COUNTY	LEAD AGENCY	LOCAL AGENCY	CASE TYPE	STATUS	SUP_I
	930301111	BUD ANTLE, INC	3485	STURGIS ROAD		OXNARD	93030	03/01/88	56	RI	56000	U	SC	
	75	EVERGREEN AIRCRAFT	2709	TEAL CLUB ROAD	FAIRFAX	OXNARD	93030	07/18/86	56	L	56000	U	SC	
	117388-16	HIJI BROS.	3740	TEAL CLUB ROAD	VICTORIA AVENUE	OXNARD	93030	11/01/88	56	L	56000	U	0	8006619
	VCB917B	GTE, EL RIO OFFICE	1595	VENTURA BLVD		OXNARD	93030	10/07/88	56	L	56000	U	SC	12034
	VCB7054	OXNARD TRUCK CENTER	2101	VENTURA BLVD E.	RICE	OXNARD	93030	06/29/87	56	L	56000	G	SC	12034
	871	NYLAND ACRES TREATMENT PLANT	3750	VENTURA BLVD S.		OXNARD	93030	04/16/87	56	L	56000			12034
	2047	WIGGINS LIFT CO	567	VENTURA BLVD S.	BALBOA	OXNARD	93030	04/10/87	56	L	56000	U	0	
	VCB709R	BIRD SANTELLE	2701	VENTURA BOULEVARD		OXNARD	93030	07/21/89	56	L	56000	U	0	
AEH	930300001	JUST GAS	1061	VENTURA ROAD	GONZALES ROAD	OXNARD	93030	11/13/87	56	R	56000	G	7	8006619
	838	ABANDONED GAS STATION	350	VENTURA ROAD N.	DORIS	OXNARD	93030	03/11/87	56	L	56000	S	SR	12031
	VCB6070	MOBIL STATION 017-MAN	690	VENTURA ROAD N.	DORIS STREET	OXNARD	93010	05/05/86	56	L	56000	U	SR	12031
	VCB6015	GOOD AND GROCERIES	1030	VENTURA ROAD S.	WOOLEY	OXNARD	93030	01/23/86	56	L	56000	G	SC	8006619
	2050	JAMES FALLINS	350	VENTURA ROAD S.	5TH	OXNARD	93030	08/06/87	56	L	56000	U	SC	8006619
	VCB7043	CHANNEL ISLANDS CAR WASH	655	VENTURA ROAD S.	7TH STREET	OXNARD	93030	03/30/89	56	L	56000	S	7	12032
	VCB7032	PUNJAB OIL CO.	877	VENTURA ROAD S.	009TH STREET	OXNARD	93030	03/03/89	56	L	56000	U	0	8006619
AEH	VCB8136	CHANNEL ISLAND BOAT YARD	3613	VICTORIA AVENUE		OXNARD	93035	10/06/88	56	R	56000	U	3A	12035
	BD	HARBOR MAINTENANCE FACILITY	3905	VICTORIA AVENUE		OXNARD	93030	08/08/86	56	L	56000	S	0	8006619
	VCB7065	CHEVRON STATION 02561	1960	VICTORIA AVENUE, S.	MEMLOCK	OXNARD	93003	06/16/89	56	L	56000	U	SC	8002039
VCO	020789-7	ANACAPA MARINE SEVICES	3203	VICTORIA AVENUE,S		OXNARD	93035	/ /	56	L	56000	S	9	
	66	SHELL STATION -FINANCIAL PLAZA	2460	VINEYARD AVENUE	ESPLANDE	OXNARD	93030	09/22/86	56	L	56000	U	SC	8006619
	0001	MARTINEZ CHEVRON	2703	VINEYARD AVENUE		OXNARD	93032	10/12/87	56	L	56000	S	9	8006619
	VCB8012	T.W. BROWN OIL CO.	2872	VINEYARD AVENUE		OXNARD	93030	02/05/88	56	L	56000	U	0	8006619
	930301111	TED BROWN SERVICE STATION	2888	VINEYARD AVENUE	SHOUBE	OXNARD	93030	04/01/88	56	L	56000	U	1	
	3106	DESERT PETROLEUM	3402	VINEYARD AVENUE		OXNARD	93030	04/06/88	56	L	56000	U	0	8006619
	VCB9117	VENTURA OIL	3813	VINEYARD AVENUE	CARNEGIE PLACE	OXNARD	93030	09/07/89	56	L	56000	U	0	8006619
	VCB8031	CAL-MAT	6029	VINEYARD AVENUE		OXNARD	93033	03/25/88	56	L	56000	G	SC	12034
	808	MARTIN V. SMITH	2611	WAGON WHEEL ROAD		OXNARD	93030	01/16/87	56	L	56000	G	0	12032
	930311111	TEXACO STATION 0	2705	WAGON WHEEL ROAD		OXNARD	93031	05/18/88	56	L	56000	G	3B	8006619
	VCB9046	MARTIN SMITH & ASSOCIATES	350	WINCHESTER DRIVE	BUCKAROO	OXNARD	93030	04/29/88	56	L	56000	G	0	8006619
	VCB7004	MARTIN SMITH & ASSOCIATES	373	WINCHESTER DRIVE		OXNARD	93030	01/16/87	56	L	56000	G	0	12032
	VCB9017	CHASE BROS. INC.,	399	WOLFF ROAD	009TH	OXNARD	93030	02/02/89	56	L	56000	U	SC	8006619
	VCB8139	GENERAL TELEPHONE, MANTILLO	2700	WOOLEY ROAD W.		OXNARD	93030	10/09/88	56	L	56000	U	SC	12034
RYL	930300025	WESTERN FARM SERVICE	1015	WOOLEY ROAD, E.	RICHMOND AVENUE	OXNARD	93030	11/17/86	56	R	56000	G	SR	12032
	VCB9083	V.B. ANDERSON	455	WOOLEY ROAD, E.		OXNARD	93030	07/05/89	56	L	56000	U	SC	8006619
	VCB9112	SALVATION ARMY	622	WOOLEY ROAD, SOUTH		OXNARD	93030	08/09/89	56	L	56000	U	0	8006619
	VCB9066	UNDERGROUND TANK RELEASE	5013	WOOLEY ROAD, W.		OXNARD	93030	06/19/89	56	L	56000	U	3B	
	VCB9066	OXNARD SHORES EXXON	5012	WOOLEY ROAD,W.	HARBOR BLVD.	OXNARD	93035	04/13/89	56	L	56000	G	SC	8006619
UNA	902721111	WILL ROGERS BEACH SERVICE YARD	16300	PCH		PACIFIC PALISADES	90272	08/08/88	19	RI	19050	S	SR	12031
	3970	UNOCAL STATION 03740	17299	PCH	SUNSET	PACIFIC PALISADES	90272	02/24/88	19	R	19050	U	SC	12034 (R) 12/4/89
EH	902720029	UNOCAL STATION 04360	15400	SUNSET BLVD	VIA DE LA PAZ	PACIFIC PALISADES	90272	12/01/87	19	R	19000	S	9	12031
AEH	913310329	CHASE CHEMICAL COMPANY	13546	DESMOND STREET		PACOIMA	91331	11/18/83	19	R	19050	S	9	
AEH	913311061	AMERICAN ETCHING & MANUFACTUR	13730	DESMOND STREET		PACOIMA	91331	01/31/84	19	R	19050	S	SC	13
EGS	913310270	HR TEXTRON INC	10445	GLENOAKS BLVD		PACOIMA	91331	01/31/84	19	R	19000	S	7	13
AEH	913311130	MDC PRODUCTS COMPANY, INC	12306	MONTAGUE STREET		PACOIMA	91331	01/31/84	19	R	19050	S	9	
	080388-1	ROADWAY EXPRESS	12355	MONTAGUE STREET	MONTAGUE LANE	PACOIMA	91331	04/27/88	19	RI	19050	G	SC	71032
EGS	913311030	PRICE PFISTER INC	13500	PAXTON STREET	SAN FERNANDO RD	PACOIMA	91331	11/18/83	19	R	19000	S	SC	
EGS	913310618	FORTIN INDUSTRIES, INC	9880	SAN FERNANDO ROAD	BRANFORD	PACOIMA	91331	10/22/84	19	R	19000	G	SC	7940508
	VC05760	UNOCAL STATION 05700	13812	VAN NUYS BLVD.	INTERSTATE 05	PACOIMA	91331	04/20/89	19	L	19000	S	SC	12031
LAC	021689-2	UNOCAL STATION 06987	10200	VAN NUYS BLVD.,N.	BEACHY	PACOIMA	91331	02/03/89	19	L	19000	S	SC	8006619
	80012	THRIFTY STATION 0149	8600	WOODMAN AVENUE	BRANFORD	PACOIMA	91331	01/09/87	19	RI	19050	U	SC	8006619

CODE LISTING

A. COUNTY CODES

19	Los Angeles
56	Ventura

B. LEAD AGENCY CODES

L	Local Agency lead
R	Regional Board lead
RI	Regional Board Inactive (Case referred to Board but not assigned to staff yet).

Note : The initial investigations of underground tank leaks are usually conducted by the local agencies. These cases are then referred to the Regional Board when there is evidence of groundwater contamination.

Cases are assigned to staff on a priority basis. This prioritization is based on several factors, among which are the extent of groundwater contamination and the nature of the contaminant.

C. LOCAL AGENCY CODES

19000	County of Los Angeles	
19033	City of Santa Monica	Los Angeles County
19039	City of Vernon	Los Angeles County
19038	City of Torrance	Los Angeles County
19050	City of Los Angeles	Los Angeles County
19060	City of Long Beach	Los Angeles County
56000	County of Ventura	
56020	City of Ventura (City of San Buenaventura)	Ventura County

D. CASE TYPE CODES

D	Drinking Water
G	Ground Water
S	Soil only
U	Undetermined

Note : Case type is based on the most sensitive resource affected. For example if both soil and ground water are affected, case type will be 'G'. The case type 'D' is used only if one or more municipal or domestic wells have actually been affected.

E. STATUS CODES

0 No Action
No action has been taken by the responsible party after the initial report of the leak.

1 Leak Being Confirmed
A leak is suspected at a site, includes inspection of the excavation, and tank and appurtenant plumbing to determine existence of leak.

3A Preliminary Site Assessment Workplan Submitted
A workplan/proposal has been requested of, or submitted by, the responsible party in order to determine whether groundwater has been, or will be, impacted as a result of a release from any underground tanks or associated piping.

3B Preliminary Site Assessment Underway
Implementation of a workplan addressing the above described tasks.

5C Pollution Characterization
Responsible party is in the process of installing additional monitoring wells and/or borings in order to fully define the lateral and vertical extent of contamination in soil and ground water and assess the Hydrogeology of the area. This phase of work may also include performing aquifer tests, soil gas surveys, continued ground water gradient determinations and monitoring, assessing impacts on surface and/or ground water.

5R Remediation Plan
A remediation plan has been submitted evaluating long term remediation options. A proposal and implementation schedule for an appropriate remediation option has also been submitted. This phase of work may also include preparing and submitting the necessary information for any permits needed prior to implementation of the plan (NPDES or WDR).

7 Remedial Action
Implementation of corrective action plan.

8 Post Remedial Action Monitoring
Periodic ground water or other monitoring at the site, as necessary, in order to verify and/or evaluate the effectiveness of remedial activities.

9 Case Closed
The Regional Board and the Local Agency are in concurrence that no further work is necessary at the site.

Note : Status codes define current status of each site.

F. CHEMICAL CODES

08	Motor Oil
09	Boiler Fuel
10	#6 Fuel Oil
12	Heater Fuel
13	Solvents
32	Waste Water
41	Mineral Spirits
49	Paint Thinner
51	Oil and Grease Waste
52	Dry Cleaning Solvents
61	Water and Oil Mix
71	Lubricating Oil
77	Coolant
78	Aliphatic Hydrocarbon
80	Transmission Fluid
84	Lacquer Thinner
101	Naptha Distillate
116	V, M, & P Naptha
122	Cutting Oil
127	#5 Fuel Oil
171	Freon
172	Alcohol
10762	Ethylene Dichlor
12031	Unleaded Gasoline
12032	Regular Gasoline
12033	Premium Gasoline
12034	Diesel
12035	Waste Oil
12036	Miscellaneous Motor Vehicle Fuels
57125	Cyanides, Salts
64175	Ethyl Alcohol
64197	Acetic Acid
67561	Methyl Alcohol
67630	Isopropyl Alcohol
67641	Acetone
71432	Benzene
75092	Methylene Chloride
78933	Methyl Ethylene Ketones
79016	TCE
95636	Psuedocumene
106423	Xylene
108883	Toluene
109999	Tetrahydro-furan
127184	Perchloroethylene
610399	Dinitro-toluenes
1313991	Nickel Oxide
1336363	PCBs
7439921	Lead
7440020	Nickel
7440508	Copper

8002059	Crude Oil (hazardous)
8006619	Gasoline
8007452	Coal Tar
8008206	Kerosene
8052413	Stoddard Solvent
8052424	Asphalt
25037665	Polyester Resin
blank	Not Reported

[redacted] EXHIBIT C [redacted]

§ 1094.5. [Inquiry into validity of administrative order or decision.] (a) Where the writ is issued for the purpose of inquiring into the validity of any final administrative order or decision made as the result of a proceeding in which by law a hearing is required to be given, evidence is required to be taken, and discretion in the determination of facts is vested in the inferior tribunal, corporation, board, or officer, the case shall be heard by the court sitting without a jury. All or part of the record of the proceedings before the inferior tribunal, corporation, board, or officer may be filed with the petition, may be filed with respondent's points and authorities, or may be ordered to be filed by the court. Except when otherwise prescribed by statute, the cost of preparing the record shall be borne by the petitioner. Where the petitioner has proceeded pursuant to Section 68511.3 of the Government Code and the Rules of Court implementing that section and where the transcript is necessary to a proper review of the administrative proceedings, the cost of preparing the transcript shall be borne by the respondent. Where the party seeking the writ has proceeded pursuant to Section 1088.5, the administrative record shall be filed as expeditiously as possible, and may be filed with the petition, or by the respondent after payment of the costs by the petitioner, where required, or as otherwise directed by the court. If the expense of preparing all or any part of the record has been borne by the prevailing party, the expense shall be taxable as costs.

(b) The inquiry in such a case shall extend to the questions whether the respondent has proceeded without, or in excess of jurisdiction; whether there was a fair trial; and whether there was any prejudicial abuse of discretion. Abuse of discretion is established if the respondent has not proceeded in the manner required by law, the order or decision is not supported by the findings, or the findings are not supported by the evidence.

(c) Where it is claimed that the findings are not supported by the evidence, in cases in which the court is authorized by law to exercise its independent judgment on the evidence, abuse of discretion is established if the court determines that the findings are not supported by the weight of the evidence. In all other cases, abuse of discretion is established if the court determines that the findings are not supported by substantial evidence in the light of the whole record.

(d) Notwithstanding subdivision (c), in cases arising from private hospital boards or boards of directors of districts organized pursuant to The Local Hospital District Law, Division 23 (commencing with Section 32000) of the Health and Safety Code, abuse of discretion is established if the court determines that the findings are not supported by substantial evidence in the light of the whole record. However, in all cases in which the petition alleges discriminatory actions prohibited by Section 1316 of the Health and Safety Code, and the plaintiff makes a preliminary showing of substantial evidence in support of that allegation, the court shall exercise its independent judgment on the evidence and abuse of discretion shall be established if the court determines that the findings are not supported by the weight of the evidence.

(e) Where the court finds that there is relevant evidence which, in the exercise of reasonable diligence, could not have been produced or which was improperly excluded

at the hearing before respondent, it may enter judgment as provided in subdivision (f) remanding the case to be reconsidered in the light of that evidence; or, in cases in which the court is authorized by law to exercise its independent judgment on the evidence, the court may admit the evidence at the hearing on the writ without remanding the case.

(f) The court shall enter judgment either commanding respondent to set aside the order or decision, or denying the writ. Where the judgment commands that the order or decision be set aside, it may order the reconsideration of the case in the light of the court's opinion and judgment and may order respondent to take such further action as is specially enjoined upon it by law, but the judgment shall not limit or control in any way the discretion legally vested in the respondent.

(g) Except as provided in subdivision (h), the court in which proceedings under this section are instituted may stay the operation of the administrative order or decision pending the judgment of the court, or until the filing of a notice of appeal from the judgment or until the expiration of the time for filing the notice, whichever occurs first. However, no such stay shall be imposed or continued if the court is satisfied that it is against the public interest; provided that the application for the stay shall be accompanied by proof of service of a copy of the application on the respondent. Service shall be made in the manner provided by Title 5 (commencing with Section 405) of Part 2 or Chapter 5 (commencing with Section 1010) of Title 14 of Part 2. If an appeal is taken from a denial of the writ, the order or decision of the agency shall not be stayed except upon the order of the court to which the appeal is taken. However, in cases where a stay is in effect at the time of filing the notice of appeal, the stay shall be continued by operation of law for a period of 20 days from the filing of the notice. If an appeal is taken from the granting of the writ, the order or decision of the agency is stayed pending the determination of the appeal unless the court to which the appeal is taken shall otherwise order. Where any final administrative order or decision is the subject of proceedings under this section, if the petition shall have been filed while the penalty imposed is in full force and effect, the determination shall not be considered to have become moot in cases where the penalty imposed by the administrative agency has been completed or complied with during the pendency of the proceedings.

(h) (1) The court in which proceedings under this section are instituted may stay the operation of the administrative order or decision of any licensed hospital or any state agency made after a hearing required by statute to be conducted under the provisions of the Administrative Procedure Act, as set forth in Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code, conducted by the agency itself or an administrative law judge on the staff of the Office of Administrative Hearings pending the judgment of the court, or until the filing of a notice of appeal from the judgment or until the expiration of the time for filing the notice, whichever occurs first. However, the stay shall not be imposed or continued unless the court is satisfied that the public interest will not suffer and that the licensed hospital or agency is unlikely to prevail ultimately on the merits; and provided further that the application for the stay shall be accompanied by proof of service of a copy of the application on the respondent. Service shall be made in the manner provided by Title 5 (commencing with Section 405) of Part 2 or Chapter 5 (commencing with Section 1010) of Title 14 of Part 2.

(2) The standard set forth in this subdivision for obtaining a stay shall apply to any administrative order or decision of an agency which issues licenses pursuant to Division 2 (commencing with Section 500) of the Business and Professions Code or pursuant to the Osteopathic Initiative Act or the Chiropractic Initiative Act. With respect to orders or decisions of other state agencies, the standard in this subdivision shall apply only when the agency has adopted the proposed decision of the administrative law judge in its entirety or has adopted the proposed decision but reduced the proposed penalty pursuant to subdivision (b) of Section 11517 of the Government Code; otherwise the standard in subdivision (g) shall apply.

(3) If an appeal is taken from a denial of the writ, the order or decision of the hospital or agency shall not be stayed except upon the order of the court to which the appeal is taken. However, in cases where a stay is in effect at the time of filing the notice of appeal, the stay shall be continued by operation of law for a period of 20 days from the filing of the notice. If an appeal is taken from the granting of the writ, the order or decision of the hospital or agency is

stayed pending the determination of the appeal unless the court to which the appeal is taken shall otherwise order. Where any final administrative order or decision is the subject of proceedings under this section, if the petition shall have been filed while the penalty imposed is in full force and effect, the determination shall not be considered to have become moot in cases where the penalty imposed by the administrative agency has been completed or complied with during the pendency of the proceedings. Amended Stats 1985 ch 324 § 1. *Cal Jur 3d Administrative Law §§ 13, 156, 250, 258, 275, 283, 284, 287, 288, 298, 310, 318, 319, 321, 324, 328, 329, 333–337, 339, 340, Appellate Review §§ 8, 62, Building and Construction Contracts § 30, Business and Occupation Licenses § 48, Mandamus and Prohibition §§ 23, 39, Process, Notices, and Subpoenas §§ 220, 343, 366, 395, Public Aid and Welfare § 42, Public Utilities § 101, Unemployment Compensation § 39, Zoning and Other Land Controls § 30, 173, 175; Cal Practice Rev Ch 53 Planning After Trial; Cal Practice §§ 62:3, 64:4 et seq., 64:32, 64:61–64:64, 64:72, 70:40, 70:42, 70:52, 321:1, 321:3, 321:16, 321:17, 321:20 et seq., 329:8, 329:11, 330:3, 330:9 et seq., 356:9, 356:10, 360:3, 360:7, 360:8; Witkin Procedure (3d) Jurisd § 282; Actions §§ 474, 627; Writs §§ 11, 143, 175, 183, 215, 245, 246, 247, 248, 252, 253, 254, 255, 258, 262, 263, 266, 270, 272, 278, 279, 280, 281, 284, 289, 291, 292, 293, 294, 295, 296; Appeal § 151; Witkin Summary (8th ed) pp 3613, 3617, 3624, 4139.*

EXHIBIT D

[Civ. No. 16995. Third Dist. July 10, 1978.]

DONNA PIPKIN, Plaintiff and Appellant, v.
BOARD OF SUPERVISORS OF SHASTA COUNTY et al.,
Defendants and Respondents.

SUMMARY

A former deputy sheriff sought a writ of mandate to compel her reinstatement as a matron at the county jail. She had received notice of dismissal followed by an informal post-termination hearing at which reinstatement had been denied. The superior court reviewed the evidence in support of the charges under both the independent review and the substantial evidence standards, and denied the petition. (Superior Court of Shasta County, No. 55789, Clyde H. Small, Judge.)

The Court of Appeal reversed with directions to order an award of salary for the period from the date of dismissal to the final decision following the hearing. The court upheld the lower court's determination that the charges against the deputy had been supported by the preponderance of the evidence, noting that the independent judgment test was applicable on the ground that the agency's determination had affected a fundamental vested right. (Opinion by Evans, J., with Reynoso, J., concurring. Puglia, P. J., concurred in the judgment.)

HEADNOTES

Classified to California Digest of Official Reports, 3d Series

(1) **Public Officers and Employees § 30—Duration and Termination of Tenure—Removal From Office—Due Process—Right to Pretermination Hearing.**—Prior to disciplinary action against an employee, due process requires that an agency provide certain procedural

rights, including notice of the proposed action and the reasons therefor, a copy of the charges and materials upon which the action is based, and the right to respond, either orally or in writing, to the authority imposing discipline. Thus, a county ordinance that did not provide a hearing until after the effective date of a dismissal, and failed to provide any opportunity to explain the charges prior to dismissal, was unconstitutional.

(2) **Constitutional Law § 109—Procedural Due Process—Hearing—Discipline of Public Employee—Sufficiency of Predisciplinary Discussion With Supervisor.**—A discussion between a county employee and her supervisor several months before the employee's dismissal did not satisfy the due process requirement of notice and an opportunity to be heard prior to disciplinary action where the employee was not warned during the discussion of the possibility of dismissal, no discipline was imposed at that time, and the employee thereafter corrected her behavior as to the specific violations discussed.

(3) **Public Officers and Employees § 30—Duration and Termination of Tenure—Removal From Office—Due Process—Right to Pretermination Hearing—Remedy.**—The remedy afforded a former county employee who had been denied the opportunity to explain the charges upon which dismissal was based was restricted to an award of salary from the effective date of discipline until the date of final decision after a fair hearing.

[See **Cal.Jur.2d**, Public Officers, § 239; **Am.Jur.2d**, Public Officers and Employees, § 216.]

(4) **Administrative Law § 49—Administrative Actions—Adjudication—Evidence—Burden of Proof and Presumptions—Discipline of Public Employee.**—In disciplinary administrative proceedings, the burden of proving the charges rests upon the party making the charges rather than upon the person disciplined.

(5a, 5b) **Public Officers and Employees § 30—Duration and Termination of Tenure—Removal From Office—Due Process—Informal Hearing.**—Procedures in an informal disciplinary proceeding against a county employee were sufficient to protect her due process rights where all evidence presented by both the employer and the employee was considered by the board and substantial evidence was

presented without reliance on hearsay, notwithstanding that the ordinance under which the hearing was conducted did not require the employer to present substantial evidence and placed the burden of proof on the employee.

(6) **Administrative Law § 132—Judicial Review—Scope and Extent—Evidence—Substantial Evidence Rule—Constitutional Agencies Exercising Judicial Power.**—Where an agency possesses judicial authority under the Constitution, the decision of the agency, even if affecting a fundamental right, is entitled to all the deference and respect due a judicial decision. However, if the agency does not possess judicial powers, the scope of review is determined by the nature of the right affected.

(7) **Administrative Law § 134—Judicial Review—Scope and Extent—Evidence—Independent Judgment Rule—Nonconstitutional Agencies—Fundamental Rights.**—Where the decision or order of a county agency substantially affects a fundamental vested right, the trial court must exercise its independent judgment on the evidence and find an abuse of discretion if the findings are not supported by the weight of the evidence. However, where a fundamental vested right is not affected, the trial court's inquiry is limited to a determination of whether the findings are supported by substantial evidence in light of the whole record.

(8) **Constitutional Law § 52—First Amendment and Other Fundamental Rights of Citizens—Scope and Nature—Federal Decisions—Weight and Authority.**—Decisions of the United States Supreme Court defining fundamental rights are persuasive authority to be afforded respectful consideration, but are to be followed by California courts only when they provide no less individual protection than is guaranteed by California law.

(9) **Administrative Law § 133—Judicial Review—Scope and Extent—Independent Judgment Rule—Fundamental Rights.**—In California, the courts must decide on a case-by-case basis whether an administrative decision or class of decisions substantially affects fundamental vested rights and thus requires independent judgment review. In determining whether the right is fundamental, the courts do not weigh only the economic aspects, but also the effect in human terms and the importance to the individual in the life situation.

(10) **Constitutional Law § 52—First Amendment and Other Fundamental Rights of Citizens—Scope and Nature—Right to Continued Employment.**—The right to continued permanent employment is so important and so substantially affects the individual that it is a fundamental right.

(11) **Counties § 7—Officers, Agents and Employees—Permanent Employees—Right to Continued Employment.**—The full rights of continued employment are vested in a permanent county employee upon appointment, subject to divestment upon periodic review only after a showing of adequate cause for such divestment in proceedings consistent with due process. Thus, a deputy sheriff's status as a permanent employee was not contradicted by the sheriff's use of a system of semi-annual performance reports for evaluating employees.

(12) **Counties § 7—Officers, Agents and Employees—Disciplinary Proceedings—Judicial Review—Merit System of Employment.**—The proper standard for reviewing a county agency's decision to discipline a public employee was not affected by the fact that a merit system, rather than a civil service system, was involved.

(13) **Administrative Law § 138—Judicial Review—Appellate Courts—Standard of Review.**—The standard for review of a trial court's determination that a county agency's decision to discipline an employee was proper is whether substantial evidence supports the decision of the trial court.

COUNSEL

Marsh, Mastagni & Marsh, Harry M. Marsh and William E. Gasbarro for Plaintiff and Appellant.

Robert A. Rehberg, County Counsel, for Defendants and Respondents.

OPINION

EVANS, J.—Plaintiff, Donna Pipkin, a permanent deputy sheriff acting as a matron in the Shasta County jail, received notice that she was to be

dismissed effective six days later. The factual bases for the dismissal order were that she had given false information in explanation of her absence from work; that she entered an area in the jail carrying keys without another matron standing by, and fraternized with the prisoners; and that her fraternization interferred with the orderly administration of the jail as it caused disputes between the prisoners. She was also alleged to be insubordinate, rude, and insulting to fellow workers in the presence of others. She was discharged without having an opportunity to explain the charges against her. The Shasta County ordinance provides only for a posttermination hearing to contest the action. After an informal hearing the Shasta County Employee Appeals Board refused to order her reinstatement, and following the board of supervisors' refusal to hear her case, she petitioned for a writ of mandate pursuant to Code of Civil Procedure section 1094.5. Upon denial of the petition this appeal ensued.

(1), (2) Plaintiff correctly maintains that the procedure used to dismiss her was violative of her constitutional right to due process of law in that prior to the effective date of the dismissal, she was not afforded an opportunity to explain the charges. *Skelly* v. *State Personnel Bd.* (1975) 15 Cal.3d 194, 215 [124 Cal.Rptr. 14, 539 P.2d 774], requires that the agency seeking to impose discipline afford the employee some opportunity to explain the charges *prior* to the effective date of the discipline. (See also, *Cansdale* v. *Board of Administration* (1976) 59 Cal.App.3d 656, 665 [130 Cal.Rptr. 880]; *Keely* v. *State Personnel Board* (1975) 53 Cal.App.3d 88, 98 [125 Cal.Rptr. 398]; *Carrera* v. *Bertaini* (1976) 63 Cal.App.3d 721, 727 [134 Cal.Rptr. 14]; *Ng* v. *State Personnel Bd.* (1977) 68 Cal.App.3d 600, 605 [137 Cal.Rptr. 387].)

Defendants' claim that the charges were discussed with plaintiff prior to her dismissal and that the discussion satisfied the pretermination due process requirement reveals a fanciful interpretation of the record and is without merit. The record reveals that several months prior to plaintiff's dismissal Lieutenant Austin discussed some incidents with plaintiff involving her failure to follow the directions of her superior officer concerning feeding the inmates, her fraternization with them, and a letter received by the sheriff from the inmates which the officers felt had been written with plaintiff's assistance. The record does not contain any indication that Pipkin was warned that she would be dismissed if the violations continued, nor was any punishment imposed. Austin testified that, after his conversation with plaintiff, he believed she corrected those deficiencies, and her conduct did not warrant discipline until the false absence report. Finally, Pipkin's direct testimony was that prior to the

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effective date of the dismissal she was not afforded an opportunity to discuss the charges with the sheriff. The record supports her testimony. The notice of dismissal fails to mention any right the employee may have to discuss the action with her superiors. The mere fact that the dismissal was not immediately effective does not cure the procedural infirmity; the reason the dismissal was not made immediately effective was that plaintiff had accrued vacation and compensatory time.

"It is clear that due process does not require the state to provide the employee with a full trial-type evidentiary hearing prior to the initial taking of punitive action. However, . . . due process does mandate that the employee be accorded certain procedural rights before the discipline becomes effective. As a minimum, these preremoval safeguards must include notice of the proposed action, the reasons therefor, a copy of the charges and materials upon which the action is based, and the right to respond, either orally or in writing, to the authority initially imposing discipline." (*Skelly* v. *State Personnel Bd., supra,* 15 Cal.3d at p. 215.)

Shasta County Ordinance chapter 8, sections 1122 and 1123, although recognizing a right of appeal, do not provide for a hearing until *after* the effective date of the dismissal and fail to provide the employee with any opportunity to explain the charges to the agency initiating the action.

As the ordinances do not provide for any pretermination hearing, they fail to comport with the minimal federal and state constitutional requirements held to be applicable by the United States Supreme Court in *Arnett* v. *Kennedy* (1974) 416 U.S. 134 [40 L.Ed.2d 15, 94 S.Ct. 1633] and the California Supreme Court in *Skelly, supra,* at page 215. Therefore, to that extent those provisions of the ordinance are unconstitutional, and the dismissal of plaintiff was affected thereby.

(3) However, the taint of the dismissal is limited inasmuch as the remedy afforded a person who has been denied the opportunity to explain the charges is restricted to an award of salary for the period from the effective date of discipline until the date of final decision after a fair hearing. (*Barber* v. *State Personnel Bd.* (1976) 18 Cal.3d 395, 402-403 [134 Cal.Rptr. 206, 556 P.2d 306]; *Ng* v. *State Personnel Bd., supra,* 68 Cal.App.3d 600.)

(4), (5a) Plaintiff contends she was denied due process by the terms of the ordinance which required her to bear the entire burden of proving that her discharge was improper.

The record demonstrates that the administrative proceeding was very informal, and permitted all evidence presented by the employer and plaintiff to be considered by the employee appeals board. Thus, basic due process was preserved. However, we do not mean to approve the Shasta County procedures as written. *Anton* v. *San Antonio Community Hosp.* does not support the placing of the burden of proof on the disciplined employee. Rather, the *Anton* court upheld the laws of a hospital which placed the burden of proof on the disciplined employees since it was "clear that the bylaw read as a *whole*—especially when viewed in conjunction with the provision setting forth the grounds for appellate review before the governing board . . . contemplates a substantial showing on the part of the charging committee." (Italics added.) (*Anton* v. *San Antonio Community Hosp.* (1977) 19 Cal.3d 802, 829-830 [140 Cal.Rptr. 442, 567 P.2d 1162].) In footnote 28 the Supreme Court clarifies its ruling, "the bylaw in question, by indicating that the judicial review committee shall rule against the affected person absent a clear and convincing showing on his part that the recommendation of the charging committee 'was arbitrary, unreasonable or not sustained by the evidence,' strongly implies that substantial evidence in support of the recommendation must appear. . . . It is thus apparent that a decision unsupported by evidence viewed by the governing board as substantial—i.e., a decision based wholly upon the burdens of production and proof—is not contemplated by the bylaws." (Italics omitted. *Anton, supra,* at p. 830, fn. 28.)

Unlike the *Anton* regulations, the regulations set forth in the Shasta County code pertaining to employee appeals of disciplinary action merely require that "In discharging, suspending or reducing in rank a permanent employee, the department head shall request the County Counsel to prepare an order, in writing, stating specifically the cause for such an action." (§ 1111.) This section of the code is the only section that requires any affirmative duty on the part of the county to produce the reasons for the disciplinary action. By the code (ch. 8, Appeals), it is incumbent upon the disciplined employee to request what is in fact an initial hearing (§ 1122) and to carry the entire burden of proof (§ 1124). The applicable portions of the county code do not require the county to produce any evidence to sustain the charge. Thus, unlike the bylaw in *Anton*, section 1124 violates the axiom that, "in disciplinary administrative proceedings, the burden of proving the charges rests upon the party making the charges." (*Martin* v. *State Personnel Bd.* (1972) 26 Cal.App.3d 573, 582 [103 Cal.Rptr. 306]; *Johnstone* v. *City of Daly City* (1958) 156 Cal.App.2d 506, 515 [319 P.2d 756].)

The regulation, on its face, appears to violate due process.

However, our review of the record convinces us that plaintiff in fact was not deprived of her due process right.

We also consider whether there was substantial evidence to support the trial court's affirmance of the board's decision.

Parenthetically, we note at the outset that irrespective of the applicable standard of review, the trial court indicated that it reviewed the record under *both* the independent judgment and the substantial evidence test. As the trial court stated in a signed minute order: ". . . the Court did out of greater caution reweigh the evidence and determine that the respondents' action was not only supported by substantial evidence, but by the preponderance of the evidence." Additional support for the determination that the court applied the proper standard of review is found in a finding of fact which states "The Court has reviewed the transcript of the administrative proceedings held before the Employee Appeals Board. . . ." The contention that the trial court applied an improper standard of review is without merit.

The scope of review is determined by the constitutional powers granted the agency under the Constitution. **(6)** Where an agency possesses judicial authority under the Constitution, the decision of the agency, even if affecting a fundamental right, is entitled to all the deference and respect due a judicial decision. (*Strumsky* v. *San Diego County Employees Retirement Assn.* (1974) 11 Cal.3d 28, 36 [112 Cal.Rptr. 805, 520 P.2d 29].) However, if the agency does not possess judicial powers, the scope of review is determined by the nature of the right affected. (*Id.*, at p. 32.)

"With respect to charter cities and counties such powers and procedures are prescribed by means of legislative approval or disapproval of the charter presented to the Legislature. In each case, however, the Legislature is limited in the nature and extent of the powers which it may grant. With respect to legislative powers, the question is one of proper delegation of powers vested in the Legislature itself by article IV." (*Id.*, at p. 40.) It is limited by the powers bestowed in other branches of government in articles V and VI. The amendment of article VI had the effect of withdrawing from the Legislature the ability to vest judicial power *in any* body and of concentrating in the court system all judicial power not expressly bestowed elsewhere by the Constitution.

(7) As the powers bestowed on counties in the Constitution do not mention judicial powers "[i]f the order or decision of the agency substantially affects a fundamental vested right, the trial court, in determining under section 1094.5 whether there has been an abuse of discretion because the findings are not supported by the evidence, must exercise its independent judgment on the evidence and find an abuse of discretion if the findings are not supported by the weight of the evidence. If, on the other hand, the order or decision does not substantially affect a fundamental vested right, the trial court's inquiry will be limited to a determination of whether or not the findings are supported by substantial evidence in light of the whole record." (*Id.*, at p. 32.)

(8) In considering this issue, the trial court was under the basic misapprehension, apparently created by counsel for defendant, that because a fundamental right may not exist under the federal Constitution, a finding of such a right under the California Constitution is precluded. " '[D]ecisions of the United States Supreme Court defining fundamental rights are persuasive authority to be afforded respectful consideration, but are to be followed by California courts only when they provide no less individual protection than is guaranteed by California law.' [Citations.]" (*Serrano* v. *Priest* (1976) 18 Cal.3d 728, 764 [135 Cal.Rptr. 345; 557 P.2d 929]; see also Cal. Const., art. I, § 24.) Therefore, were we to conclude, as defendant suggests, that *Bishop* v. *Wood* (1976) 426 U.S. 341 [48 L.Ed.2d 684, 96 S.Ct. 2074] stands for the proposition that a public employee does not have a property right in continued public employment, it would not resolve the issue created by the provisions of the California Constitution which, although substantially equivalent to the federal constitutional protections, are possessed of an independent vitality. (*Serrano* v. *Priest, supra,* at p. 764.) The trial court erroneously concluded that decisions such as *Bishop* v. *Wood, supra,* control the determination of whether the plaintiff was a possessor of a property right under the California Constitution and that the court was precluded from any inquiry into the matter. It is readily apparent that greater protection for the individual is afforded by viewing the right to be protected from arbitrary or capricious discharge from public employment as a property right; the California decisions and Constitution are here dispositive.

(9) In California, "The courts must decide on a case-by-case basis whether an administrative decision or class of decisions substantially affects fundamental vested rights and thus requires independent judgment review." (*Bixby* v. *Pierno* (1971) 4 Cal.3d 130, 144 [93 Cal.Rptr. 234, 481 P.2d 242].) " 'In determining whether the right is fundamental the courts

do not alone weigh the economic aspect of it, but the effect of it in human terms and the importance of it to the individual in the life situation.'" (*Strumsky*, *supra*, at p. 45.) In determining whether a right is "vested" or "fundamental" the courts have considered the degree to which that right is already possessed by the individual. The courts have held the loss of it sufficiently vital to require independent review. "The abrogation of the right is too important to the individual to relegate it to exclusive administrative extinction." (*Bixby* v. *Pierno*, *supra*, 4 Cal.3d at p. 144.)

(10) It is beyond question that the right of continued employment is so important and so substantially affects the individual that it is a fundamental right. Whether the employment right of plaintiff was vested requires only minimal discussion. It is to be emphasized that this case does not present the simple nonrenewal of a probationary employee's contract, but rather the discharge of an already permanent employee. In the former situation as in *Turner* v. *Board of Trustees* (1976) 16 Cal.3d 818 [129 Cal.Rptr. 443, 548 P.2d 1115], no fundamental vested right exists; in the latter such fundamental vested right does. It is undisputed that plaintiff was a permanent employee of the Shasta County Sheriff's Department. *Turner* v. *Board of Trustees*, *supra*, which defendants urge controls this case, is distinguishable as it dealt with the nonrenewal of a probationary employee's contract. In addition, since that case was dealing with a teacher, there were important policy considerations favoring the nonrenewal of an unsatisfactory teacher who was frustrating the primary purpose of the school system in educating the young. (*Id.*, at p. 825.)

(11) Contrary to defendants' contentions, merely because the sheriff utilized a system of semiannual performance reports for evaluating employees, plaintiff's employment may not be rendered probationary or tentative in effect. (*Anton* v. *San Antonio Community Hosp.*, *supra*, 19 Cal.3d at p. 824.) The full rights of continued employment *vest* upon appointment, subject to divestment upon periodic review only after a showing of adequate cause for such divestment in a proceeding consistent with minimal due process requirements. Defendants' contention that since county ordinance section 1110 requires a statement of reasons for disciplinary action, an employee may not be tenured, is patently absurd. The statute merely specifies that dismissals must be effected in accord with due process. In addition, plaintiff's duties do not suggest that she served in a confidential position at the pleasure of the appointing authority nor has it been suggested that any other statute exists which expressly provides that her employment was at the pleasure of her employer. In fact, statutes or ordinances providing that employment shall

be at the pleasure of the appointing authority generally contain terminology vesting the employer with the unabridged right to remove any employee without specification of reasons. (See *Bogacki* v. *Board of Supervisors* (1971) 5 Cal.3d 771, 775 [97 Cal.Rptr. 657, 489 P.2d 537]; *Healdsburg Police Officers Assn.* v. *City of Healdsburg* (1976) 57 Cal.App.3d 444, 451 [129 Cal.Rptr. 216]; *Hollon* v. *Pierce* (1967) 257 Cal.App.2d 468, 478, fn. 4 [64 Cal.Rptr. 808]; *Abel* v. *Cory* (1977) 71 Cal.App.3d 589, 594 [135 Cal.Rptr. 555].) The findings are conclusive that plaintiff was a permanent employee, and as such had a fundamental vested right in continued employment. Therefore, the independent judgment test was applicable.

(12) We reject defendants' attempted distinction of the proper scope for review of disciplinary actions taken under a civil service system and a merit system, as a distinction without a difference. The basis for applying different standards of review "can be traced to their ultimate source in one of our most fundamental constitutional doctrines, that of separation of powers." (*Strumsky*, *supra*, at p. 35.) As persons charged with the exercise of a power, either legislative, executive, or judicial, cannot exercise any other power unless expressly authorized by the Constitution, a court, in reviewing a decision of an agency vested with judicial power under the Constitution, must afford the determination of that agency all the deference and respect due to a judicial decision. (*Strumsky*, *supra*, at pp. 35-36.)

The trial court out of a justifiable abundance of caution utilized the independent review standard.

Defendants' claim that power under a merit system is reposed in the electorate, not an administrative agency, misconstrues the source of origin of the powers of counties. It is the state, not the counties, in whom the electorate has vested power. (See Cal. Const., art. IV, § 1; art. XI, § 1, subds. (a) and (b); art. II, § 1.) The counties, as legal subdivisions of the state, derive their power from the power delegated by the People to the state, and specifically delegated to the Legislature, which in turn has authorized the counties to create either a civil service system or limited civil service system. (See art. XI, § 1, subd. (a); Gov. Code, §§ 31100-31110.) Finally, it should be noted that a contention that *Skelly* is applicable only to civil service employees and not to employees who are employed for an indefinite term, was rejected in *Mendoza* v. *Regents of University of California* (1978) 78 Cal.App.3d 168, 173 [144 Cal.Rptr. 117].

There, as here, "[defendant's] contentions are predicated on an obvious misconception of law." (*Ibid.*)

(5b), (13) Our review of the trial court proceeding is limited to an examination of the record to determine whether substantial evidence supports the decision of the trial court. (*Bixby* v. *Pierno*, *supra*, 4 Cal.3d at p. 143, fn. 10; *LeVesque* v. *Workmen's Comp. App. Bd.* (1970) 1 Cal.3d 627, 637 [83 Cal.Rptr. 208, 463 P.2d 432]; *Boreta Enterprises, Inc.* v. *Department of Alcoholic Beverage Control* (1970) 2 Cal.3d 85, 95 [84 Cal.Rptr. 113, 465 P.2d 1].)

Plaintiff was charged with three distinct courses of conduct warranting dismissal, which the board found to be supported by the evidence: first, she was charged with falsely informing the sheriff's office of the reason for an absence on July 3 and 4, 1976; second, that she fraternized with the prisoners on numerous occasions thereby hindering effective administration of the jail and creating a danger that her keys might be taken from her while with the prisoners inside the day room; and third, that she was rude and insulting to other employees, directed profanity toward them, and was insubordinate to her superiors.

Plaintiff maintains that the decision of the board may not be affirmed and was based solely on hearsay. (*Nardoni* v. *McConnell* (1957) 48 Cal.2d 500, 504 [310 P.2d 644]; *Layton* v. *Merit System Commission* (1976) 60 Cal.App.3d 58, 67-68 [131 Cal.Rptr. 318]; see also Gov. Code, § 11513, subd. (c).) Her contention is not supported by the record. It appears that the trial court and the board did find and consider substantial credible evidence in support of the dismissal without reliance on hearsay.

The evidence in spport of the charge that she gave false reasons for her absence from duty was supplied by her own admission and was confirmed by her husband's testimony. The board's finding on that charge is supported by substantial evidence.

The finding that plaintiff was rude and insulting, used profanity, and was insubordinate was established by the testimony of fellow employees who witnessed the incidents and by her admission that she engaged in a personal dispute and used profanity with Deputy Johanson.

The finding that plaintiff fraternized with the prisoners, disclosed information about the administration of the jail, and entered the "tank" with her keys, thus constituting a hindrance to the effective administra-

tion of the jail, is troublesome. Direct evidence supporting that finding was elicited from admittedly biased inmates and a memorandum, written by a deputy (deceased at the time of the hearing), detailing an incident which happened seven months previously. In February plaintiff was advised (without imposition of discipline) that such conduct was unsatisfactory and must be stopped. Thereafter, it appears plaintiff did comport herself in a satisfactory manner, and no further information of continued fraternization which would justify disciplinary action was received. Inasmuch as the alleged fraternization was apparently not repeated following the warning, a question as to the propriety of the dismissal predicated upon those charges is presented. However, it is a question going to the weight of the evidence, and in reviewing the record it does not appear that an abuse of discretion resulted. (*Skelly*, *supra*, at p. 217.) We note that inmates Connors and Miller testified that plaintiff entered the cell area without another guard standing by, played cards with the inmates, and discussed and talked about other matrons with them. Connors, who admitted she disliked plaintiff, testified that she observed plaintiff give keys to other inmates; that plaintiff was nicknamed "Ducky" by the inmates, and that plaintiff helped the inmates write a letter praising plaintiff's conduct. Additionally, plaintiff admitted entering the cell and playing cards with the inmates and another matron. Matron O'Quinn testified that she saw plaintiff playing cards in the cell but couldn't remember the date, and that inmates told her about plaintiff's conversations with other inmates concerning the jail staff.

We conclude the board's decision is supported by substantial evidence.

The judgment is reversed and remanded to the trial court with directions that the Shasta County Employee Appeals Board be ordered to compute and award plaintiff accrued salary in accord with this opinion. The judgment is otherwise affirmed.

Reynoso, J., concurred.

Puglia, P. J.—I concur in the judgment.

[Civ. No. 17120 Thir

ANDREW MAR
Plaintiffs and Ap
MARGARET M
Defendants and I

SUMMARY

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EXHIBIT E

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CAENV No. WQ 85-7	R 7 OF 9	CAENV-ADMI P

In the Matter of the Petition of
EXXON COMPANY, U.S.A., ET AL.
ORDER NO. WQ 85-7
August 22, 1985

Of the Adoption of the Cleanup and Abatement Order No. 85-088 by the California Regional Water Quality Control Board Central Valley Region. Our File No. A-387.

BY THE BOARD:

On March 22, 1985, the California Regional Water Quality Control Board, Central Valley Region, adopted Cleanup and Abatement Order No . 85-088 to address pollution problems caused by leaking underground gasoline storage tanks at gas station. The order names John W. and Mary L. Lynch, doing business as Village Market; Exxon Company, U.S.A. and C. P. Phelps.. On April 19, 1985, Exxon Company appealed this order. On April 29, 1985, John and Mary Lynch filed an incomplete petition. John and Mary Lynch failed to amend their petition. Accordingly, we have treated them as an interested person to this matter. On April 30, 1985, C. P. Phelps filed a petition on this matter. While the Phelps petition was not timely, it involves the same issues raised by Exxon and we accordingly will consider it. The Regional Board subsequently, on April 16, 1985, issued another cleanup and abatement order naming Norman and Gail Houston previous landowners.

1. BACKGROUND

The Village Market is located in a rural subdivision approximately 6.5 miles west of the City of Tulare in Tulare County. The Village Market has been in existence since at least 1980 and consists of a two-tank gasoline station and a mini-mart. The facility is adjacent to a ground water recharge pond. Approximately 20 homes on individual water supply wells are in close proximity to the market.

A water contamination problem in the area first became apparent in June 1984, when the Tulare County Health Department received compliants from nearby residents of taste and odor problems. In August 1984, the Health Department notified two residents not to use their water for consumption. Two of three wells selected for analysis were found to contain benzene at concentrations of 15 and 18 parts per billion, well above the State Department of Health Services action levels for drinking water of 0.7 parts per billion. Benzene is water soluble and found in gasoline. Groundwater in this area is at approximately 40 feet and the soils are a find sandy loam . The two private wells sampled appear to be at 100 to 150 feet below the surface. The record discloses no possible sources of the pollution other than the gas station and none of the parties are contesting this issue.

The basic issue presented in these appeals is one of responsibility for the cleanup. Testimony before the Regional Board indicates that C. P. Phelps, a distributor of gasoline product, has been providing gasoline and service to the gasoline station since approximately 1960 when the facility was called

Stewart's Market. At that time Phelps was a Norwalk distributor, a brand of Signal Oil and Gas Company. Exxon acquired the Signal properties in 1967. Phelps supplied Exxon product to the Village Market from 1966 to 1983.

The current landowners are John and Mary Lynch. They acquired the property in July 1981 from Norman Larry and Gail Eileen Houston, who had owned it since April 1979. Three weeks after John and Mary Lynch bought the property, they noticed that the fee portion of the underground gasoline tanks were leaking. John Lynch testified that to deal with this problem, he did not keep the tanks full. In November 1983, John and Mary Lynch replaced the tanks. The new tanks have been tested and do not leak.

The Regional Board adopted a cleanup and abatement order on March 22, 1985, pursuant to Water Code Section **13304.** The order names as dischargers John and Mary Lynch, Exxon Company U.S.A. and C. P. Phelps, Inc. The order requires the dischargers implement various remedial actions according to a time schedule. These actions include providing an alternate supply of drinking water to users of known polluted wells, assessment of the extent of the toxic contamination and a comprehensive cleanup program of contaminated soils, ground water and leaked fuel.

II. CONTENTIONS AND FINDINGS

The basic issue that Exxon and Phelps are contesting is responsibility and ownership of the old underground tanks which leaked. Both parties feel they should be removed from responsibility because they never owned the tanks.

The two underground tanks in question had been at the Village Market for an undetermined period of time. There is some evidence to suggest that these tanks had been in place since the 1940's. It is very unclear as to who owned these tanks. As discussed above, the gasoline supplier and distributor changed several times from 1960 to 1981. Additionally, a number of different parties owned the property from 1960 to 1981.

Copies of two Grant Deeds in the record from previous parties to the Houstons in 1979 and from the Houstons to John and Mary Lynch in 1981 convey generally the lot in question and are silent concerning anything else. There is no evidence in the record which conclusively shows who does own the tanks.

Order No. 85-086 contains a finding that "[t]here is evidence of ownership of the leaking fuel tanks by Exxon Company, USA and by C. P. Phelps, Inc., the distributor of the fuel." The Regional Board relied on several different bases to conclude that the tanks were the personal property of Exxon and Phelps and to thereby name Exxon and Phelps in the order. These have all been challenged by petitioners. We will address each theory in turn.

1. Contention: Tulare County property tax records do not establish that Exxon owned the tanks.

Finding: From 1968 to 1984 Exxon paid personal property taxes to Tulare County for certain property at the Village Market. The record contains copies of the personal property tax records from 1966 to 1984 as submitted by Exxon. Exxon explained its standard practice for payment of personal property taxes in Tulare County. Exxon submits to the County two copies of a form for service station business and property statements, one of which is returned to Exxon by the County with the assessed values. The first such statement in the record before us is from Humble Oil and Refining, Exxon's predecessor in interest,

listing the following property at the site: two used pumps, one used air compressor, office furniture and equipment, a credit card imprinter and miscellaneous tools and equipment. Essentially the same listing was provided on the property statements for 1969, 1970, 1971, 1972, and 1973.

However, in 1974 the word 'tanks' is listed as an improvement. Exxon argues that Exxon listed only property other than tanks and that the word 'tanks' was included by the assessor on the copy returned to Exxon. In 1975 and 1976 the property statement reads merely 'equipment only'; on the 1977 statement the words 'pump, compressor, tanks and sign' appear. Exxon again argues this was because the tax assessor added this to the statement returned to Exxon. [FN1] This argument was not refuted or challenged.

Exxon does admit that it tendered a property statement in 1979 describing as its property pump, compressor, tanks and sign. Exxon alleges that this was an error, as its clerk had copied the 'erroneous' tank listing that the County Assessor had added to the previous years' statement.

Since 1979 the only personal property Exxon has listed for this property is a sign and credit card imprinter. There is some discrepancy with the assessor's statement, which also lists pumps and a compressor. Exxon has further submitted an affidavit from its real estate and engineering manager stating that to the best of his knowledge Exxon has never had an ownership or leasehold interest in the tanks. A computer listing of the Village Market equipment from 1974 submitted to us by Exxon shows only a pole, pump, compressor and miscellaneous equipment being owned by Exxon. (It is not clear whether a tank could be considered miscellaneous equipment, but in any event, there is no support in the record for that proposition.)

The Regional Board also relied upon a letter from the California Service Station Association indicating it is general practice within the industry that when an oil company owns the pumps, signs and credit card imprinter, it also has ownership of the underground tanks. Exxon refuted this letter at the hearing, stating that it has never been Exxon's practice. [FN2]

The question thus becomes whether it is reasonable to base a finding of ownership of the tanks on the disputed tax records. As Exxon contends, payment of taxes itself does not establish ownership of property, citing Trabue Pittman Corp. v. County of Los Angeles, (1946) 29 Cal.2d 385, 175 P.2d 512. As we discuss infra, absent any additional information, we find that the Regional Board action is inappropriate.

2. Contention: Ownership interest in the tanks runs with the land.

Finding: Exxon argues that the tanks were fixtures, part of the realty, and therefore belonged to the successive owners of the Village Market. The Regional Board argues that the tanks were not 'fixtures' and thus should not be considered real property. California Civil Code Section 660, in defining when a thing is deemed to be affixed to the land, uses such terms as 'attached', 'imbedded' and 'permanently resting'. Civil Code Section 1013 further provides:

> '[W]hen a person affixes his property to the land of another, without an agreement permitting him to remove it, the thing affixed, except as otherwise provided in this chapter, belongs to the owner of the land unless he chooses to require the former to remove it or the former elects to exercise the right of removal provided for in Section 1013.5 of this chapter.'

Both of these statutes have been extensively interpreted by case law.

According to Witkin, Summary of California Law, 'Personal Property' p. 1553, under modern theories, the manner of the annexation is not the sole nor most important test. There are three main factors: (1) physical annexation; (2) adaptation to use with real property; and most significantly, (3) intention to annex to realty.

The Regional Board and Exxon both cite cases to support their respective interpretations. The cases provide various examples of what may or may not be considered fixtures. Bancroft and Sons v. Cullen (1933) 217 C. 706, 20 P.2d, cited by Exxon, holds that a steel service comfort station with combined plumbing and wiring is a fixture, but does not speak to tanks. Neither the holdings in People v. Church (1943) 57 Cal.App.2d, 136 P.2d 139 nor Standard Oil v. State Board of Equalization (1965) 232 Cal.App.2d. 51, 42 Cal.Rptr. 543, cited by the Regional Board, deal with gasoline tanks. Church indicates that certain types of equipment at a service station are personal property, noting that these items may be removed without destroying anything. Standard Oil also found that gasoline station equipment to be personal property for purposes of taxes.

We also note that Munn v. Cohn (1927) 87 Cal.App. 479, 262 P. 780 found a gasoline tank to be a trade fixture and removable by the tenant who installed it, as the removal would not hurt the property. An important aspect of all of these cases, however, is the intent of the parties to affix the item to realty.

The record before us provides little help in determining whether the tank in question should be regarded as personal or real property. The record does not indicate when or by whom the tank was installed, nor what the arrangement was between the parties, if any. Assuming arguendo that the tank was installed originally by the property owner, the tank would probably remain realty today. On the other hand, if the tank were installed by a tenant of the owner, or by a predecessor in interest to Exxon, the tank could be regarded as remained personal property, or it could have become affixed to the land. Exxon contends that there is no agreement in the record, pursuant to Civil Code Section 1013 which demonstrates that Exxon had the right to remove the tanks. [FN3] Exxon further argues that it did not have or exercise the right to possess and control the tanks before installation or during use. Exxon pertinently notes that John and Mary Lynch removed the tanks without notifying Exxon or obtaining consent or financial contribution from Exxon.

There is insufficient evidence in the record to determine when, how, by whom and under what circumstances the tanks were installed. Accordingly, we can make no determination as to the personal or real property character of the tanks.

3. Contention: Both Phelps and Exxon disagree with the Regional Board's interpretation of Health and Safety Code s 25281(r) that under the law there is no distinction between the pumps and the tanks.

Finding: Chapter 6.7 of the Health and Safety Code, entitled 'Underground Storage of Hazardous Substances' became effective January 1, 1984. This chapter requires registration and regulation of underground tanks. Section 25281(r) defines 'underground storage tank' as meaning '. . . any one or combination of tanks, including pipes connected thereto, which is used for the storage of hazardous substances and which is substantially or totally beneath the surface of the ground. . . .'

The Regional Board argues that the law regulating discharges from underground tanks appears to consider pumps and tanks as one, noting that Section 25281(r)

includes pipes. Since pumps contain pipes connected to the underground tanks, the Regional Board argues that under the law there is no distinction between the pumps and the tanks. Therefore, since Exxon has acknowledged ownership of the pumps, that it should also be considered owner of the tanks.

We disagree. We feel it is stretching the definition of 'tanks' to include 'pumps'. We note that the Legislature could easily have explicitly included pumps within the definition of tanks, but chose not to do so. Elsewhere in the statute the term 'pumps' is used (see, e.g. Section 25282(b)(4)(c)). Furthermore, Chapter 6.7 was adopted after the bank in question was removed. Additionally, the statute does not purport to establish responsibility in cases such as that before us.

There is some material in the record indicating that both C. F. Phelps and Exxon may have had ownership and responsibility for the pumps at various times. However, there is no indication that it was the pumps which leaked and caused the harmful discharge. The record supports only the charge of faulty tanks. Absent any contention that the pumps leaked, we find there is no basis to name the owners of the pumps.

III. REVIEW AND CONCLUSIONS

In reviewing the contentions above, we believe that the record will support only that Exxon declared ownership and paid a small amount of property tax on the tanks in question for at least one year, and possibly two other years. These declarations and payments become the only basis upon which Exxon could properly be named. Exxon has raised a credible defense to these payments being indicative of ownership.

The question thus becomes what standard of review we should apply when reviewing a Regional Board action. Should we uphold a Regional Board action if there is any possible basis for the action, or should we exercise our independent judgment as to whether the action was reasonable? Generally speaking, the courts use one of two standards in reviewing an action of administrative agency: The substantial evidence test or the independent judgment rule. The former involves an examination of the record to establish the existence or nonexistence of substantial evidence to support the action taken. The latter permits the reviewing court to take a fresh look at the facts to see if the weight of the evidence supports the decision. Under the substantial evidence test, if a court disagrees with the conclusion but finds that there does exist a substantial body of evidence to support the decision, no reversal will take place. With the independent judgment rule, the court would not defer to the agency if the court disagreed with the conclusion.

The State Board is not subject to the exact standards which bind a court. Water Code Section 13320, which provides for State Board review of Regional Board action sets forth a standard of review which is different from ordinary judicial review in two important ways. First, under Section 13320(b) the State Board shall consider both the Regional Board record and 'any other relevant evidence' which it wishes in reviewing the order. Second, if the State Board decides the Regional Board action is 'inappropriate or improper', the State Board has several options, including remanding or reversing the Regional Board or taking the appropriate action itself. The scope of review thus appears to be closer to that of independent review.

However, any findings made by an administrative agency in support of an action must be based on substantial evidence in the record. (See, e.g. Topanga Association for a Scenic Community v. County of Los Angeles (1974) 11 Cal.3d 506, 113 Cal.Rptr. 836.) Thus, while we can independently review the Regional Board record, in order to uphold a Regional Board action, we must be able to find that finding of ownership was founded upon substantial evidence.

In our review of the record in the case before us, we find it is not appropriate to name Exxon or Phelps without some additional factual basis. While the disputed payment of taxes for three years provides some evidence of liability, we do not feel it to be sufficient or substantial given the lack of other information in the record and given Exxon's unrefuted explanation that the payments had been erroneously made. For example, the record is devoid of any information as to who paid taxes on the tanks for years other than 1974, 1977, and 1978. Further, there is no information concerning any contracts between any landowners and Exxon, or any predecessors in interest.

We recognize the difficult position in which this places the Regional Board. In this case the Regional Board was searching to find responsible parties who could effectuate the cleanup. Fewer parties named in the order may well mean no one is able to clean up a demonstrated water quality problem. We also recognize that the Regional Board does not have infinite resources available to it to extensively search through various county files in a quest for additional information. We note Exxon itself may have more dispositive information, which may be subpenaed by the Regional Board. However, in order to name parties such as Exxon and Phelps, we believe there should be more evidence than we have before us currently. Generally speaking it is appropriate and responsible for a Regional Board to name all parties for which there is reasonable evidence of responsibility, even in cases of disputed responsibility . However, there must be a reasonable basis on which to name each party. There must be substantial evidence to support a finding of responsibility for each party named. This means credible and reasonable evidence which indicates the named party has responsibility.

We note that in other cases we have not hesitated to uphold the Regional Board when it has named multiple parties responsible where there is substantial support in the record. (See, e.g. Board Order WQ 84-6, In the Matter of the Petition of Harold and Joyce Logsdon for a Stay and Review of Cleanup and Abatement Order of the California Regional Water Quality Control Board, Central Valley Region.) The record in this case simply does not contain the requisite evidence to support the naming of Exxon and Phelps in the cleanup order.

IV. SUMMARY

1. The Tulare County property tax records are not sufficient by themselves to support naming Exxon as the owner of the tanks.

2. There is insufficient information in the record to make any finding as to whether the tanks in question should be regarded as personal or real property and as to who the true owner is.

3. The Health and Safety Code definition of 'underground storage tank' is inapplicable in this case and does not extend liability to the owners or maintainers of pumps.

4. While the State Board's scope of review of Regional Board action is

similar to the independent review standard of a court, the findings made by the Regional Board must be supported by substantial evidence in the record.

5. There is not substantial evidence in the record upon which to base a finding that Exxon and Phelps should be named in Cleanup and Abatement Order No. 85-066.

V. ORDER

The Cleanup and Abatement Order No. 85-066 is hereby amended to delete Exxon Company, U.S.A. and O. P. Phelps, Inc.

FN1 Exxon argues they did not contest the two 'erroneous' returns for cost-efficiency reasons. We note the total tax due from Exxon on this propert, in 1974 was $19.05, and in 1977, s 22.50.

FN2 We note that a letter of this sort is clearly hearsay under our rules of procedure. While admissible, it is not sufficient in and of itself to support a finding.

FN3 We do note that the record contains a letter from a party who owned the land in 1980 indicating her belief that she never owned the tank but that the gasoline company did. Once again, we note that this is hearsay and as such, does not provide a basis for a finding.

State Water Resources Control Board
State of California
CAENV No. WQ 85-7
END OF DOCUMENT

EXHIBIT F

199 Cal.App.3d 520

Richard S. BASTIAN, Plaintiff and Appellant.

v.

COUNTY OF SAN LUIS OBISPO, et al., Defendants and Respondents.

Civ. No. B024766.

Court of Appeal, Second District, Division 6.

March 10, 1988.

Review Denied June 1, 1988.

Photographer brought action against county and deputy sheriff for injuries sustained upon publication of photograph of body at accident scene taken after deputy sheriff placed vodka bottle next to body without photographer's knowledge. The Superior Court, County of San Luis Obispo, Warren C. Conklin, J., dismissed action, and photographer appealed. The Court of Appeal, Gilbert, J., held that: (1) photographer alleged sufficient facts to raise issue of belated discovery under Tort Claims Act; (2) photographer was not required to allege "special relationship" with deputy sheriff to state negligence action; and (3) county and deputy sheriff were not immune from liability for alleged conduct.

Affirmed in part; reversed with directions in part.

1. Municipal Corporations ⇐742(4)

Plaintiff must, in order to raise issue of belated discovery under Tort Claims Act, state when discovery was made, state circumstances behind discovery, and plead facts showing that failure to discover was reasonable, justifiable, and not result of failure to investigate or act. West's Ann.Cal.Gov.Code § 810 et seq.

2. Counties ⇐213

Newspaper photographer alleged sufficient facts to raise issue whether doctrine of belated discovery tolled statute of limitations for filing claim with county under Tort Claims Act, with respect to action for injuries sustained by photographer as result of publication of photograph of victim's body taken at accident scene after deputy sheriff placed vodka bottle next to body without photographer's knowledge, despite timing of resulting action against photographer by survivors of victim, where accident report did not indicate bottle had been moved, high alcohol level was detected in victim's body, and sheriff's department issued statement there were no grounds for suspecting deputy sheriff was party to any wrongdoing. West's Ann.Cal.Gov.Code §§ 911.2, 911.4.

3. Sheriffs and Constables ⇐100

Newspaper photographer was not required to establish "special relationship" with deputy sheriff who placed vodka bottle alongside body at site of accident to have cause of action for negligence, as result of injuries sustained by photographer because of publication of misleading photograph; deputy sheriff's placing vodka bottle alongside body gave rise to duty to warn photographer that accident scene he was photographing was contrived, and duty existed irrespective of whether sheriff was law enforcement officer. West's Ann.Cal.Gov.Code § 810 et seq.

4. Counties ⇐146

Sheriffs and Constables ⇐100

County and sheriff's deputy were not entitled to immunity under Tort Claims Act from newspaper photographer's negligence claim, for injuries sustained as result of publication of photograph of body at accident scene taken after deputy had placed vodka bottle next to body without photographer's knowledge; photographer did not allege interference with financial or commercial interest. West's Ann.Cal.Gov.Code §§ 818.8, 818.8 comment, 822.2.

5. Negligence ⇐11

Necessary elements of cause of action for wilful misconduct are knowledge of peril, conscious failure to act to avoid peril, and knowledge that injury is probable, not merely possible, result of danger.

6. Negligence ⇐11

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See publication Words and Phrases for other judicial constructions and definitions.

7. **Counties** ⇐222
Sheriffs and Constables ⇐137(1)

Newspaper photographer failed to state cause of action against county or deputy sheriff for wilful misconduct, for injuries sustained by photographer as result of publication of photograph of accident scene taken after deputy sheriff placed vodka bottle next to body without photographer's knowledge, where photographer alleged only that harm which followed was at most foreseeable, not probable. West's Ann.Cal.C.C.P. § 430.10(e, f).

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[1] Raymond L. Girard, Arroyo Grande, for plaintiff and appellant.

Ernst and Mattison and Patricia Gomez, San Luis Obispo, for defendants and respondents.

GILBERT, Associate Justice.

A driver is killed in an automobile accident. A deputy sheriff arrives at the scene of the accident and places an empty vodka bottle alongside the body of the victim. A newspaper photographer arrives a short time later, and in the presence of the deputy sheriff photographs the scene without knowing it is contrived. Because of the publication of the misleading photograph, the photographer loses his job, and his reputation as a newspaper photographer suffers. He is sued in an action brought by the survivors of the accident victim. May the photographer then sue the officer and the County for negligence? Yes, because when a law enforcement officer creates a peril which causes a person's injury, the officer has a duty to warn of the peril, and that duty does not depend on the existence of a "special relationship."

The photographer brought an action against the County and the officer for negligence among other things. He appeals from an order of dismissal following the trial court's sustaining demurrers to his causes of action. The trial court found that the photographer filed his claim with the County too late, but even if timely filed, the deputy sheriff owed no duty to the photographer.[525] The court also found that the County and deputy sheriff were immune from liability.

We reverse. Sufficient facts have been alleged to establish a cause of action against the officer and the County, and to raise the issue whether the doctrine of belated discovery tolled the statute of limitations for filing a claim with the County. We also hold that statutory immunity is not applicable to the causes of action pleaded here, although the demurrer to the second cause of action was properly sustained because of uncertainty.

FACTS

We treat all facts pleaded in the complaint as true for the sole purpose of testing the questions of law raised by the demurrer. (*McHugh v. Howard* (1958) 165 Cal.App.2d 169, 174, 331 P.2d 674; 5 Witkin, Cal.Procedure (3d ed. 1985) Pleading, § 898, p. 338.)

Bill Ray Harrison was killed when he was thrown from the automobile he was driving in a single vehicle accident near the town of Nipomo on February 19, 1982. San Luis Obispo County Deputy Sheriff Benjamin Hall and two California Highway Patrol officers were "securing" the area when plaintiff Richard S. Bastian, a newspaper photographer, arrived at the accident scene. Bastian photographed the victim's body as it was being examined by a highway patrol officer. Alongside the body was an unbroken, empty vodka bottle with the label facing up.

Several days later, Bastian's newspaper, the Times Press Recorder, published the photograph of Harrison's body and the vodka bottle. A local storm of protest followed. Members of the public and of Harrison's family were suspicious about the conspicuous position of the vodka bottle.

which remarkably was still intact after the accident. They accused Bastian and the newspaper of staging the photograph. Bastian's relationship with his employer deteriorated as a result of these accusations, and in April 1982 he was fired from his job.

Six months later, in October 1982, Harrison's survivors filed suit against Bastian, the newspaper, a member of the California Highway Patrol who was at the accident scene, and others, claiming damages for intentional infliction of emotional distress. The survivors contend Bastian and the California Highway Patrol officer discovered a vodka bottle lying on the roadway, and with no good faith reason to believe it had any relationship to the accident, deliberately placed it alongside Harrison's body for the purpose of taking the photograph.

On November 11, 1984, Deputy Sheriff Benjamin Hall, who had not been named as a defendant in the survivors' lawsuit, was deposed. He admitted during his deposition that upon arriving at the accident scene he discovered the vodka bottle lying some distance from Harrison's body. He placed it next to the body even though he knew that the bottle was not Harrison's and was unrelated to the accident.

Bastian learned of Hall's testimony on January 7, 1985. Four days later he filed a claim against the County of San Luis Obispo, alleging that Hall's act caused him to lose his job, affected his reputation and stature in his profession, and caused emotional distress and suffering. The County rejected the claim, and Bastian filed suit in superior court.

The complaint alleged that Hall knew Bastian was a newspaper photographer, and that Hall either negligently or intentionally injured Bastian by not warning him that he had altered the accident scene by placing the bottle alongside Harrison's body.

The trial court sustained a demurrer to the complaint on the grounds that Bastian failed to file his claim with the County in a timely manner pursuant to the Tort Claims Act, that Hall owed no duty to Bastian to exercise due care, and that the County and Hall are both immune from liability. The demurrer to the negligence cause of action was sustained without leave to amend, and the demurrer to the cause of action alleging intentional conduct was sustained with leave to amend. Bastian declined to file an amended complaint, and the cause was dismissed. Bastian appeals.

DISCUSSION

1) BELATED DISCOVERY

The Tort Claims Act requires that a claim be filed with the County within 100 days of accrual of the cause of action. (Gov.Code, § 911.2.) A claimant may also apply for leave to file a late claim within one year of accrual. (Gov.Code, § 911.4.) Bastian filed his claim with the County nearly three years after Harrison's accident, which was about two and three-quarters years after he was fired from his job.

Bastian argues that his complaint sufficiently alleges the tolling of the Tort Claims Act limitation statutes under the doctrine of belated discovery because the cause of his injury, negligence of Deputy Sheriff Hall, was unknown until January 7, 1985. Bastian asserts that the trial court erred in sustaining the demurrer on the grounds of an untimely filing against the County, because once properly pleaded, belated discovery is a question of fact.

A cause of action normally accrues at the time of injury. (*Dujardin v. Ventura County Gen. Hosp.* (1977) 69 Cal.App.3d 350, 355, 138 Cal.Rptr. 20.) In some situations, the cause of action does not accrue from the "occurrence of the last essential fact, nor from discovery of the damage to their property ... but rather from the point in time when plaintiffs become aware of defendant's negligence as a cause, or could have become so aware through the exercise of reasonable diligence." (*Leaf v. City of San Mateo* (1980) 104 Cal.App.3d 398, 408, 163 Cal.Rptr. 711.)

[1] In order to raise the issue of belated discovery, the plaintiff must state when the discovery was made, the circumstances behind the discovery, and plead facts showing that the failure to discover was reasonable.

justifiable and not the result of a failure to investigate or act. (*Dujardin v. Ventura County General Hospital, supra*, 69 Cal.App.3d at p. 356, 138 Cal.Rptr. 20.) Once belated discovery is pleaded, the issue of whether plaintiff exercised reasonable diligence in discovering the negligent cause of the injury is a question of fact. (*Leaf v. City of San Mateo, supra*, 104 Cal.App.3d at p. 409, 163 Cal.Rptr. 711.) On appeal from a demurrer, the issue is whether the trial court could determine as a matter of law that failure to discover was due to failure to investigate or to act without diligence. (*Dujardin v. Ventura County General Hospital, supra*, 69 Cal.App.3d at p. 356, 138 Cal.Rptr. 20.)

[2] Bastian's complaint alleges facts sufficient to establish these pleading requirements and so raised the issue of belated discovery.

The test for belated discovery is whether the plaintiff has information of circumstances "'... sufficient to put a reasonable person on inquiry, or has the opportunity to obtain knowledge from sources open to his or her investigation.' [Citations.] If plaintiff believes because of injuries she has suffered that someone has done something wrong, such a fact is sufficient to alert a plaintiff 'to the necessity for investigation and the pursuit of her remedies.' [Citations.]'" (*Snow v. A.H. Robins Co.* (1985) 165 Cal.App.3d 120, 129, 211 Cal.Rptr. 271, quoting *Graham v. Hansen* (1982) 128 Cal.App.3d 965, 972–973, 180 Cal.Rptr. 604.)

Harrison's survivors did not name Hall or the County in their lawsuit, suggesting that they, like Bastian, did not believe Hall moved the vodka bottle. Once he was sued, however, Bastian began to investigate whether someone had tampered with the accident scene. He spoke to the California Highway Patrol officers who attended the accident, and they asserted having "no knowledge whatsoever" that the bottle had been moved. Bastian unsuccessfully attempted to speak to Hall, who was uncooperative. Investigators for the newspaper and for the State were also rebuffed by Hall and by the sheriff's department. In mid 1984, the sheriff's office issued a statement asserting that there were no grounds for suspecting Hall was "a party to any wrongdoing."

Bastian, therefore, contends it was reasonable for him to conclude that the bottle had not been moved. Bastian knew that the California Highway Patrol accident report made no mention of the bottle being moved. That, combined with the high blood alcohol level detected in the victim's body, helped dispel any suspicion that the vodka bottle was not part of the accident scene.

It is true the survivors' lawsuit put Bastian on notice of the possibility that someone had moved the vodka bottle, and Bastian had reason to believe Deputy Sheriff Hall might know something about it. The test, however, for diligence is not whether Bastian was successful in his timely investigation of the cause of his injury, but whether his efforts were reasonable. (*Leaf v. City of San Mateo, supra*, 104 Cal.App.3d at p. 408, 163 Cal.Rptr. 711.)

The facts he asserts in his complaint support the conclusion that the information available to Bastian as a result of his investigation led him to the reasonable conclusion that the accident scene was undisturbed. The complaint would be subject to demurrer if the facts alleged in it would lead a reasonable mind to conclude that Bastian's investigation lacked diligence. (*Snow v. A.H. Robbins Co., supra*, 165 Cal.App.3d 120, 129, 211 Cal.Rptr. 271.) That is not the case here.

The County argues that Bastian, in exercising due diligence, should have subpoenaed Hall to testify under oath at an earlier time. The County would thus penalize Bastian for failing to get Hall to speak to him, and for believing the statement ultimately issued by the sheriff's department that Hall did not take part in any wrongdoing. Apparently Bastian did not succumb to such cynicism. The statement understandably diverted his attention away from Hall.

The survivors' lawsuit gave Bastian a reason to investigate, but it did not put him

on notice that he had a cause of action against the County. To find as a matter of law that Bastian was not diligent because he was unsuccessful in his efforts to discover the truth, would encourage other plaintiffs to file [1529] suits against government entities even though a diligent investigation fails to uncover facts that give rise to a cause of action. The belated discovery rule protects the plaintiff, whose cause of action is preserved when, despite diligent investigation, he is blamelessly ignorant of the cause of his injuries. It also protects the defendant, who is spared precipitous litigation. (See *Leaf v. City of San Mateo*, *supra*, 104 Cal.App.3d at pp. 408–409, 163 Cal.Rptr. 711.)

DUTY

[3] The trial court also sustained the demurrer to the negligence cause of action because it found that Hall owed no duty of due care to Bastian. The County argues that in order for Hall, a deputy sheriff, to owe a duty to Bastian there must be a "special relationship" between the two. We disagree.

It is true that in many situations, a person is "not liable in tort merely for failure to take affirmative action to assist or protect another unless there is some relationship between them which gives rise to a duty to act. [Citations.]" (*Williams v. State of California* (1983) 34 Cal.3d 18, 23, 192 Cal.Rptr. 233, 664 P.2d 137.) Such a relationship exists when a law enforcement officer's promise or conduct induces detrimental reliance by the plaintiff. (*Id.* at p. 25, 192 Cal.Rptr. 233, 664 P.2d 137.)

The duty which Bastian claims was owed him by Hall does not require such a "special relationship." Bastian was not the victim of a crime or accident who alleges additional injuries because he relied on Hall to protect or assist him. (See *Mann v. State of California* (1977) 70 Cal.App.3d 773, 139 Cal.Rptr. 82; *Williams v. State of California*, *supra*, 34 Cal.3d 18, 192 Cal.Rptr. 233, 664 P.2d 137.) Bastian does not assert that Hall, as a police officer, had a duty to him to properly gather evidence at the accident scene (see *Williams*, *supra*, at p. 24, fn. 4, and p. 27, 192 Cal.Rptr. 233, 664 P.2d 137) or that Hall in any other way assumed a duty toward him greater than the duty he owed to any other member of the public (see *Davidson v. City of Westminster* (1982) 32 Cal.3d 197, 208–209, 185 Cal.Rptr. 252, 649 P.2d 894). Nor does he assert this is a case of nonfeasance of a discretionary act by a public officer. (See *Sava v. Fuller* (1967) 249 Cal.App.2d 281, 290, 57 Cal.Rptr. 312.)

The duty here arose because Hall created a peril by placing the vodka bottle alongside the body. By this act, Hall had a duty to warn Bastian that the accident scene he was photographing was contrived, and this duty existed irrespective of whether or not Hall was a law enforcement officer. Bastian alleges it was reasonably foreseeable to Hall that publication of a [1530] photograph of Harrison's body with the vodka bottle deliberately placed next to it would injure Bastian's reputation and employment status and would subject him to possible civil liability to Harrison's survivors. This question is one a jury may decide.

One who creates a foreseeable danger not readily discoverable by the endangered persons has the duty to warn them of the potential peril. (*Johnson v. State of California* (1968) 69 Cal.2d 782, 786, 73 Cal.Rptr. 240, 447 P.2d 352; *City of Sacramento v. Superior Court* (1982) 131 Cal.App.3d 395, 405, 182 Cal.Rptr. 443; Rest.2d Torts, § 21.) In this situation, a special relationship is not required to impose the duty. (See *Davidson v. City of Westminster*, *supra*, 32 Cal.3d at pp. 207–08, 185 Cal.Rptr. 252, 649 P.2d 894; *Williams v. State of California*, *supra*, 34 Cal.3d at p. 27, 192 Cal.Rptr. 233, 664 P.2d 137; *Sullivan v. City of Sacramento* (1987) 190 Cal.App.3d 1070, 1077, 235 Cal.Rptr. 844.)

The County's assertion that Hall had no duty to warn Bastian begs the essential question "'... "... whether the plaintiff's interests are entitled to legal protection against the defendant's conduct.... [Duty] is not sacrosanct itself, but only an expression of the sum total of those considerations of policy which lead the law to say

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that the particular plaintiff is entitled to protection." (Prosser, Law of Torts [3d ed. 1964] at pp. 332–333.)' " (*Tarasoff v. Regents of University of California* (1976) 17 Cal.3d 425, 434, 131 Cal.Rptr. 14, 551 P.2d 334.)

The question whether one owes a duty to another must be decided on a case-by-case basis, governed by the general rule that "all persons are required to use ordinary care to prevent others from being injured as the result of their conduct." (*Weirum v. RKO General, Inc.* (1975) 15 Cal.3d 40, 46, 123 Cal.Rptr. 468, 539 P.2d 36.) A police officer is not insulated from the basic duties owed everyone. (*Williams v. State of California, supra*, 34 Cal.3d at p. 24, fn. 3, 192 Cal.Rptr. 233, 664 P.2d 137 citing *Warren v. District of Columbia* (D.C.App.1981) 444 A.2d 1, 4–9.) A duty may be based on the "general character" of the activity engaged in by the defendant. (*J'Aire Corp. v. Gregory* (1979) 24 Cal.3d 799, 803, 157 Cal.Rptr. 407, 598 P.2d 60.)

In determining whether a duty of due care exists in a particular case, the pertinent factors to consider include the foreseeability of harm to the plaintiff, the degree of certainty that the plaintiff suffered injury, the closeness of the connection between defendant's acts and the harm suffered by plaintiff, the moral blame attached to the defendant's conduct, and the policy of preventing future harm. (*Sullivan v. City of Sacramento, supra*, 190 Cal.App.3d at p. 1075, 235 Cal.Rptr. 834; *Rowland v. Christian* (1968) 69 Cal.2d 108, 113, 70 Cal.Rptr. 97, 443 P.2d 561.)

[15] It is difficult to imagine an acceptable excuse for Hall's intentionally planting the vodka bottle alongside Harrison's body, or for keeping quiet about his conduct once the California Highway Patrol officers and news photographer arrived at the accident scene. Perhaps Hall hoped to communicate a message about the consequences of drinking and driving. If so, his methods apparently caused injury to innocent people. A trier of fact could find that it was foreseeable that harmful consequences could flow from this conduct.

The County argues that the peril which endangered Bastian was not Hall's planting of the vodka bottle or his failure to warn, but instead was the decision to publish the photograph and the public reaction to it. Thus, the County conveniently starts the chain of causation with the publication of the photograph. Facts relating to the issue of causation is a job properly left to the trier of fact. (*Maupin v. Widling* (1987) 192 Cal.App.3d 568, 572, 192 Cal.App.3d 568, 237 Cal.Rptr. 521.) We cannot say as a matter of law that Halls actions at the accident scene did not set in motion a chain of events which culminated in Bastian's asserted injuries.

Also unpersuasive is the County's argument that because no special relationship existed between Bastian and Hall, the complaint should be read as one alleging misrepresentation or concealment pursuant to Civil Code section 1710.[1] Hall's alleged negligent failure to warn is not pleaded as a matter of deceit, but as a purported breach of a duty owed Bastian. We have already stated that no special relationship need exist where the defendant created the peril which caused the plaintiff's injury. Misrepresentation or concealment is commonly a distinct cause of action only where the relationship between the parties is financial or commercial. (See *Johnson v. State of California, supra*, 69 Cal.2d at p. 800, 73 Cal.Rptr. 240, 447 P.2d 352; Prosser & Keeton, Torts (5th ed. 1984) § 105, p. 726.)

The County also points out that Bastian alleges he relied on the "custom, usage and practice" among law enforcement officers to maintain the accident scene in an undisturbed condition, but that he failed to plead this custom existed for the benefit of the press. Such custom is not intended to benefit the press or private plaintiffs in personal injury actions. (See *Williams v. State of California, supra*, 34 Cal.3d at p. 24, fn. 4, 192 Cal.Rptr. 233, 664 P.2d 137.)

1. Civil Code section 1710 in relevant part states:
"A deceit ... is either:
"...
"3. The suppression of a fact, by one who is bound to disclose it, or who gives information of other facts which are likely to mislead for want of communication...."

The allegation is not fatal to Bastian's cause of action because Hall had a duty to [532]warn. Nor is the allegation of the custom irrelevant to the cause of action. Such facts might go to the question of Bastian's own reasonableness in publishing the photograph.

The allegations in a complaint must be construed liberally with a view to substantial justice between the parties. (Code Civ. Proc., § 452; 1 Cal.Civil Procedure Before Trial (Cont.Ed.Bar 1977) § 9.43, p. 378.) If there is "a reasonable possibility that a defect in the complaint can be cured by amendment or that the pleading liberally construed can state a cause of action, a demurrer should not be sustained without leave to amend. [Citations.]" (*Minsky v. City of Los Angeles* (1974) 11 Cal.3d 113, 118, 113 Cal.Rptr. 102, 520 P.2d 726.)

IMMUNITY

Finally, we hold that the trial court erred in finding that Hall and the County are immunized from liability by Government Code sections 818.8 and 822.2. The demurrer to the second cause of action is sustained, however, for failing to state a cause of action.

The second cause of action alleged that Hall "wilfully and deliberately" placed the bottle alongside the body, that he intended to "[misrepresent] the truth" of the accident scene for the purpose of injuring Bastian, and that Hall is guilty of oppression, fraud and malice.

Without objection by Bastian, the trial court interpreted this cause of action as one for intentional fraud, but found the pleading deficient for not alleging intentional concealment. The court found that Government Code sections 818.8 and 822.2 immunized Hall and the County from liability.

Government Code sections 818.8 and 822.2 grant immunity to public employees and to public entities for liability for injuries caused by misrepresentations by the employee. The court sustained the demurrer to the second cause of action with leave to amend so that Bastian may allege actual fraud, corruption, or malice so as to fall within the exception to the Government Code section 822.2 immunity.[2]

[4] [533]Section 818.8 immunizes the County from liability for misrepresentation or deceit, a "tort distinct from the general milieu of negligent and intentional wrongs, [and which] applies to interferences with financial or commercial interest." (*Johnson v. State of California*, *supra*, 69 Cal. 2d at p. 800, 73 Cal.Rptr. 240, 447 P.2d 352; Van Alstyne, Cal.Government Tort Liability Practice (Cont.Ed.Bar 1980) § 2.78, pp. 166–169.) Government Code section 822.2 is a counterpart to section 818.8 (see Legislative Com. com.—Senate to Gov.Code, § 818.8, West's Ann.Gov.Code (1980) p. 220) and the restriction pronounced in *Johnson* applies to it as well. These immunities therefore do not protect Hall or the County from the first cause of action for negligence.

In using the term "misrepresentation" in the second cause of action, Bastian may have attempted to plead an intentional wrong. He did not, however, intend to allege an interference with a financial or commercial interest. Thus Government Code sections 818.8 and 822.2 do not apply here.

Yet the trial court's confusion over the second cause of action was reasonable. It is unclear precisely what cause of action Bastian intended to plead. On appeal, Bastian claims that the second cause of action is an alternative to the negligence action, alleging Hall's conduct was deliberate and wilful.

[5] Three elements are necessary for a cause of action for wilful misconduct.

2. Government Code section 818.8 is broader than section 822.2. Section 818.8 states that "[a] public entity is not liable for an injury caused by misrepresentation ... of the public entity, whether or not such misrepresentation be negligent or intentional."

Government Code section 822.2 states that "[a] public employee acting in the scope of his employment is not liable for an injury caused by his misrepresentation, whether or not such misrepresentation be negligent or intentional, unless he is guilty of actual fraud, corruption or actual malice."

These are knowledge of the peril, conscious failure to act to avoid the peril, and knowledge that injury is a probable, not merely a possible, result of the danger. (*Bains v. Western Pacific R.R. Co.* (1976) 56 Cal.App.3d 902, 905, 128 Cal.Rptr. 778; see also *Ewing v. Cloverleaf Bowl* (1978) 20 Cal.3d 389, 402, 143 Cal.Rptr. 13, 572 P.2d 1155.)

[6, 7] A "probable" consequence is one more likely to follow its cause than not, or a danger from which harm is likely or probable to result. (*Bains v. Western Pacific R.R. Co., supra*, 56 Cal.App.3d at p. 907, 128 Cal.Rptr. 778.) Here, Bastian alleges only that the harm which followed from Hall's conduct was at most foreseeable, not probable.

The second cause of action is therefore uncertain and ambiguous and fails to state a cause of action. (Code Civ.Proc., § 430.10, subds. (e) and (f).) It is at most a variation on the negligence theme stated in the first cause of action. The demurrer was properly sustained, even though on an incorrect ground. (*E.L. White, Inc. v. City of Huntington Beach* (1978) 21 Cal.3d 497, 511, 146 Cal.Rptr. 614, 579 P.2d 505.) By declining to avail himself of leave to amend the second cause of action, Bastian must stand on his pleading, and if it is objectionable on any ground, the judgment of dismissal must be affirmed. (*Richard P. v. Vista Del Mar Child Care Services* (1980) 106 Cal.App.3d 860, 865, 165 Cal.Rptr. 370.)

The judgment of dismissal as to the second cause of action is affirmed. Because we find that Bastian's allegations were sufficient to plead belated discovery and Hall's duty to warn, the judgment of dismissal of the first cause of action is reversed, with directions to the trial court to overrule the demurrer and to require the County to answer the complaint.

Respondent to bear costs on appeal.

STONE, P.J., and ABBE, J., concur.

199 Cal.App.3d 543

The PEOPLE of the State of California, Plaintiff and Respondent.

v.

Andrew JONES, Defendant and Appellant.

No. BO26530.

Court of Appeal, Second District, Division 7.

March 10, 1988.

Defendant was convicted in the Superior Court, Los Angeles County, Norman W. Gordon, J., of setting fire to inhabited structure, and defendant appealed. The Court of Appeal, Second District, Johnson, J., held that: (1) inhabited structure is one actually being used as dwelling at time of offense of setting fire to inhabited structure, regardless of possessory rights of inhabitant, and (2) there was insufficient evidence to prove that house was actually being used for dwelling purposes at time defendant set fire to it.

Judgment modified, affirmed as modified, and remanded for resentencing.

1. Arson ⇐8

That former tenants had been evicted from premises did not establish they were no longer using premises as "dwelling" within meaning of statute making it offense to set fire to "inhabited" structure.

See publication Words and Phrases for other judicial constructions and definitions.

2. Arson ⇐8

That evicted tenants had no possessory right to premises did not establish they were no longer using premises as dwelling within meaning of statute making it offense to set fire to inhabited structure; question was whether house was inhabited, not whether inhabitants had legal right to

EXHIBIT G

WEBSTER'S Ninth New Collegiate Dictionary

[redacted] (2) : one round in a poker game [redacted] : POTSHOT 5 : POTBELLY 6 : RUN [redacted] it to ~⟩ 7 *Brit* : a shot in snooker in [redacted] MARIJUANA
[redacted] 6) 1 a : to place in a pot b : to pack [redacted] meat) in a sealed pot, jar, or can [redacted] a potshot 3 : to make or shape [redacted] bed (as electronic components) in [redacted] protective material (as plastic) ~ *vi*

[redacted] *potabilis*, fr. L *potare* to drink, akin to L [redacted] 572) : suitable for drinking — [redacted] \ˌpōt-ə-bəl-nəs\ *n*
[redacted] at [redacted] suitable for drinking; *esp* : an alco-

[redacted] F. [redacted] potage] (1567) : a thick soup
[redacted] of fermented wort left in a still after the [redacted] hol and used for feeding swine
[redacted] ashes] (1648) 1 a : potassium car- [redacted] POTASSIUM HYDROXIDE 2 : potas- [redacted] as used in agriculture or industry [redacted] 8) [redacted] relating to, or containing potas-

[redacted] *often attrib* [NL, fr. *potassa* potash, fr E [redacted] white soft light low-melting univalent me- [redacted] group that occurs abundantly in na- [redacted] — see ELEMENT table
[redacted] or relating to a method of dating [redacted] materials based on the radioactive decay [redacted] s taken place in a specimen
[redacted] a crystalline salt KBr with a saline taste [redacted] in photography
[redacted] 5) [redacted] white salt K_2CO_3 that forms a [redacted] used in making glass and soap
[redacted] a crystalline salt $KClO_3$ that is used as an [redacted] fireworks, and explosives
[redacted] a crystalline salt KCl occurring as a min- [redacted] used as a fertilizer
[redacted] : a [redacted] poisonous crystalline salt KCN [redacted] from ore
[redacted] 5) : [redacted] soluble salt $K_2Cr_2O_7$ forming large [redacted] dyeing, in photography, and as an

[redacted]) : a white deliquescent solid KOH that [redacted] heat to form a strongly alkaline and caus- [redacted] making soap and as a reagent
[redacted] a crystalline salt KNO_3 that occurs as a [redacted] soils, is a strong oxidizer, and is used [redacted] a fertilizer, and in medicine
[redacted] 869) : a dark purple salt $KMnO_4$ used as

[redacted] : any of various phosphates of potassium [redacted] sodium [redacted] tes
[redacted] a white crystalline compound K_2SO_4 used

[redacted] : *potacioun*, fr. MF *potation*, fr. L *potation-* [redacted] *potatus*, pp. of *potare* to drink — more at [redacted] alcoholic drink or brew 2 : the act or an [redacted] drinking; *also* : the portion taken in one such

[redacted] *n, pl* -toes *often attrib* [Sp *batata*, fr. [redacted] TATO 1 a : an erect American herb (*Sola-* [redacted] shade family widely cultivated as a vegeta- [redacted] chy tuber of a potato — called also *Irish*

[redacted] POTATO BEETLE
[redacted] several destructive fungus diseases of the

[redacted] POTATO BEETLE
[redacted] slice of white potato that has been fried [redacted] nd
[redacted] : a small green white-spotted leafhopper [redacted] ern and southern U.S. that is a serious pest [redacted] on the potato
[redacted] ous insect (*Paratrioza cockerelli*) that [redacted] plants and transmits a virus disease
[redacted] worm\ *n* (1920) : a grayish brown [redacted] of the family Gelechiidae) whose larva [redacted] the stems esp. of potato and tobacco [redacted] into potato tubers
[redacted] *n, pl* pot-au-feu [F, lit., pot on the [redacted] dinner of meat and vegetables
[redacted] (1657) : having a potbelly [redacted] stove with a rounded or bulging body) —

[redacted] 17 [redacted] 1 : an enlarged, swollen, or pro- [redacted] STOVE
[redacted] produce potboilers
[redacted] : a usu. inferior work (as of art or litera- [redacted] profit
[redacted] oy who serves drinks in a tavern
[redacted] CHEESE
[redacted] n, [redacted] -tyēn, -'tēn\ *n* [IrGael *poitín*] [redacted] illicitly in Ireland
[redacted] *n* [Grigori *Potëmkin*, who suppo- [redacted] villages along a route Catherine the Great [redacted] an impressive facade or show designed to [redacted] condition
[redacted] : [redacted] ENCY
[redacted] 539) 1 a : the quality or state of [redacted] : the ability or capacity to achieve [redacted] 2 : POTENTIALITY 1
[redacted] rnt-, potens, fr. prp. of (assumed) L *potere* to [redacted] able; akin to Goth brūth*faths* bridegroom,

Gk *posis* husband, Skt *pati* master] (ca. 1500) 1 : having or wielding force, authority, or influence : POWERFUL 2 : achieving or bringing about a particular result : EFFECTIVE 3 a : chemically or medicinally effective ⟨a ~ vaccine⟩ b : rich in a characteristic constituent ⟨~ tea⟩ 4 : able to copulate — usu. used of the male — **po·tent·ly** *adv*
potent *adj* [obs. E *potent* crutch] *of a heraldic cross* (1610) : having flat bars across the ends of the arms — see CROSS illustration
po·ten·tate \ˈpōt-ᵊn-ˌtāt\ *n* (15c) : RULER, SOVEREIGN *broadly* : one who wields great power or sway
po·ten·tial \pə-ˈten-chəl\ *adj* [ME, fr. LL *potentialis*, fr. *potentia* potentiality, fr. L, power, fr. *potent-, potens*] (14c) 1 : existing in possibility : capable of development into actuality ⟨~ benefits⟩ 2 : expressing possibility; *specif* : of, relating to, or constituting a verb phrase expressing possibility, liberty, or power by the use of an auxiliary with the infinitive of the verb (as in "it may rain") *syn* see LATENT — **po·ten·tial·ly** \-ˈtench-(ə-)lē\ *adv*
potential *n* (1817) 1 a : something that can develop or become actual ⟨a ~ for violence⟩ b : PROMISE 2 2 a : any of various functions from which the intensity or the velocity at any point in a field may be readily calculated b : the work required to move a unit positive charge from a reference point (as at infinity) to a point in question c : POTENTIAL DIFFERENCE
potential difference *n* (1896) : the voltage difference between two points that represents the work involved or the energy released in the transfer of a unit quantity of electricity from one point to the other
potential energy *n* (1853) : the energy that a piece of matter has because of its position or because of the arrangement of parts
po·ten·ti·al·i·ty \pə-ˌten-chē-ˈal-ət-ē\ *n, pl* -ties (1625) 1 : the ability to develop or come into existence 2 : POTENTIAL 1
po·ten·ti·ate \pə-ˈten-chē-ˌāt\ *vt* -at·ed; -at·ing (1817) : to make effective or active or more effective or more active; *also* : to augment the activity of (as a drug) synergistically — **po·ten·ti·a·tion** \-ˌten-chē-ˈā-shən\ *n* — **po·ten·ti·a·tor** \-ˈten-chē-ˌāt-ər\ *n*
po·ten·til·la \ˌpōt-ᵊn-ˈtil-ə\ *n* [NL, fr. ML, garden heliotrope, fr. L *potent-, potens*] (1548) : any of a large genus (*Potentilla*) of herbs and shrubs (as a cinquefoil) of the rose family that have opposite pinnate or palmate leaves
po·ten·ti·om·e·ter \pə-ˌten-chē-ˈäm-ət-ər\ *n* [ISV *potential* + -o- + *-meter*] (1881) 1 : an instrument for measuring electromotive forces 2 : VOLTAGE DIVIDER — **po·ten·tio·met·ric** \-ch(ē-)ə-ˈme-trik\ *adj*
pot·ful \ˈpät-ˌfu̇l\ *n* (14c) 1 : as much or as many as a pot will hold 2 : a large amount ⟨make a ~ of money —John Corry⟩
pot hat *n* (1798) : a hat with a stiff crown; *esp* : DERBY
poth·er \ˈpät͟h-ər\ *n* [origin unknown] (1591) 1 a : confused or fidgety flurry or activity : COMMOTION b : agitated talk or controversy usu. over a trivial matter 2 : a choking cloud of dust or smoke 3 : mental turmoil
pother *vb* **poth·ered; poth·er·ing** \-(ə-)riŋ\ *vt* (1692) : to put into a pother ~ *vi* : to be in a pother
pot·herb \ˈpät-ˌ(h)ərb\ *n* (1538) : an herb whose leaves or stems are cooked for use as greens; *also* : one (as mint) used to season food
pot holder *n* (1944) : a small cloth pad used for handling hot cooking utensils
pot·hole \ˈpät-ˌhōl\ *n* (1826) 1 a : a circular hole formed in the rocky bed of a river by the grinding action of stones or gravel whirled round by the water b : a sizable rounded often water-filled depression in land 2 : a pot-shaped hole in a road surface — **pot·holed** \-ˌhōld\ *adj*
pot·hook \-ˌhu̇k\ *n* (15c) 1 : an S-shaped hook for hanging pots and kettles over an open fire 2 : a written character resembling a pothook
pot·house \-ˌhau̇s\ *n* (1724) : TAVERN 1
pot·hunt·er \-ˌhənt-ər\ *n* (1781) 1 : one who hunts game for food 2 : an amateur archaeologist — **pot·hunt·ing** \-iŋ\ *n*
po·tion \ˈpō-shən\ *n* [ME *pocioun*, fr. MF *potion*, fr. L *potion-, potio* drink, potion, fr. *potus*, pp. of *potare* to drink — more at POTABLE] (14c) : a mixture of liquids (as liquor or medicine)
pot·latch \ˈpät-ˌlach\ *vt* (1847) 1 : to hold or give a potlatch for (as a tribe or group) 2 : to give (as a gift) esp. with the expectation of a gift in return ~ *vi* : to hold or give a potlatch
potlatch *n* [Chinook Jargon, fr. Nootka *patshatl* giving] (ca. 1861) 1 : a ceremonial feast of the Indians of the northwest coast marked by the host's lavish distribution of gifts requiring reciprocation 2 *Northwest* : a social event or celebration
pot·line \ˈpät-ˌlīn\ *n* (1944) : a row of electrolytic cells used in the production of aluminum
pot liquor *n* (1744) : the liquid left in a pot after cooking
pot·luck \ˈpät-ˈlək\ *n* (1592) 1 : the regular meal available to a guest for whom no special preparations have been made 2 : whatever is offered or available in given circumstances or at a given time ⟨without reservations you have to take ~ on hotel accommodations⟩
pot marigold *n* (1814) : a calendula (*Calendula officinalis*) grown esp. for ornament
po·tom·e·ter \pō-ˈtäm-ət-ər\ *n* [Gk *potos* drink (akin to Gk *pinein* to drink) + E *-meter* — more at POTABLE] (1884) : an apparatus for measuring the rate of transpiration in a plant by determining the amount of water absorbed
pot·pie \ˈpät-ˈpī\ *n* (ca. 1792) : pastry-covered meat and vegetables cooked in a deep dish
pot·pour·ri \ˌpō-pu̇-ˈrē\ *n* [F *pot pourri*, lit., rotten pot] (1749) 1 : a mixture of flowers, herbs, and spices that is usu. kept in a jar and used for scent 2 : a miscellaneous collection : MEDLEY ⟨a ~ of the best songs and sketches —*Current Biog.*⟩
pot roast *n* (1881) : a piece of beef cooked by braising usu. on top of the stove — see BEEF illustration
pot·sherd \ˈpät-ˌshərd\ *n* [ME *pot-sherd*, fr. *pot* + *sherd* shard] (14c) : a pottery fragment
pot·shot \-ˌshät\ *n* [fr. the notion that such a shot is unsportsmanlike and worthy only of one whose object is to fill his cooking pot] (1858) 1 : a shot taken from ambush or at a random or easy target 2 : a critical remark made in a random or sporadic manner
potshot *vb* **potshot; pot·shot·ting** *vt* (1918) : to take a potshot ~ *vt* : to attack or shoot with a potshot
pot still *n* (1799) : a still used esp. in the distillation of Irish grain whiskey and Scotch malt whiskey in which the heat of the fire is applied directly to the pot containing the mash

pot·stone \ˈpät-ˌstōn\ *n* (1771) : a more or less impure steatite used esp. in prehistoric times to make cooking vessels
pot·tage \ˈpät-ij\ *n* [ME *potage*, fr. OF, fr. *pot* pot, of Gmc origin; akin to OE *pott* pot] (13c) : a thick soup of vegetables or vegetables and meat
pot·ted \ˈpät-əd\ *adj* (1849) 1 : planted or grown in a pot 2 *chiefly Brit* : briefly and superficially summarized ⟨a dull, pedestrian ~ history —*Times Lit. Supp.*⟩ 3 *slang* : DRUNK
¹pot·ter \ˈpät-ər\ *n* (12c) : one that makes pottery
²potter *vi* [prob. freq. of E dial. *pote* to poke] (1829) : PUTTER — **pot·ter·er** \ˈpät-ər-ər\ *n* — **pot·ter·ing·ly** \ˈpät-ə-riŋ-lē\ *adv*
potter's clay *n* (1616) : a plastic clay suitable for making pottery — called also *potter's earth*
potter's field *n* [fr. the mention in Mt 27:7 of the purchase of a potter's field for use as a graveyard] (1526) : a public burial place for paupers, unknown persons, and criminals
potter's wheel *n* (ca. 1727) : a usu. horizontal disk revolving on a vertical spindle and carrying the clay being shaped by a potter

potter's wheel

pot·tery \ˈpät-ə-rē\ *n, pl* -ter·ies (15c) 1 : a place where clayware is made and fired 2 a : the art or craft of the potter b : the manufacture of clayware 3 : CLAYWARE; *esp* : earthenware as distinguished on the one hand from porcelain and stoneware and on the other from brick and tile
pot·tle \ˈpät-ᵊl\ *n* [ME *potel*, fr. MF, fr. *pot*] (14c) 1 *archaic* : a measure equal to a half gallon 2 : a container holding a half gallon (1.9 liters)
pot·to \ˈpät-(ˌ)ō\ *n, pl* **pottos** [of Niger-Congo origin; akin to Wolof *pata*, a tailless monkey] (1705) : any of several African primates (genera *Arctocebus* and *Perodicticus*); *esp* : a West African primate (*P. potto*) that has a vestigial index finger and tail
Pott's disease \ˈpäts-\ *n* [Percivall *Pott* †1788 Eng. surgeon] (1835) : tuberculosis of the spine with destruction of bone resulting in curvature of the spine
¹pot·ty \ˈpät-ē\ *adj* **pot·ti·er; -est** [prob. fr. ¹*pot*] (1860) 1 *Brit* : TRIVIAL, INSIGNIFICANT 2 *chiefly Brit* : slightly crazy 3 : SNOBBISH
²potty *n, pl* **potties** (ca. 1942) : a small child's pot for urination or defecation
pot·ty–chair \-ˌche(ə)r, -ˌcha(ə)r\ *n* (1943) : a child's chair having an open seat under which a receptacle is placed for toilet training
¹pouch \ˈpau̇ch\ *n* [ME *pouche*, fr. MF, of Gmc origin; akin to OE *pocca* bag] (14c) 1 : a small drawstring bag carried on the person 2 a : a bag of small or moderate size for storing or transporting goods; *specif* : a lockable bag for first-class mail or diplomatic dispatches b *chiefly Scot* : POCKET c : PACKET 3 : an anatomical structure resembling a pouch — **pouched** \ˈpau̇cht\ *adj*
²pouch *vt* (1566) 1 : to put or form into or as if into a pouch 2 : to transmit by pouch ~ *vi* 1 : to bulge or stick out or down in a manner suggesting a pouch ⟨~*ing* cheeks⟩ 2 : to transmit mail or dispatches by pouch
pouchy \ˈpau̇-chē\ *adj* **pouch·i·er; -est** (1828) : having, tending to have, or resembling a pouch ⟨~ insomniac eyes —Graham Greene⟩
pouf *also* **pouff** *or* **pouffe** \ˈpüf\ *n* [F *pouf*, something inflated, of imit. origin] (1893) 1 : PUFF 3b(3) 2 : a bouffant or fluffy part of a garment or accessory 3 : OTTOMAN — **poufed** *or* **pouffed** \ˈpüft\ *adj*
pouil·ly–fuis·sé \pü-ˈyē-fwē-ˈsā\ *n* [Solutre-*Pouilly* and *Fuissé*, Fr villages] (ca. 1929) : a dry white Burgundy
pou·larde *also* **pou·lard** \pü-ˈlärd\ *n* [F *poularde*] (1732) : a pullet sterilized to produce fattening
poult \ˈpōlt\ *n* [ME *polet*, *pulte* young fowl — more at PULLET] (15c) : a young fowl; *esp* : a young turkey
poul·ter·er \ˈpōl-tər-ər\ *n* [alter. of ME *pulter*, fr. MF *pouletier*] (1534) : one that deals in poultry
poul·ter's measure \ˈpōl-tərz-\ *n* [obs. *poulter* poulterer, fr. ME *pulter*; fr. the former practice of occas. giving one or two extra when counting eggs by dozens] (1576) : a meter in which lines of 12 and 14 syllables alternate
¹poul·tice \ˈpōl-təs\ *n* [ML *pultes* pap, fr. L, pl. of *pult-, puls* porridge] (ca. 1542) : a soft usu. heated and sometimes medicated mass spread on cloth and applied to sores or other lesions
²poultice *vt* -ticed; -tic·ing (1730) : to apply a poultice to
poul·try \ˈpōl-trē\ *n* [ME *pultrie*, fr. MF *pouleterie*, fr OF, fr *pouletier* poulterer, fr. *poulet* — more at PULLET] (14c) : domesticated birds kept for eggs or meat
poul·try·man \-mən\ *n* (ca. 1573) 1 : one who raises domestic fowls esp. on a commercial scale for the production of eggs and meat 2 : one who deals in poultry or poultry products
¹pounce \ˈpau̇n(t)s\ *n* [ME, talon] (15c) : the claw of a bird of prey
²pounce *vi* **pounced; pounc·ing** (1744) 1 a : to swoop upon and seize something with or as if with talons b : to seize upon and make capital of something (as another's blunder or an opportunity) 2 : to make a sudden assault or approach
³pounce *n* (1841) : the act of pouncing
⁴pounce *vt* **pounced; pounc·ing** [MF *poncer*, fr. *ponce*] (1580) : to dust, rub, finish, or stencil with pounce
⁵pounce *n* [F *ponce* pumice, fr. MF, fr. LL *pomic-, pomex*, alter. of L *pumic-, pumex* — more at FOAM] (1706) 1 : a fine powder formerly used to prevent ink from spreading 2 : a fine powder for making stenciled patterns
poun·cet–box \ˈpau̇n(t)-sət-\ *n* [prob. fr. (assumed) MF *poncette* small pounce bag] *archaic* (1596) : a box for carrying pomander

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\ə\ abut \ᵊ\ kitten, F table \ər\ further \a\ ash \ā\ ace \ä\ cot, cart \au̇\ out \ch\ chin \e\ bet \ē\ easy \g\ go \i\ hit \ī\ ice \j\ job \ŋ\ sing \ō\ go \ȯ\ law \ȯi\ boy \th\ thin \t͟h\ the \ü\ loot \u̇\ foot \y\ yet \zh\ vision \à, k, ⁿ, œ, ᵫ, ue, ʸ\ see Guide to Pronunciation

EXHIBIT H

WEBSTER'S Ninth New Collegiate Dictionary

Gk posis husband, Skt pati master] (ca 1500) 1 : having or wielding force, authority, or influence : POWERFUL 2 : achieving or bringing about a particular result : EFFECTIVE 3 a : chemically or medicinally effective ⟨a ~ vaccine⟩ b : rich in a characteristic constituent ⟨~ tea⟩ 4 : able to copulate — usu. used of the male — **po·tent·ly** *adv*

potent *adj* [obs. E *potent* crutch] *of a heraldic cross* (1610) : having flat bars across the ends of the arms — see CROSS illustration

po·ten·tate \'pōt-ᵊn-,tāt\ *n* (15c) : RULER, SOVEREIGN; *broadly* : one who wields great power or sway

po·ten·tial \pə-'ten-chəl\ *adj* [ME, fr. LL *potentialis*, fr. *potentia* potentiality, fr. L, power, fr. *potent-, potens*] (14c) 1 : existing in possibility : capable of development into actuality ⟨~ benefits⟩ 2 : expressing possibility; *specif* : of, relating to, or constituting a verb phrase expressing possibility, liberty, or power by the use of an auxiliary with the infinitive of the verb (as in "it may rain") *syn* see LATENT — **po·ten·tial·ly** \-'tench-(ə-)lē\ *adv*

potential *n* (1817) 1 a : something that can develop or become actual ⟨a ~ for violence⟩ b : PROMISE 2 2 a : any of various functions from which the intensity or the velocity at any point in a field may be readily calculated b : the work required to move a unit positive charge from a reference point (as at infinity) to a point in question c : POTENTIAL DIFFERENCE

potential difference *n* (1896) : the voltage difference between two points that represents the work involved or the energy released in the transfer of a unit quantity of electricity from one point to the other

potential energy *n* (1853) : the energy that a piece of matter has because of its position or because of the arrangement of parts

po·ten·ti·al·i·ty \pə-,ten-chē-'al-ət-ē\ *n, pl* **-ties** (1625) 1 : the ability to develop or come into existence 2 : POTENTIAL 1

po·ten·ti·ate \pə-'ten-chē-,āt\ *vt* **-at·ed; -at·ing** (1817) : to make effective or active or more effective or more active; *also* : to augment the activity of (as a drug) synergistically — **po·ten·ti·a·tion** \-,ten-chē-'ā-shən\ *n* — **po·ten·ti·a·tor** \-'ten-chē-,āt-ər\ *n*

po·ten·til·la \,pōt-ᵊn-'til-ə\ *n* [NL, fr. ML, garden heliotrope, fr. L *potent-, potens*] (1548) : any of a large genus (*Potentilla*) of herbs and shrubs (as a cinquefoil) of the rose family that have opposite pinnate or palmate leaves

po·ten·ti·om·e·ter \pə-,ten-chē-'äm-ət-ər\ *n* [ISV *potential* + *-o-* + *-meter*] (1881) 1 : an instrument for measuring electromotive forces 2 : VOLTAGE DIVIDER — **po·ten·tio·met·ric** \-ch(ē-)ə-'me-trik\ *adj*

pot·ful \'pät-,fu̇l\ *n* (14c) 1 : as much or as many as a pot will hold 2 : a large amount ⟨make a ~ of money —John Corry⟩

pot hat *n* (1798) : a hat with a stiff crown; *esp* : DERBY

poth·er \'päth-ər\ *n* [origin unknown] (1591) 1 a : confused or fidgety flurry or activity : COMMOTION b : agitated talk or controversy usu. over a trivial matter 2 : a choking cloud of dust or smoke 3 : mental turmoil

pother *vt* **poth·ered; poth·er·ing** \-(ə-)riŋ\ *vt* (1692) : to put into a pother ~ *vi* : to be in a pother

pot·herb \'pät-,(h)ərb\ *n* (1538) : an herb whose leaves or stems are cooked for use as greens; *also* : one (as mint) used to season food

pot holder *n* (1944) : a small cloth pad used for handling hot cooking utensils

pot·hole \'pät-,hōl\ *n* (1826) 1 a : a circular hole formed in the rocky bed of a river by the grinding action of stones or gravel whirled round by the water b : a sizable rounded often water-filled depression in rock 2 : a pot-shaped hole in a road surface — **pot·holed** \-,hōld\ *adj*

pot·hook \-,hu̇k\ *n* (15c) 1 : an S-shaped hook for hanging pots and kettles over an open fire 2 : a written character resembling a pothook

pot·house \-,hau̇s\ *n* (1724) : TAVERN 1

pot·hunt·er \-,hənt-ər\ *n* (1781) 1 : one who hunts game for food 2 : an amateur archaeologist — **pot·hunt·ing** \-iŋ\ *n*

po·tion \'pō-shən\ *n* [ME *pocioun*, fr. MF *potion*, fr. L *potion-, potio* drink, potion, fr. *potus*, pp. of *potare* to drink — more at POTABLE] (14c) : a mixture of liquids (as liquor or medicine)

pot·latch \'pät-,lach\ *vt* (1847) 1 : to hold or give a potlatch for (as a tribe or group) 2 : to give (as a gift) esp. with the expectation of a gift in return ~ *vi* : to hold or give a potlatch

potlatch *n* [Chinook Jargon, fr. Nootka *patshatl* giving] (ca. 1861) 1 : a ceremonial feast of the Indians of the northwest coast marked by the host's lavish distribution of gifts requiring reciprocation 2 *Northwest* : a social event or celebration

pot·line \'pät-,līn\ *n* (1944) : a row of electrolytic cells used in the production of aluminum

pot liquor *n* (1744) : the liquid left in a pot after cooking

pot·luck \'pät-'lək\ *n* (1592) 1 : the regular meal available to a guest for whom no special preparations have been made 2 : whatever is offered or available in given circumstances or at a given time ⟨without reservations you have to take ~ on hotel accommodations⟩

pot marigold *n* (1814) : a calendula (*Calendula officinalis*) grown esp. for ornament

po·tom·e·ter \pō-'täm-ət-ər\ *n* [Gk *poton* drink (akin to Gk *pinein* to drink) + E *-meter* — more at POTABLE] (1884) : an apparatus for measuring the rate of transpiration in a plant by determining the amount of water absorbed

pot·pie \'pät-'pī\ *n* (ca. 1792) : pastry-covered meat and vegetables cooked in a deep dish

pot·pour·ri \,pō-pu̇-'rē\ *n* [F *pot pourri*, lit., rotten pot] (1749) 1 : a mixture of flowers, herbs, and spices that is usu. kept in a jar and used for scent 2 : a miscellaneous collection : MEDLEY ⟨a ~ of the best songs and sketches —*Current Biog.*⟩

pot roast *n* (1881) : a piece of beef cooked by braising usu. on top of the stove — see BEEF illustration

pot·sherd \'pät-,shərd\ *n* [ME *pot-sherd*, fr. *pot* + *sherd* shard] (14c) : a pottery fragment

pot·shot \-,shät\ *n* [fr. the notion that such a shot is unsportsmanlike and worthy only of one whose object is to fill his cooking pot] (1858) 1 : a shot taken from ambush or at a random or easy target 2 : a critical remark made in a random or sporadic manner

potshot *vt* **potshot; pot·shot·ting** *vt* (1918) : to take a potshot ~ *vt* : to attack or shoot with a potshot

pot still *n* (1799) : a still used esp. in the distillation of Irish grain whiskey and Scotch malt whiskey in which the heat of the fire is applied directly to the pot containing the mash

pot·stone \'pät-,stōn\ *n* (1771) : a more or less impure steatite used esp. in prehistoric times to make cooking vessels

pot·tage \'pät-ij\ *n* [ME *potage*, fr. OF, fr. *pot* pot, of Gmc origin; akin to OE *pott* pot] (13c) : a thick soup of vegetables or vegetables and meat

pot·ted \'pät-əd\ *adj* (1849) 1 : planted or grown in a pot 2 *chiefly Brit* : briefly and superficially summarized ⟨a dull pedestrian ~ history —*Times Lit. Supp.*⟩ 3 *slang* : DRUNK

¹pot·ter \'pät-ər\ *n* (12c) : one that makes pottery

²potter *vi* [prob. freq. of E dial. *pote* to poke] (1829) : PUTTER — **pot·ter·er** \'pät-ər-ər\ *n* — **pot·ter·ing·ly** \'pät-ə-riŋ-lē\ *adv*

potter's clay *n* (1616) : a plastic clay suitable for making pottery — called also *potter's earth*

potter's field *n* [fr. the mention in Mt 27:7 of the purchase of a potter's field for use as a graveyard] (1526) : a public burial place for paupers, unknown persons, and criminals

potter's wheel *n* (ca. 1727) : a usu. horizontal disk revolving on a vertical spindle and carrying the clay being shaped by a potter

potter's whee

pot·tery \'pät-ə-rē\ *n, pl* **-ter·ies** (15c) 1 : a place where clayware is made and fired 2 a : the art or craft of the potter b : the manufacture of clayware 3 : CLAYWARE; *esp* : earthenware as distinguished on the one hand from porcelain and stoneware and on the other from brick and tile

pot·tle \'pät-ᵊl\ *n* [ME *potel*, fr. MF, fr. *pot*] (14c) 1 *archaic* : a measure equal to a half gallon 2 : a container holding a half gallon (1.9 liters)

pot·to \'pät-(,)ō\ *n, pl* **pottos** [of Niger-Congo origin; akin to Wolof *pata*, a tailless monkey] (1705) : any of several African primates (genera *Arctocebus* and *Perodicticus*); *esp* : a West African primate (*P. potto*) that has a vestigial index finger and tail

Pott's disease \'päts-\ *n* [Percivall *Pott* †1788 Eng. surgeon] (1835) : tuberculosis of the spine with destruction of bone resulting in curvature of the spine

¹pot·ty \'pät-ē\ *adj* **pot·ti·er; -est** [prob. fr. ¹*pot*] (1860) 1 *Brit* : TRIVIAL, INSIGNIFICANT 2 *chiefly Brit* : slightly crazy 3 : SNOBBISH

²potty *n, pl* **potties** (ca. 1942) : a small child's pot for urination or defecation

pot·ty–chair \-,che(ə)r, -,cha(ə)r\ *n* (1943) : a child's chair having an open seat under which a receptacle is placed for toilet training

¹pouch \'pau̇ch\ *n* [ME *pouche*, fr. MF, of Gmc origin; akin to OE *pocca* bag] (14c) 1 : a small drawstring bag carried on the person 2 a : a bag of small or moderate size for storing or transporting goods; *specif* : a lockable bag for first-class mail or diplomatic dispatches b *chiefly Scot* : POCKET c : PACKET 3 : an anatomical structure resembling a pouch — **pouched** \'pau̇cht\ *adj*

²pouch *vt* (1566) 1 : to put or form into or as if into a pouch 2 : to transmit by pouch ~ *vi* 1 : to bulge or stick out or down in a manner suggesting a pouch ⟨~*ing* cheeks⟩ 2 : to transmit mail or dispatches by pouch

pouchy \'pau̇-chē\ *adj* **pouch·i·er; -est** (1828) : having, tending to have, or resembling a pouch ⟨~ insomniac eyes —Graham Greene⟩

pouf *also* **pouff** *or* **pouffe** \'püf\ *n* [F *pouf*, something inflated, of imit. origin] (1893) 1 : PUFF 3b(3) 2 : a bouffant or fluffy part of a garment or accessory 3 : OTTOMAN — **poufed** *or* **pouffed** \'püft\ *adj*

pouil·ly–fuis·sé \pü-'yē-fwē-'sā\ *n* [Solutré-*Pouilly* and *Fuissé*, Fr. villages] (ca. 1929) : a dry white Burgundy

pou·larde *also* **pou·lard** \pü-'lärd\ *n* [F *poularde*] (1732) : a pullet sterilized to produce fattening

poult \'pōlt\ *n* [ME *polet*, *pulte* young fowl — more at PULLET] (15c) : a young fowl; *esp* : a young turkey

poul·ter·er \'pōl-tər-ər\ *n* [alter. of ME *pulter*, fr. MF *pouletier*] (1534) : one that deals in poultry

poul·ter's measure \'pōl-tərz-\ *n* [obs. *poulter* poulterer, fr. ME *pulter*; fr. the former practice of occas. giving one or two extra when counting eggs by dozens] (1576) : a meter in which lines of 12 and 14 syllables alternate

¹poul·tice \'pōl-təs\ *n* [ML *pultes* pap, fr. L, pl. of *pult-, puls* porridge] (ca. 1542) : a soft usu. heated and sometimes medicated mass spread on cloth and applied to sores or other lesions

²poultice *vt* **-ticed; -tic·ing** (1730) : to apply a poultice to

poul·try \'pōl-trē\ *n* [ME *pultrie*, fr. MF *pouleterie*, fr. OF, fr. *pouletier* poulterer, fr. *poulet* — more at PULLET] (14c) : domesticated birds kept for eggs or meat

poul·try·man \-mən\ *n* (ca. 1573) 1 : one who raises domestic fowls esp. on a commercial scale for the production of eggs and meat 2 : one who deals in poultry or poultry products

¹pounce \'pau̇n(t)s\ *n* [ME, talon] (15c) : the claw of a bird of prey

²pounce *vi* **pounced; pounc·ing** (1744) 1 a : to swoop upon and seize something with or as if with talons b : to seize upon and make capital of something (as another's blunder or an opportunity) 2 : to make a sudden assault or approach

³pounce *n* (1841) : the act of pouncing

⁴pounce *vt* **pounced; pounc·ing** [MF *poncer*, fr. *ponce*] (1580) : to dust, rub, finish, or stencil with pounce

⁵pounce *n* [F *ponce* pumice, fr. MF, fr. LL *pomic-, pomex*, alter. of L *pumic-, pumex* — more at FOAM] (1706) 1 : a fine powder formerly used to prevent ink from spreading 2 : a fine powder for making stenciled patterns

poun·cet–box \'pau̇n(t)-sət-\ *n* [prob. fr. (assumed) MF *poncette* small pounce bag] *archaic* (1596) : a box for carrying pomander

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EXHIBIT I

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January 4, 1990

MICHAEL HICKOK

Captain Roy T. Kozaki
Underground Tanks Unit
Los Angeles City Fire Department
200 North Main Street
Los Angeles, CA 90012

Robert P. Ghirelli
Executive Officer
California Regional Water
Quality Control Board
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Re: HR Textron Facility Located At
<u>10445 Glenoaks Boulevard, Pacoima</u>

Gentlemen:

The Los Angeles Region of the California Regional Water Quality Control Board has purported to exercise jurisdiction over the referenced underground storage tank site by issuing the enclosed Cleanup and Abatement Order Number 89-104. This letter respectfully requests that the Regional Board yield its claimed jurisdiction to the Los Angeles City Fire Department. We make this request because it is now apparent based on actions by the Regional Board that it lacks jurisdiction over this site.

On its face, the enclosed Order reveals the lack of the factual predicate required for the exercise of Regional Board jurisdiction. As set forth in Paragraph 16 of that Order, the purported basis for the Board's assertion of jurisdiction is California Water Code Section 13304(a). Under that statute, jurisdiction lies with the Regional Board where a tank discharge " . . . is, or probably will be, discharged into the waters of the State . . . ."

However, the only finding within the Order even relevant to this statutory jurisdictional criteria is Paragraph 14:

> The discharge of wastes at HR Textron threatens to cause a condition of pollution and nuisance. This discharge has contaminated the underlying soils and potentially the groundwater underlying the facility. Board staff has concluded that further investigation of this site is necessary to determine if VOC's and fuel hydrocarbons have migrated to the underlying groundwater.
>
> (Emphasis added).

That finding reveals that the "is . . . discharged into the waters of the State" criteria in Section 13304(a) has not been met. The only alternative jurisdictional criteria under that statute is that the release "probably will be discharged into the waters of the State."

However, the finding in Paragraph 14 clearly falls short of that criteria by stating only that "[t]his discharge has contaminated . . . potentially the groundwater underlying the facility." That finding of only a potential discharge to groundwater falls patently short of the "probably will" criteria which is a statutory prerequisite to the exercise of Regional Board jurisdiction. Relinquishment of the Regional Board's claim of jurisdiction is, therefore, compelled by the terms of Finding 14 in the enclosed Order.

That same conclusion is also compelled by other information recently received from the Regional Board. In response to a Public Records Act request, legal counsel for HR Textron has recently received from the Regional Board a copy of a computer printout entitled "Underground Storage Tank Leak List in Los Angeles County and Ventura County." The referenced site appears on that list.

Included within that printout is an evaluation of the nature of the perceived environmental hazard for each site. The possible classifications are "Drinking Water;" "Groundwater;" "Soil;" and "Unknown." The legend for those classifications clearly explains that a "Soil" classification means that the underground tank release does not affect groundwater:

> Case type is based on the most sensitive resource affected. For example, if both soil and groundwater are affected, case type will be "G" [i.e. "Groundwater"].

The classification for the referenced HR Textron site is "SOIL"! The assignment of that "Soil" classification for the referenced HR Textron site constitutes a finding that groundwater is not affected.

The Los Angeles Municipal Code clearly provides for Fire Department jurisdiction for cleanup of a tank release:

> "The owner, operator, or permittee shall be responsible to take all necessary steps to ensure the containment and cleanup of any unauthorized release of hazardous substances."
>
> Los Angeles Municipal Code
> Chapter V, Article 7,
> Division 31, Section 57.31.47(C)

That same Code Section does provide for the Regional Board to assume lead agency status if an unauthorized tank release "has entered or has the potential to enter groundwater." The above-mentioned "Soil" classification of the Textron Pacoima site as not being one affecting groundwater compels transfer of jurisdiction in this case back to the Fire Department.

Please, therefore, promptly send to me documentation from the Regional Board relinquishing claimed jurisdiction to the Fire Department and withdrawing the enclosed Order, along with documentation that the Fire Department will exercise jurisdiction in this case.

Very truly yours,

Michael L. Hickok

MLH:wpc
2630H

bcc: John Hedges
Linda Allderdice, Esq.

EXHIBIT J

§ 1086. [Writ, when and upon what to issue.] The writ must be issued in all cases where there is not a plain, speedy, and adequate remedy, in the ordinary course of law. It must be issued upon the verified petition of the party beneficially interested. [1872; 1907 ch 244 § 1.] *Cal Jur 3d Administrative Law §§ 322, 324, Mandamus and Prohibition §§ 5, 6, 24, 35, 39, Parties § 22, Pleading § 255, Zoning and Other Land Controls § 187; Cal Practice §§ 321:1, 356:9; Witkin Procedure (3d) Plead §§ 55, 420; Writs §§ 4, 44, 65, 101, 147, 154; Appeal § 64.*

[redacted] EXHIBIT K [redacted]

use city funds to prevent unemployment among the impoverished residents of the city and to aid its affirmative action policy.

COUNSEL

Linda A. Cree for Plaintiff and Appellant.

Thomas M. O'Connor and George Agnost, City Attorneys, and Michael C. Killelea, Deputy City Attorney, for Defendant and Appellant.

OPINION

TAYLOR, P. J.—The San Francisco Civil Service Commission (Commission) appeals from a judgment granting Cooperrider's petition for a writ of mandate directing it to accept and process her application for employment, as the one-year durational residency requirement of San Francisco Administrative Code section 16.98(a) was unconstitutional, as it violated the equal protection clause of the federal Constitution as well as the state Constitution. Cooperrider cross-appeals from the portion of the judgment holding that article XI, section 10, subdivision (b) of the state Constitution applies only to employees of chartered cities and not to applicants. The Commission argues that: 1) Cooperrider had no standing; 2) the court failed to apply the presumption of constitutionality; and 3) there was substantial evidence to support either the strict scrutiny or rational basis test. For the reasons set forth below, we have concluded that the judgment must be affirmed.

The court found the pertinent facts as follows: In September 1976, the Commission gave notice that commencing November 6, 1976, an open and competitive examination would be held for the position of aquarist (class No. 3506).[1] Pursuant to San Francisco Administrative Code section 16.98(a), applicants were required to have resided within the City and

[1]A class 3506 aquarist cares for living exhibits, maintains equipment, assists in specimen collection and laboratory studies, and conducts visitor tours through an aquarium. The examination for the position involves a written test, qualification appraisal, and a swimming test. Minimum qualifications include high school graduation or its equivalent, six months' experience as an aquarist or fish hatchery biologist or its equivalent education in biological science, and a valid state driver's license.

County of San Francisco for one year immediately prior to the closing date for the applications. Cooperrider, a continuing resident of Piedmont since August 1976 attempted to submit an application. Her application was refused solely on the basis that she was not then nor had she for the past year been a resident of San Francisco.[2] Except for the one-year durational residency requirement of Administrative Code section 16.98(a), Cooperrider fully qualified as an applicant for the examination.

At the hearing before the court, no evidence was offered that the one-year prior durational residency requirement, per se, adds to the knowledge of an applicant for the position or in the performance of the duties thereof.

The court concluded that: 1) Cooperrider had exhausted all administrative remedies and had standing to challenge the Administrative Code by writ of mandate; 2) the one-year durational residency requirement imposed by San Francisco Administrative Code section 16.98(a) constituted state action which creates two classes of persons with respect to eligibility requirements for consideration for public service positions and impinges upon two constitutionally protected fundamental rights—the right to travel and the right to apply for public service positions without invidious discrimination; 3) no substantial evidence was offered demonstrating either a "rational relationship," a "reasonable necessity," or a "compelling state interest" for a requirement that an applicant for public employment must have been a resident of San Francisco for one year prior to making application to the Commission and, therefore, Administrative Code section 16.98(a) violates the equal protection clauses of the federal and state Constitutions; and 4) article XI, section 10.5 (now art. XI, § 10, subd. (b)) of the California Constitution prohibiting chartered cities from requiring that employees be residents of the cities in which they work, except insofar as they may be required to live within a specified and reasonable distance of their place of employment, is not dispositive, as it applies only to employees or those currently employed by San Francisco, and does not apply to applicants.

Preliminarily, we dispose of the Commission's contentions concerning Cooperrider's standing and the presumption of constitutionality. (1a) As to standing, the Commission argues that as an admitted nonresident, Cooperrider had no standing to seek relief by mandate.

[2]Only the durational residency requirement is in issue, as the parties stipulated that even if Cooperrider had moved to San Francisco, she would not have been permitted to take the examination.

"The writ of mandate may issue upon the petition of a 'party beneficially interested' (Code Civ. Proc., § 1086) to compel the performance of 'an act which the law specially enjoins, as a duty resulting from an office, trust or station. . . .' (Code Civ. Proc., § 1085.) (2) The exercise of jurisdiction in mandamus rests to a considerable extent in the wise discretion of the court. (*Wheelright* v. *County of Marin*, 2 Cal.3d 448, 457 [85 Cal.Rptr. 809, 467 P.2d 537].) In exercising this discretion the courts balance the applicant's need for relief (i.e., his beneficial interest) against the public need for enforcement of the official duty." (*McDonald* v. *Stockton Met. Transit Dist.*, 36 Cal.App.3d 436, 440 [111 Cal.Rptr. 637].) (1b) As Cooperrider has suffered substantial damage by being denied the opportunity to apply for employment, the court properly concluded that the writ was necessary to protect her interest (*Parker* v. *Bowron*, 40 Cal.2d 344, 351 [254 P.2d 6]).

The Commission also contends that the court failed to apply the presumption of validity to the San Francisco Administrative Code provision here in issue. (3) As this court (Div. Four) recently said in *Lanam* v. *Civil Service Com.*, 80 Cal.App.3d 315, 319 [145 Cal.Rptr. 590], such a contention "'. . . is of little help when a direct challenge to its constitutionality is made . . . . It is not the presumption that determines the constitutionality or unconstitutionality of a statute but the fact of its operation and effect in a given case.'"

We turn first to the scope of the term "employees," as used in article XI, section 10, subdivision (b)[3] of the state Constitution, which reads as follows: "(b) *A city* or county, *including any chartered city* or chartered county, or public district, *may not require that its employees be residents of such city, county, or district;* except that such employees may be required to reside within a reasonable and specific distance of their place of employment or other designated location" (italics added).[4]

(4a) The Commission contends that the trial court properly concluded that the term "employees," as used above, did not include "appli-

[3]Subdivision (b) is former section 10.5, as adopted by the voters on November 5, 1974; in 1976, it was repealed (Assem. Const. Amend. No. 40, Stats. 1976, res. ch. 5, eff. July 9, 1976) and reenacted as subdivision (b) (Assem. Const. Amend. No. 90, Stats. 1976, res. ch. 24, eff. July 8, 1976). (See Stats. 1976, p. 6659.)

[4]The constitutional amendment was enacted in response to *Ector* v. *City of Torrance*, 10 Cal.3d 129 [109 Cal.Rptr. 849, 514 P.2d 433], in which our Supreme Court, on the basis of the federal equal protection clause, sustained the validity of a charter city provision that required all employees to be city residents no later than six months *after* employment commenced.

cants." (5) A court must interpret a constitutional amendment to give effect to the intent of the voters. The amendment should be construed in accordance with the natural and ordinary meaning of the words generally understood at the time of the enactment, unless it appears that the voters construed the words in a technical sense (*Kaiser* v. *Hopkins*, 6 Cal.2d 537 [58 P.2d 1278]). Here, the term was not used in a technical sense, and its natural and ordinary meaning, set forth below,[5] is of little help. Our Supreme Court has indicated that the term has no fixed meaning that must control in every instance (*Knight* v. *Bd. etc. Employees' Retirement*, 32 Cal.2d 400, 402 [196 P.2d 547, 5 A.L.R.2d 410]). For purposes of the workers' compensation laws, the term "employees" was held to apply to applicants in *Laeng* v. *Workmen's Comp. Appeals Bd.*, 6 Cal.3d 771, 779-783 [100 Cal.Rptr. 377, 494 P.2d 1], overruling the long standing contrary rule of *Sumner* v. *Edmunds*, 130 Cal.App. 770, 778 [21 P.2d 159].

(6) Where, as here, a constitutional amendment is subject to varying interpretations, evidence of its purpose may be drawn from the historical context of the amendment, and the ballot arguments favoring the measure (*California Housing Finance Agency* v. *Patitucci*, 22 Cal.3d 171, 177 [148 Cal.Rptr. 875, 583 P.2d 729]). The latter are helpful in determining the meaning of uncertain language (*Amador Valley Joint Union High Sch. Dist.* v. *State Bd. of Equalization*, 22 Cal.3d 208, 246 [149 Cal.Rptr. 239, 583 P.2d 1281]).

(4b) The ballot arguments, quoted in pertinent part below,[6] clearly indicate that the proponents and opponents both understood that the measure encompassed applicants. Both sides were concerned that a residency requirement would affect the quality of applicants. The objective of the amendment was to permit any qualified individual to apply for city employment, regardless of residence.

"1. one employed by another usually in a position below the executive level and usually for wages. 2 *in labor relations:* any worker who is under wages or salary to an employer and who is not excluded by agreement from consideration as such a worker." (Webster's Third New Internat. Dict., p. 743.) (Italics added.)

[6]The section in question appeared as Proposition number 5 on the November 5, 1974, General Election Ballot. Ballot arguments pro and con appeared at pages 22 and 23 of the official ballot pamphlet.

Among the pertinent "pro" arguments were the following:

"[T]*he single and most important concern for Californians regarding the residency issue is its effect upon the number and quality of applicants* for charter city and county employment. A good police officer, planner, fireman, engineer, paramedic, environmental standards supervisor or sanitation worker is hard to find even under the most favorable of conditions—bodies, yes; but qualified persons, no. Citizens of these communities deserve more than mere job occupants, they deserve quality employees. *Residency requirements*

(7) The literal language of enactments may be disregarded to avoid absurd results and to fulfill the apparent intent of the framers (*Amador Valley Joint Union High Sch. Dist.* v. *State Bd. of Equalization, supra*, 22 Cal.3d. p. 245; *Friends of Mammoth* v. *Board of Supervisors*, 8 Cal.3d 247, 259 [104 Cal.Rptr. 761, 502 P.2d 1049]).[7] (8) Constitutional enactments must receive a liberal, practical, common sense construction, which will meet changed conditions and the growing needs of the public (*Amador Valley, supra*, 22 Cal.3d 208).

(4c) We hold, therefore, that the term "employees," as used in section 10, subdivision (b) of article XI also includes applicants.

We also note that were we here to interpret "employees" to exclude applicants and examinees, we would be faced with the absurd situation where individuals would have to be residents of a city in order to apply or test for a position, but would be permitted to move out of the city the day after they are employed.[8]

keep hundreds of highly qualified individuals from employment in those jurisdictions, and necessarily reduce the pool of quality personnel entering employment in those communities. . . .

"We think that freedom to *recruit and employ* the best people, no matter where they live, will help guarantee better city and county government." (Italics added.) (Ballot Pamp., argument in favor of Prop. 5, Gen. Elec. (Nov. 5, 1974) p. 22.)

In the rebuttal to this argument, the opposition to the proposition said: "A residency requirement does not prevent recruitment anywhere, but simply provides that once individuals have accepted employment, they also accept the community employing them. Most qualified employees are, and can be, employed from among community residents. The few with special or technical skills required to be recruited from outside a city should become residents, but only if the voters of a city so require." (Ballot Pamp., rebuttal to argument in favor of Prop. 5, *supra*, p. 22.)

The "anti" argument contained the following: "We agree that public employees, like all other employees, should have complete freedom to choose where they will live, *but having made the choice to become an employee of a particular city* they also should be willing to reside in that city if the voters believe this is economically and socially desirable. . . ." (Italics added.) (Ballot Pamp., argument against Prop. 5, *supra*, p. 23.)

[7]In *Lanam* v. *Civil Service Com., supra*, 80 Cal.App.3d 315, this court (Div. Four) rejected a literal rendering of the term "reasonable and specific distance" of article XI, section 10, subdivision (b).

[8]We are, of course, aware of *McCarthy* v. *Philadelphia Civil Serv. Comm'n*, 424 U.S. 645 [47 L.Ed.2d 366, 96 S.Ct. 1154], where the United States Supreme Court indicated, at page 646, [47 L.Ed.2d at p. 368], that in *Shapiro* v. *Thompson*, 394 U.S. 618 [22 L.Ed.2d 600, 89 S.Ct. 1322], *Dunn* v. *Blumstein*, 405 U.S. 330 [31 L.Ed.2d 274, 92 S.Ct. 995], and *Memorial Hospital* v. *Maricopa County*, 415 U.S. 250 [39 L.Ed.2d 306, 94 S.Ct. 1076], it had not questioned the validity of a condition placed upon municipal employment that a person be a resident at the time of his or her application. Of course, *McCarthy*, *supra*, based on federal constitutional concepts, does not affect our above interpretation of the state constitutional provision.

It follows that San Francisco Administrative Code section 16.98(a) is contravened by subdivision (b) of section 10 of article XI. As this conclusion, in effect, disposes of the appeal, we will discuss the remaining contentions briefly. We confine the context of our discussion to the equal protection provision of the state Constitution.[9] (Art. IV, § 16.)

The court below found that the durational residency requirement impinged on two fundamental rights, the right to travel (*Shapiro* v. *Thompson*, *supra*, 394 U.S. 618) and the right to apply for public service positions without invidious discrimination. (*Terry* v. *Civil Service Commission*, 108 Cal.App.2d 861, 870 [240 P.2d 691].)

As to the right to travel, the Commission relies on *Ector* v. *City of Torrance*, *supra*, 10 Cal.3d 129, to argue that there is no right to commute. This argument totally ignores the effect of article XI, section 10, subdivision (b), discussed above. The constitutional provision expressly provides that a city may not require that applicants or employees be residents, except that after employment they may be required to reside within a reasonable and specific distance of their place of employment. Thus, in the area of intrastate travel, our state Constitution presently provides greater individual protection than the federal law. Further, the right protected here is not a right to commute, but the initial right to migrate, resettle, find a new job and start a new life (*Memorial Hospital* v. *Maricopa County*, *supra*, 415 U.S. 250; see *Residency Requirements for Municipal Employees: Denial of a Right to Commute?* 7 U.S.F. L.Rev. 508, at p. 527).

(9) The right to be considered for public employment without invidious discrimination or unreasonable limitation has too long been well established in this state (*Terry* v. *Civil Service Commission*, *supra*, 108 Cal.App.2d, p. 870). The Commission argues that Cooperrider had no constitutional right to work for the city. The old rights-privilege distinction is no longer valid (*Shapiro* v. *Thompson*, *supra*, 394 U.S., p. 627 [22 L.Ed.2d, pp. 610-611]) and discrimination against some in public employment can no longer be practiced on the basis that the employment is

[9]We see no need to reach the federal equal protection issues here. Our state Supreme Court has exercised independency in its application of the state equal protection clause, finding rights to be suspect where the United States Supreme Court has declined to do so (*Serrano* v. *Priest*, 18 Cal.3d 728, 764-767 [135 Cal.Rptr. 345, 557 P.2d 929]; *Sail'er Inn, Inc.* v. *Kirby*, 5 Cal.3d 1, 17 [95 Cal.Rptr. 329, 485 P.2d 529, 46 A.L.R.3d 351]; *In re Antazo*, 3 Cal.3d 100, 112 [89 Cal.Rptr. 255, 473 P.2d 999]). Also, our Supreme Court recently noted the United States Supreme Court's formulations in the equal protection area are in flux (*Johnson* v. *Hamilton*, 15 Cal.3d 461, 468 [125 Cal.Rptr. 129, 154 P.2d 881]).

a privilege which can be withheld from all (*Purdy & Fitzpatrick* v. *State of California*, 71 Cal.2d 566 [79 Cal.Rptr. 77, 456 P.2d 645, 38 A.L.R.3d 1194]). Thus, the right to be considered for public employment without unreasonable or invidious distinctions is as fundamental as a right to subsistence benefits (*Shapiro* v. *Thompson*, *supra*) or medical care (*Memorial Hospital* v. *Maricopa County*, *supra*, 415 U.S. 250).

The Commission attempts to distinguish *Terry* v. *Civil Service Commission*, *supra*, 108 Cal.App.2d 861, and urges us to rely on *D'Amico* v. *Board of Medical Examiners*, 11 Cal.3d 1 [112 Cal.Rptr. 786, 520 P.2d 10], and *Hardy* v. *Stumpf*, 21 Cal.3d 1 [145 Cal.Rptr. 176, 576 P.2d 1342], as applicable law. In *D'Amico*, the statutory classification involved the type of medical degree and content of education required for licensing as physicians and surgeons. In *Hardy*, *supra*, a wall-climb portion of a physical agility test for policemen was held not to abridge a fundamental right to pursue a lawful occupation, for that right presupposes an ability to perform the job (p. 8). Both *Hardy* and *D'Amico* involved challenges to specific qualifications for the position after an application had been submitted. The instant case, however, involves the fundamental right to submit an application for *any* public service job, irrespective of the specific qualifications for that position.

As two fundamental rights are involved, the application of the strict scrutiny test is required.[10] (cf. *Serrano* v. *Priest*, *supra*, 18 Cal.3d, pp. 764-765; *Johnson* v. *Hamilton*, 15 Cal.3d 461 [125 Cal.Rptr. 129, 541 P.2d 881]; *Bay Area Women's Coalition* v. *City and County of San Francisco*, 78 Cal.App.3d 961, 968 [144 Cal.Rptr. 591]). Pursuant to this test, the Commission must demonstrate a compelling state interest in the classification it made; it must also demonstrate that no less intrusive means could achieve the same result (*Serrano* v. *Priest*, *supra*).

(10) The Commission asserts that contrary to the trial court's finding, it adduced substantial evidence to meet both prongs of the above test. This contention is without merit. The record indicates that the Commission sought to justify the durational residence requirement for the position on several grounds, but offered evidence only as to its attempts to use city funds to prevent unemployment among the impoverished

[10]The Commission, citing *Ector* v. *City of Torrance*, *supra*, 10 Cal.3d 129, argues that the rational basis test should be applied. This argument overlooks the fact that *Ector* did not involve a fundamental right and carefully distinguished durational residency requirements, like the instant one.

residents of the city and its affirmative action policy.[11] Not surprisingly, the Commission was not able to establish that there was even a rational relationship between these objectives and the durational residency requirement, let alone a compelling interest. The reduction in unemployment among inner-city minorities relates to those whom the city hires, and not the requirement that applicants or employees live in the city.

Just as it is unconstitutional to apportion economic benefits according to a tax contribution (*Shapiro* v. *Thompson*, *supra*, 394 U.S., pp. 633-634 [22 L.Ed.2d, pp. 614-615]), the Commission cannot rely on the public coffer theory to require residence to recirculate salaries within the economy of the municipality that pays those salaries (*Krzewinski* v. *Kugler* (D.N.J. 1972) 338 F.Supp. 492, pp. 498-499).

We conclude, therefore, that the court properly concluded that the city's durational residency requirement was also unconstitutional, as it violated the equal protection provision of the state Constitution.

The judgment is affirmed. Cooperrider to recover her costs on appeal.

Rouse, J., and Miller, J., concurred.

The petition of defendant and appellant for a hearing by the Supreme Court was denied December 6, 1979.

[11]The record indicates that at the time here pertinent, the city budgeted three aquarist positions and anticipated "possibility of one permanent vacancy and perhaps a temporary vacancy, if necessary, for sick and vacation relief." The civil service list would last for 2 years; of the 98 persons who applied, 6 were rejected because of the residency requirement; of the 57 who met the residency and education requirements, 36 percent were minority.

EXHIBIT L

SECURITY PACIFIC NATIONAL BANK

Pleasanton OFFICE
4626 Willow Road
Pleasanton CALIFORNIA 94566

Mr. G. O'Brien
Mrs. Blomberg
9 Dawn Place
Mill Valley, CA. 94941

Date August 18, 1989

DESCRIPTION OF ACCOUNT, TRANSACTION OR REQUESTED CREDIT AND ADVERSE ACTION TAKEN

[X] We regret that we are unable to approve your recent request for a/an Commercial Real Estate loan in the amount of $ 90,807.00 because of the factor(s) indicated below.

[ ] We can, however, offer you credit on the following terms: _____

If this offer is acceptable to you, please notify us within 15 days from the date of this letter at the address indicated above.

[ ] Other _____

PRINCIPAL REASON(S) FOR ADVERSE ACTION CONCERNING CREDIT

- ___ Credit application incomplete
- ___ Insufficient number of credit references provided
- ___ Unacceptable type of credit references provided
- ___ Unable to verify credit references
- ___ Temporary or irregular employment
- ___ Unable to verify employment
- ___ Length of time at employment
- ___ Insufficient income for amount of credit requested
- ___ Excessive obligations in relation to income
- ___ Unable to verify income
- ___ Value or type of collateral not sufficient
- ___ Too short a period of residence
- ___ Temporary residence
- ___ Unable to verify residence
- ___ No credit file
- ___ Insufficient credit file
- ___ Delinquent past or present credit obligations
- ___ Garnishment, attachment, foreclosure, repossession judgement, tax lien, or suit
- ___ Bankruptcy
- ___ We do not grant credit to any applicant on the terms and conditions you request.
- X Other, specify: Toxic waste problems

DISCLOSURE OF USE OF INFORMATION OBTAINED FROM AN OUTSIDE SOURCE

- X Disclosure inapplicable
- ___ Information obtained in a report from a Consumer Reporting Agency

NAME			TELEPHONE NO
STREET ADDRESS	CITY	STATE	ZIP CODE

___ Information obtained from an outside source other than a Consumer Reporting Agency. Under the Fair Credit Reporting Act, you have the right to make a written request, within 60 days of receipt of this notice, for disclosure of the nature of the adverse information.

CREDITOR'S NAME			CREDITOR'S TELEPHONE NO.
CREDITOR'S STREET ADDRESS	CITY	STATE	ZIP CODE

The Federal Equal Credit Opportunity Act prohibits creditors from discrimination against credit applicants on the basis of race, color, religion, national origin, sex, marital status, age (provided that the applicant has the capacity to enter into a binding contract); because all or part of the applicant's income derives from any public assistance program; or because the applicant has in good faith exercised any right under the Consumer Credit Protection Act. The Federal agency that administers compliance with this law concerning this creditor is the Comptroller of the Currency, Consumer Affairs Division, Washington, D.C., 20219.

The California Housing Financial Discrimination Act of 1977 also prohibits certain discriminatory practices, as set forth in Sections 35810, 35811 and 35812 of the California Health and Safety Code. The above agency administers compliance with this law.

If we have received incorrect information, or you have additional information, please advise us immediately.

PROPERTY ADDRESS:
10445 Glenoaks Blvd
Los Angeles, CA. 90068

Very truly yours,

Lending Officer's Signature

Telephone No

COMMERCIAL LENDING DIVISION
APPROVAL/DECLINE ADVICE

TO: BANKING OFFICE MANAGER
San Francisco Main N512
Banking Office Name and Number

DATE 8-18-89

FROM: COMMERCIAL LENDING DIVISION
☒ Northern California Center N6-403
☐ Southern California Center W15-90
Lodie Swanson
Center Representative
415 460-7848
Telephone Number

BORROWER'S NAME: G. O'Brien, et al	TELEPHONE NO.: ( )
ADDRESS: 9 Dawn Place Mill Valley Ca	AMOUNT REQUESTED: $90,808.00
COMPANY CONTACT:	LINE/LOAN TYPE: Comml RE 1st TD

APPROVAL

☐ The line/loan has been approved as follows:

Collateral Required

Amount $
Terms
Interest Rate
Loan Fee $
Set-up Fee $

☐ This approval is subject to the following:

(When the above requirements are complied with, complete the transmittal on the back of this form and return it to the Commercial Lending Division.)

DECLINE

The line/loan has been declined for the following reasons:

- ☐ Customer Withdrawal
- ☐ Derogatory Credit
- ☐ Insufficient Cash Flow
- ☐ Insufficient Time in Business
- ☐ Insufficient Collateral
- ☐ Insufficient Net Worth
- ☐ Insufficient Debt Coverage
- ☐ Excessive Loan to Value
- ☒ Toxic Waste/Asbestos
- ☐ Appraisal Deficiencies
- ☐ Special Industry Business
- ☐ Unable to grant credit on terms requested
- ☐ Other

SUMMARY

Strength of Borrower

Reason for Decline Serious Toxic Waste Problems

Note: request for re-financed maturing loan #120495, address 10445 Ellingake Blvd. Los Angeles Ca 90068

Needs for Future Consideration/Alternate Financing

127117 6-88 35

EXHIBIT M

[L.A. No. 30959. July 9, 1979.]

MERLIN W. HORN, Plaintiff and Appellant, v.
COUNTY OF VENTURA, Defendant and Respondent;
FREDERICK W. OSBORNE, Real Party in Interest and Respondent.

SUMMARY

The trial court sustained without leave to amend the demurrers of defendant county and real party in interest property owner to plaintiff's petition seeking a writ of mandate to set aside approval by the county of the proposed subdivision of the property of real party. The petition alleged that some of real parties proposed lots were topographically unsuited for residential construction, that the design of the subdivision would hinder access to plaintiff's property creating traffic and parking congestion, and that the county's negative environmental declaration concerning the project was inadequate. It further alleged that the county exceeded its jurisdiction by approving the subdivision without affording constitutionally adequate notice and hearing procedures to affected landowners. Finally, the petition alleged that plaintiff purchased land adjacent to the proposed subdivision after approval by the planning department of a tentative subdivision map, and that he found out about the subdivision only by accident. Plaintiff appeared at hearings by the county board of supervisors and advised them that no notice and opportunity for hearing had ever been given to any affected property owners and asked that the board refer the proposal back to the department for a noticed public hearing and further study of the project's environmental defects. The board refused these requests and approved the subdivision. (Superior Court of Ventura County, No. SP48074, Steven J. Stone, Judge.)

The Supreme Court reversed and remanded to the trial court with directions to overrule the demurrer to the petition for writ of mandate. Also, the court authorized the trial court to award plaintiff trial and appellate attorney fees if it determines that this case has conferred a significant benefit on the general public or a large class of persons and that the necessity and burden of private enforcement are such as to make the award appropriate. The court held that whenever approval of a

tentative subdivision map will constitute a substantial or significant deprivation of the private rights of other landowners, the affected persons are entitled to a reasonable notice and an opportunity to be heard before the approval occurs. The court further held that plaintiff sufficiently alleged such deprivation. Next the court held that the county's general procedures for public notice of environmental decisions were constitutionally inadequate to apprise concerned landowners of governmental actions affecting their property interests. Finally, the court held that plaintiff had standing to assert these issues despite the fact that he purchased his property after the planning department approval of the subdivision map. (Opinion by Richardson, J; with Tobriner, Mosk and Clark, JJ., concurring. Bird, C. J., and Manuel, J., concurred in the result. Separate concurring opinion by Newman, J.)

HEADNOTES

Classified to California Digest of Official Reports, 3d Series

(1) **Administrative Law § 89—Judicial Review and Relief—Limitations on Availability—Exceptions—Challenging Sufficiency of Remedies.** —One need not exhaust inadequate administrative remedies in order to challenge their sufficiency. Thus, the purported failure of plaintiff to raise his objections to a proposed subdivision adjacent to his land through a county's environmental review process did not defeat his action for mandamus to set aside approval of the subdivision, sought on the ground that those very procedures were constitutionally inadequate.

(2) **Administrative Law § 88—Judicial Review and Relief—Limitations on Availability—Exhaustion of Administrative Remedies—Approval of Subdivision.**—Prior to initiation of plaintiff's proceeding for mandamus to set aside defendant county's approval of a subdivision map, he did exhaust the only available administrative means to invoke his asserted right to full notice and hearing to challenge the approval, and thus his proceeding was not barred for failure to pursue administrative remedies, where he twice appeared before the county's board of supervisors, the final arbiter of subdivision proposals, reciting the lack of adequate notice to affected property owners and requesting further study of the proposed subdivision by the county planning commission after notice and hearing had been provided. On each occasion his requests were rejected.

(3a-3c) **Real Estate Sales § 116—Subdivisions—Notice and Hearing.**—Whenever approval of a tentative subdivision map will constitute a substantial or significant deprivation of the property rights of other landowners, the affected persons are entitled to a reasonable notice and an opportunity to be heard before the approval occurs. Thus, in a proceeding for a writ of mandate to set aside defendant county's approval of a subdivision map, plaintiff alleged deprivations of property rights sufficient to withstand the demurrers of defendant and real party property owner to the petition. The petition alleged that the design of the subdivision would hinder access to plaintiff's property thereby creating substantial traffic, parking congestion and air pollution. The petition also alleged that the county approved the subdivision map without giving any notice to plaintiff or other affected landowners and did not afford them a hearing.

[See **Cal.Jur.2d**, Records and Recording, § 76; **Am.Jur.2d**, Zoning and Planning, § 301.]

(4) **Constitutional Law § 107—Due Process—Procedural Due Process—Notice and Hearing—Legislative Versus Adjudicative Action.**—Due process principles require reasonable notice and opportunity to be heard before governmental deprivation of a significant property interest. However, only those governmental decisions which are adjudicative in nature are subject to procedural due process principles. Legislative action is not burdened by such requirements. Subdivision approvals, like zoning variances and conditional use permits, involve the application of general standards to specific parcels of real property. Such governmental conduct, affecting the relatively few, are determined by facts peculiar to the individual case and are adjudicatory in nature.

(5) **Zoning and Planning § 5—Constitutional and Statutory Provisions—Notice and Hearing.**—Land use decisions which substantially affect the property rights of owners of adjacent parcels may constitute deprivation of property within the context of procedural due process and may require notice and hearing.

(6) **Constitutional Law § 107—Due Process—Procedural Due Process—Land Use Decisions—Notice and Hearing.**—Due process notice and hearing requirements concerning land use decisions are triggered only by governmental action which results in significant or substantial deprivation of property, not by agency decisions having

only a de minimis effect on land. Action involving only the nondiscretionary application of objective standards does not entitle a landowner to such protections.

(7a, 7b) **Real Estate Sales § 116—Subdivisions—Subdivision Approval —Adequacy of Notice and Hearing.**—A county's regulations for notice and hearing concerning approval of a proposed subdivision failed to meet due process standards, where the regulations provided only for posting of environmental documents at central public buildings and mailings of notice to those persons who specifically request it, placing the burden of obtaining notice solely on the concerned individuals themselves.

(8) **Constitutional Law § 102—Due Process—Flexibility of Due Process Principles.**—The general application of due process principles is flexible, depending on the nature of the competing interests involved.

(9) **Constitutional Law § 108—Due Process—Procedural Due Process —Notice—Administrative Proceedings.**—The extent of administrative burden is one of the factors to be considered in determining the nature of an appropriate notice to concerned persons. However, where prior notice of a potential adverse administrative decision is constitutionally required, that notice must, at a minimum, be reasonably calculated to afford affected persons the realistic opportunity to protect their interests.

(10) **Constitutional Law § 109—Due Process—Procedural Due Process —Hearing—Environmental Aspects of Land Use Project.**—Procedures for environmental review of private projects under the California Environmental Quality Act, Pub. Resources Code, § 21000 et seq., are intended only to evoke and record a public response limited to the general environmental aspects of the proposed land use project. For these purposes, public hearings may be employed, but are not required. Thus, the procedures under the act do not guarantee an affected landowner a meaningful hearing, prior to deprivation of his property rights, at which his specific objections to the threatened interference with his property interests may be raised.

(11a-11c) **Parties § 1—Standing to Sue.**—A property owner had standing to bring a mandamus proceeding to assert his constitutional rights to notice and hearing in connection with the approval of a subdivision

adjacent to his property, where his petition for mandamus alleged that the approval process was not yet final when he purchased his property, and that no prior notice of hearing had previously been given to any affected landowner or to him or his predecessor.

(12) **Appellate Review § 127—Generally—Scope and Extent—Issue Raised for First Time on Appeal.**—An argument directed at plaintiff's standing to sue may be raised for the first time on appeal.

(13) **Constitutional Law § 108—Due Process—Procedural Due Process —Notice—Land Use Decision—Waiver.**—The fact that plaintiff, in his proceeding for mandamus to set aside approval of a subdivision map, accidentally received notice of the hearing on the developer's appeal to the county board of supervisors did not constitute a waiver of plaintiff's own right to assert the constitutional defects of lack of notice and hearing prior to approval of the subdivision. The record indicated that at the hearing, the board confined its review to the issue raised by the developer and rejected all requests by plaintiff and other landowners for more extended reconsideration with the result that plaintiff had no meaningful vindication of his due process rights.

COUNSEL

James R. Leavy for Plaintiff and Appellant.

Evelle J. Younger, Attorney General, and E. Robert Wright, Deputy Attorney General, as Amici Curiae on behalf of Plaintiff and Appellant.

Dorothy L. Schechter, County Counsel, and R. Thomas Harris, Assistant County Counsel, for Defendant and Respondent.

Marshall Lowthorp, Richards & Hibbs and Charles J. Conway, Jr., for Real Party in Interest and Respondent.

[July 1979]

OPINION

RICHARDSON, J.—In this mandamus action, we consider whether approval by defendant county of a tentative subdivision map is an "adjudicatory" function which, under principles of due process, requires that both appropriate notice and an opportunity to be heard be given to persons whose property interests may be significantly affected. We will hold that such approval is "adjudicatory," and that rights to prior notice and hearing are accordingly invoked. We will further conclude that the county's general procedures for public notice of environmental decisions were constitutionally inadequate to apprise concerned landowners of governmental actions affecting their property interests. We also reject a contention that plaintiff lacks standing to assert these issues because he purchased the subject property after planning department approval of the map, and will reverse the trial court judgment dismissing the petition for writ of mandate.

The petition reflects the following chronology: On August 14, 1975, real party in interest Osborne applied to the planning department of defendant County of Ventura for its approval of a proposed division of his property into four lots. (Because only four parcels were involved, the project was directly subject only to the county's subdivision ordinance, and not to the Subdivision Map Act. (See former Bus. & Prof. Code, § 11500 et seq., now Gov. Code, § 66410 et seq.)) The planning department subsequently caused to be prepared a "negative declaration" under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21064), which declaration recited that the proposed subdivision would not have a significant effect on the environment. Thereafter, the department approved a tentative map upon the condition that Osborne install sewers for the lots. No notice was given to adjoining property owners prior to this action.

On December 3, 1975, subsequent to departmental approval of the tentative map, but before final approval by the board of supervisors (board), plaintiff purchased a parcel of land adjacent to the proposed subdivision. Meanwhile, Osborne had appealed to the board because of the imposition of the sewer condition, and a hearing thereon was set for December 9, 1975. Plaintiff, having learned by chance of the departmental approval, appeared at the hearing, advised the board that no notice and opportunity for hearing had yet been given to affected property owners, and asked that the board refer the proposal back to the planning agency for a noticed public hearing and further study of the project's

environmental effects. The board refused to consider any issue other than that relating to the sewers. The appeal was continued until December 23, when plaintiff again requested that the board grant a public hearing on the original subdivision proposal. This request was denied and the subdivision was approved by the board with a modified condition as to the sewers.

The petition alleges that certain of Osborne's lots are topographically unsuited for residential construction, that the design of the subdivision will hinder access to plaintiff's property thereby creating substantial traffic and parking congestion, and that the county's environmental assessment of the project is inadequate. Urging that the county exceeded its jurisdiction by approving the subdivision without affording constitutionally adequate notice and hearing procedures to affected landowners, the petition prays for a judgment setting aside defendant's approval.

Defendant and real party demurred generally. They argued that the petition failed to allege an exhaustion of administrative remedies, that subdivision approvals are "legislative" rather than "adjudicatory" in nature not requiring any notice and hearing for affected property owners, and that the defendant's procedures for public review of environmental decisions provided all constitutionally necessary protections. The general demurrers were sustained without leave to amend and this appeal followed.

(1) Defendant renews before us its threshold argument that plaintiff could have raised all of his objections to the proposed subdivision through the county's environmental review process, and that his failure to do so is fatal to his claim. The argument ignores the essence of plaintiff's complaint, which is that these very procedures were constitutionally inadequate. One need not exhaust inadequate remedies in order to challenge their sufficiency. (E.g., *Glendale City Employees' Assn., Inc.* v. *City of Glendale* (1975) 15 Cal.3d 328, 342-343 [124 Cal.Rptr. 513, 540 P.2d 609]; *Endler* v. *Schutzbank* (1968) 68 Cal.2d 162, 168 [65 Cal.Rptr. 297, 436 P.2d 297]; *Rosenfield* v. *Malcolm* (1967) 65 Cal.2d 559, 566 [55 Cal.Rptr. 505, 421 P.2d 697]; *Roth* v. *City of Los Angeles* (1975) 53 Cal.App.3d 679, 688 [126 Cal.Rptr. 163].)

(2) Moreover, plaintiff *did* exhaust the only available administrative means to invoke his asserted right to full notice and hearing. He twice appeared before the county's governing body, the final arbiter of subdivision proposals, reciting the lack of adequate notice to affected

property owners and requesting further study of the proposed subdivision by the planning commission after notice and hearing had been provided. These entreaties were rejected.

Under these circumstances, plaintiff is not barred because of a failure to pursue administrative remedies. Accordingly, we consider whether a notice and hearing are required, and, if so, whether the procedures available in the case before us meet such requirements.

(3a) 1. *A Notice and Opportunity for Hearing Are Constitutionally Compelled*

Plaintiff's principal argument is that because the approval of subdivisions constitutes "quasi-adjudicatory" acts of local government those persons affected by such land use decisions are therefore constitutionally entitled to notice and an opportunity to be heard prior to the rendition of final decisions. In response, both defendant and real party characterize the actions as "quasi-legislative," prescribing no prior notice and hearing. As will appear, we agree with plaintiff.

(4) Due process principles require reasonable notice and opportunity to be heard before governmental deprivation of a significant property interest. (E.g., *North Georgia Finishing, Inc.* v. *Di-Chem, Inc.* (1975) 419 U.S. 601, 605-606 [42 L.Ed.2d 751, 756, 95 S.Ct. 719]; *Goss* v. *Lopez* (1975) 419 U.S. 565, 572-576 [42 L.Ed.2d 725, 733-736, 95 S.Ct. 729]; *Board of Regents* v. *Roth* (1972) 408 U.S. 564, 576-577 [33 L.Ed.2d 548, 560-561, 92 S.Ct. 2701]; *Boddie* v. *Connecticut* (1971) 401 U.S. 371, 379 [28 L.Ed.2d 113, 119-120, 91 S.Ct. 780]; *Sniadach* v. *Family Finance Corp.* (1969) 395 U.S. 337, 339 [23 L.Ed.2d 349, 352, 89 S.Ct. 1820]; *Skelly* v. *State Personnel Bd.* (1975) 15 Cal.3d 194, 206-207 [124 Cal.Rptr. 14, 539 P.2d 774]; *Beaudreau* v. *Superior Court* (1975) 14 Cal.3d 448, 458 [121 Cal.Rptr. 585, 535 P.2d 713]; *Randone* v. *Appellate Department* (1971) 5 Cal.3d 536, 541 [96 Cal.Rptr. 709, 488 P.2d 13].)

It is equally well settled, however, that only those governmental decisions which are *adjudicative* in nature are subject to procedural due process principles. *Legislative* action is not burdened by such requirements. (*Mullane* v. *Central Hanover Tr. Co.* (1950) 339 U.S. 306, 313 [94 L.Ed. 865, 872-873, 70 S.Ct. 652]; *Franchise Tax Board* v. *Superior Court* (1950) 36 Cal.2d 538, 549 [225 P.2d 905]; e.g., *Beck* v. *City Council of Beverly Hills* (1973) 30 Cal.App.3d 112, 115 [106 Cal.Rptr. 163]; *California Grape etc. League* v. *Industrial Welfare Com.* (1969) 268

Cal.App.2d 692, 708-709 [74 Cal.Rptr. 313].) The rationale of the "legislative-adjudicatory" distinction was well expressed many years ago by Justice Holmes in *Bi-Metallic Co.* v. *Colorado* (1915) 239 U.S. 441 [60 L.Ed. 372, 36 S.Ct. 141]: "Where a rule of conduct applies to more than a few people it is impracticable that every one should have a direct voice in its adoption. The Constitution does not require all public acts to be done in town meeting or an assembly of the whole. General statutes within the state power are passed that affect the person or property of individuals, sometimes to the point of ruin, without giving them a chance to be heard. Their rights are protected in the only way that they can be in a complex society, by their power, immediate or remote, over those who make the rule." (P. 445 [60 L.Ed. p. 375].)

We adopted similar reasoning recently in *San Diego Bldg. Contractors Assn.* v. *City Council* (1974) 13 Cal.3d 205 [118 Cal.Rptr. 146, 529 P.2d 570, 72 A.L.R.3d 973], in which we concluded that the enactment of a general zoning ordinance by a city's voters under the initiative process, being "legislative" in character, required no prior notice and hearing, even though it might well be anticipated that the ordinance would deprive persons of significant property interests. (P. 211.) In so holding, we distinguished "adjudicatory" matters in which "the government's action affecting an individual [is] determined by facts peculiar to the individual case" from "legislative" decisions which involve the adoption of a "broad, generally applicable rule of conduct on the basis of general public policy." (Pp. 212-213; see also *United States* v. *Florida East Coast R. Co.* (1973) 410 U.S. 224, 245 [35 L.Ed.2d 223, 239, 93 S.Ct. 810]; *Strumsky* v. *San Diego County Employees Retirement Assn.* (1974) 11 Cal.3d 28, 34-35, fn. 2 [112 Cal.Rptr. 805, 520 P.2d 29]; *Patterson* v. *Central Coast Regional Com.* (1976) 58 Cal.App.3d 833, 840-841 [130 Cal.Rptr. 169].)

We expressly cautioned in *San Diego* that land use planning decisions less extensive than general rezoning could not be insulated from notice and hearing requirements by application of the "legislative act" doctrine. We noted: "We are thus not faced in the instant case with any of the great number of more limited 'administrative' zoning decisions, such as the grant of a variance or the award of a conditional use permit, which are adjudicatory in nature and which thus involve entirely different constitutional considerations." (13 Cal.3d at p. 212 and fn. 5; see, e.g., *Johnston* v. *City of Claremont* (1958) 49 Cal.2d 826, 834 [323 P.2d 71]; *Johnston* v. *Board of Supervisors* (1947) 31 Cal.2d 66, 74 [187 P.2d 686]; *Tandy* v. *City of Oakland* (1962) 208 Cal.App.2d 609, 611 [25 Cal.Rptr. 429]; see also

Topanga Assn. for a Scenic Community v. *County of Los Angeles* (1974) 11 Cal.3d 506, 517 [113 Cal.Rptr. 836, 522 P.2d 12].)

Subdivision approvals, like variances and conditional use permits, involve the application of general standards to specific parcels of real property. Such governmental conduct, affecting the relatively few, is "determined by facts peculiar to the individual case" and is "adjudicatory" in nature. Following our analysis of the constitutional implications of the variance procedure in *Topanga Assn. for a Scenic Community* v. *County of Los Angeles, supra,* 11 Cal.3d 506, 513-514, several recent appellate decisions have assumed that subdivision approvals are "adjudicatory" or "quasi-judicial" local agency decisions which require adequate findings at the administrative level for purposes of judicial review under the "substantial evidence" standard. (*McMillan* v. *American Gen. Fin. Corp.* (1976) 60 Cal.App.3d 175, 182 [131 Cal.Rptr. 462]; *Carmel Valley View, Ltd.* v. *Board of Supervisors* (1976) 58 Cal.App.3d 817, 823 [130 Cal.Rptr. 249].) In *Youngblood* v. *Board of Supervisors* (1978) 22 Cal.3d 644 [150 Cal.Rptr. 242, 586 P.2d 556], we ourselves have very recently affirmed these principles, expressly holding that "*Approval of a tentative subdivision map is a quasi-judicial act* subject to judicial review for abuse of discretion under Code of Civil Procedure section 1094.5." (P. 651, fn. 2, italics added; see also *Woodland Hills Residents Assn., Inc.* v. *City Council* (1975) 44 Cal.App.3d 825, 837-838 [118 Cal.Rptr. 856].)

County of San Mateo v. *Palomar Holding Co.* (1962) 208 Cal.App.2d 194 [24 Cal.Rptr. 905], is cited as establishing the "California rule" that subdivision approvals are "legislative" in nature, requiring no prior notice or hearing. (See Cal. Administrative Agency Practice (Cont.Ed.Bar 1970) Preliminary Considerations, § 1.19, p. 16.) The *Palomar* conclusion was founded on the observation that local agencies have no discretion to reject tentative maps which comport with the Subdivision Map Act and conforming ordinances (208 Cal.App.2d at pp. 198-199), and upon the fact that the board of supervisors, a "legislative" body, was the final arbiter of such decisions, rather than the planning commission before which hearing was sought. (*Id.,* at pp. 199-200.)

Neither premise withstands close scrutiny. The test for "legislative" and "adjudicatory" acts described by us in *San Diego* does not exclude from the latter category decisions of local governing bodies. Subdivisions are subject to environmental evaluation under CEQA (Pub. Resources Code, § 21080.) Moreover, the Subdivision Map Act, as in effect both during October-December 1975 and at present, mandates rejection of a

subdivision plan if it is deemed unsuitable in terms of topography, density, public health and access rights, or community land use plans. (Gov. Code, §§ 66473-66474, 66478.1 et seq.; former Bus. & Prof. Code, § 11549.5.) It is significant that several of these statutory concerns are precisely those which the plaintiff seeks to raise. Additionally, at the time of approval of the instant map, the Ventura County subdivision ordinance (of which we may take judicial notice; Evid. Code, §§ 452, subd. (b), 459, subd. (a)) extended similar approval standards even to tract divisions which were not covered by the state act. (County of Ventura, Ord. No. 2747, § 8210.)

Resolution of these issues involves the exercise of judgment, and the careful balancing of conflicting interests, the hallmark of the adjudicative process. The expressed opinions of the affected landowners might very well be persuasive to those public officials who make the decisions, and affect the outcome of the subdivision process.

In therefore rejecting the concept that subdivision approvals are purely "ministerial" acts requiring no precedent notice or opportunity for hearing, we thereupon proceed to consider defendant and real party's secondary arguments.

Real party urges that plaintiff suffered no significant deprivation of property which would invoke constitutional rights to notice and hearing. **(5)** However, as we emphasized in *Scott* v. *City of Indian Wells* (1972) 6 Cal.3d 541 [99 Cal.Rptr. 745, 492 P.2d 1137], land use decisions which "substantially affect" the property rights of owners of adjacent parcels may constitute "deprivations" of property within the context of procedural due process. (Pp. 548-549.) **(3b)** Plaintiff herein alleges that the subdivision plan as currently constituted will substantially interfere with his use of the only access from his parcel to the public streets, and will increase both traffic congestion and air pollution. From a pleading standpoint, plaintiff has thus adequately described a deprivation sufficiently "substantial" to require procedural due process protection. (For a contrary view, see *Feldman* v. *Star Homes* (1951) 199 Md. 1 [84 A.2d 903], and *Hancock* v. *City of Concord* (1974) 114 N.H. 404 [322 A.2d 605].)

It is argued that because plaintiff must reasonably have anticipated when he bought his land that the adjacent property would be subject to residential subdivision, he thereby suffered no "deprivation" unlike the *Scott* homeowners, who confronted an unexpected commercial development. Plaintiff's complaint, however, is not directed to the fact of the

subdivision itself, but rather avers that the particular details of the current plan have caused him injury.

Defendant and real party also stress the danger that to hold subdivision approvals subject to notice and hearing requirements is too broad and sweeping a result, necessarily bringing in its train land use control devices, including the very issuance of building permits. **(6)** We emphasize, however, that constitutional notice and hearing requirements are triggered only by governmental action which results in "significant" or "substantial" deprivations of property, not by agency decisions having only a de minimis effect on land. Nor would action involving only the nondiscretionary application of objective standards entitle a landowner to such protections.

Finally, it is urged that the Subdivision Map Act itself cannot contemplate notice and hearing procedures even as to larger subdivisions, because the act provides for automatic approval of a tentative map if the local entity does not act within a specified period after the application for approval is filed. (Gov. Code, § 66452.4.) It is a sufficient response to note that the due process requirements discussed herein are not rooted in statute but are compelled by the stronger force of constitutional principle.

(3c) We therefore conclude that, whenever approval of a tentative subdivision map will constitute a substantial or significant deprivation of the property rights of other landowners, the affected persons are entitled to a reasonable notice and an opportunity to be heard before the approval occurs. As we have explained, plaintiff has sufficiently alleged such deprivation.

(7a) 2. *The Notice and Hearing Were Inadequate*

Plaintiff has averred that he exhausted all of his available administrative remedies by his futile appearances before the board. In its demurrer, defendant county charges that the petition defectively fails to recite any participation in the county's procedures for environmental review of private projects under CEQA. It is contended that any due process requirements are met by the utilization of these statutory procedures, but, after examining them, we disagree and focus initially on the notice requirement.

The county's CEQA procedures are contained in an "Administrative Supplement to the State Resources Agency Guidelines for Implementa-

tion of the California Environmental Quality Act of 1970" (supplement) adopted by the board on March 4, 1975. We may, and do, take judicial notice of these regulations. (See Evid. Code, §§ 452, subd. (b), 459, subd. (a), *supra.*) Under the supplement, all CEQA documents, including "negative declarations," are posted in three different county offices. Interested citizens may also request notice by mail of all environmental matters pending before county agencies. (Art. 5, F, 2, subd. b.) "Citizen consultation" and "public review" are recognized in the procedures, but formal public meetings may or may not be scheduled, depending on the environmental significance of a particular project. (Art. 5, F, 1, subd. b.)

Moreover, while the environmental impact report (EIR) is to include a general assessment of effects of the proposal on private property and the quality of life in the vicinity of the project, it does not necessarily focus on the individual concerns of particular landowners who may be directly affected. (Appen. 1, § 2.) There is provision for an ultimate administrative appeal to the board from environmental decisions, but the scope of the appeal is limited to the adequacy of the EIR or negative declaration. The general feasibility and desirability of the project are expressly excluded from consideration. (Art. 5, G, 3.)

(8) The general application of due process principles is flexible, depending on the nature of the competing interests involved. (E.g., *Goss* v. *Lopez, supra,* 419 U.S. 565, 583 [42 L.Ed.2d 725, 739-740]; *Boddie* v. *Connecticut, supra,* 401 U.S. 371, 378 [28 L.Ed.2d 113, 119]; *Skelly* v. *State Personnel Bd., supra,* 15 Cal.3d 194, 209; *Beaudreau* v. *Superior Court, supra,* 14 Cal.3d 448, 458.) **(9)** The extent of administrative burden is one of the factors to be considered in determining the nature of an appropriate notice. (*Hannah* v. *Larche* (1960) 363 U.S. 420, 442 [4 L.Ed.2d 1307, 1321, 80 S.Ct. 1502]; *In re Tucker* (1971) 5 Cal.3d 171, 179 [95 Cal.Rptr. 761, 486 P.2d 657].) However, where, as here, prior notice of a potentially adverse decision is constitutionally required, that notice must, at a minimum, be reasonably calculated to afford affected persons the realistic opportunity to protect their interests. (See *Mullane* v. *Central Hanover Tr. Co., supra,* 339 U.S. 306, 313; *Beaudreau* v. *Superior Court, supra,* 14 Cal.3d 448, 458; *Scott* v. *City of Indian Wells, supra,* 6 Cal.3d 541, 549.)

(7b) The notice provided by the county's CEQA regulations fails to meet the foregoing standard. By limiting itself to the posting of environmental documents at central public buildings, and mailings of notice to those persons who specifically request it, the county has manifestly placed the burden of obtaining notice solely on the concerned

individuals themselves. While such posting and mailing may well suffice to encourage the generalized public participation in the environmental decision making contemplated by CEQA, they are inadequate to meet due process standards where fundamental interests are substantially affected. Those persons significantly affected by a proposed subdivision cannot reasonably be expected to place themselves on a mailing list or "haunt" county offices on the off-hand chance that a pending challenge to those interests will thereby be revealed. Other forms of notice appear better calculated to apprise directly affected persons of a pending decision.

We deliberately refrain from describing a specific formula which details the nature, content, and timing of the requisite notice. Rather, we leave to the affected local governments these determinations. We do observe, however, that depending on (1) the magnitude of the project, and (2) the degree to which a particular landowner's interests may be affected, acceptable techniques might include notice by mail to the owners of record of property situate within a designated radius of the subject property, or by the posting of notice at or near the project site, or both. Notice must, of course, occur sufficiently prior to a final decision to permit a "meaningful" predeprivation hearing to affected landowners. (See *Bell* v. *Burson* (1971) 402 U.S. 535, 541 [29 L.Ed.2d 90, 95-96, 91 S.Ct. 1586]; *Beaudreau* v. *Superior Court, supra,* 14 Cal.3d 448, 458.)

The procedures we have described could readily be adapted from those widely employed in land use planning procedures. In fact, both the Subdivision Map Act (Gov. Code, § 66451.3) and the county's own current subdivision ordinance (County of Ventura, Ord. No. 3105, § 8250-1, subd. (c)) already require some form of public notice in certain circumstances. The map act additionally recognizes the ability of local governments to devise "reasonable" notice. Our holding today thus appears to impose no insupportable additional administrative burden on defendant county.

Defendant argues, however, that in the present case the mail-request and central-posting methods of notice were adequate because any owner of plaintiff's lot should have been aware that adjacent property would at some time probably be subdivided, from which it would follow, defendant suggests, that such an owner could reasonably be expected to take some initiative to learn the details of any proposed subdivision plan. This contention is largely refuted by the fact, conceded by all parties, that neither plaintiff nor any other affected landowner received any actual notice of the pending subdivision approval until plaintiff fortuitously learned of it from the developer himself on December 6, long after the

planning department had completed its review of the tentative map, and three days before final board action was scheduled. We are unable to agree that whenever there is any substantial reason to suspect an eventual change in use, the burden of obtaining notice thereupon shifts to the affected owner.

In any event, apart from the inadequacy of the notice, the county's environmental evaluation process itself does not fairly constitute an adequate "hearing." **(10)** The CEQA procedures are intended only to evoke and record a public response limited to the *general* environmental aspects of a proposed project. For these purposes, public hearings *may* be employed, but are not required. Thus, the CEQA process does not guarantee an affected landowner a "meaningful" predeprivation hearing (*Bell* v. *Burson, supra,* 402 U.S. 535, 541; *Beaudreau* v. *Superior Court, supra,* 14 Cal.3d 448, 458) at which his *specific* objections to the threatened interference with his property interests may be raised. Accordingly, the existence of the CEQA procedures neither satisfies the due process demands of plaintiff's claim nor constitutes a "remedy" which he was required to exhaust. (See *Ramos* v. *County of Madera* (1971) 4 Cal.3d 685, 691 [94 Cal.Rptr. 421, 484 P.2d 93].)

3. *Plaintiff Has Standing*

(11a) Real party contends that, even if abstract rights to notice and hearing exist, plaintiff is not entitled to relief because he had not yet purchased his property at the time the tentative map was initially approved by the Ventura County Planning Department. **(12)** The argument is directed at plaintiff's standing to sue and may be raised for the first time on appeal. (Code Civ. Proc., § 430.80; *Parker* v. *Bowron* (1953) 40 Cal.2d 344, 351 [254 P.2d 6].)

(11b) Nonetheless, we cannot accept the contention. As we have explained, notice and hearing must be afforded at some "meaningful" point in the approval process. It is argued that to grant plaintiff relief would permit him to assert the constitutional rights of others because he was not an affected landowner, not having acquired ownership until after the planning department's approval. However, plaintiff has alleged that the approval process was *not yet final* when he purchased his property, because an appeal to the board of supervisors of the planning department action was then pending. Moreover, the complaint avers that no *prior* notice or hearing had previously been given to *any* affected landowner, or to plaintiff or his predecessor.

If, at the time of plaintiff's purchase, the county had already provided an adequate notice and opportunity for hearing to affected landowners

then of record, the county would not, of course, be constitutionally required to repeat the process for subsequent purchasers, either before or after a final decision. Because it allegedly had not done so, however, the constitutional issues remain at large. It follows, accordingly, that plaintiff may assert his own claim to due process before he is finally deprived of a presently existing property interest.

(13) Nor did the fact that plaintiff accidentally received notice of the hearing on real party's appeal constitute a waiver of plaintiff's own right to assert constitutional defects. At that hearing the board confined its review to the issue raised by the developer and rejected all requests by plaintiff and other landowners for more extended reconsideration. (But see County of Ventura, Ord. No. 2844, § 8211, subd. (a), *supra*.) The "notice" received by plaintiff obviously led to no "meaningful" vindication of his due process rights.

(11c) We therefore conclude that plaintiff has standing to assert his constitutional rights to notice and hearing in connection with the instant subdivision approval. The general demurrer to the petition for writ of mandate should not have been sustained.

The judgment is reversed and the cause is remanded to the trial court with directions to overrule the demurrer to the petition for writ of mandate. The trial court is further authorized to award plaintiff trial and appellate attorneys' fees if it determines that this case "has conferred a significant benefit . . . on the general public or a large class of persons" and that "the necessity and burden of private enforcement are such as to make the award appropriate." (Code Civ. Proc., § 1021.5, subds. (a), (b).) The trial court shall determine the amount of any fees to be awarded. Plaintiff shall recover costs.

Tobriner, J., Mosk, J., and Clark, J., concurred.

Bird, C. J., and Manuel, J., concurred in the result.

NEWMAN, J.—I concur, but I do not agree with this dictum of the majority: "[O]nly those governmental decisions which are *adjudicative* in nature are subject to procedural due process principles. *Legislative* action is not burdened by such requirements."[1]

[1](*Ante*, p. 612.) I wonder too why "the exercise of judgment, and the careful balancing of conflicting interests, [are] the hallmark of the adjudicative process." (*Id.*, p. 615.) Do they not mark also the work of conscientious legislators?

I do not know whether the hackneyed quotation from *Bi-Metallic Co.* v. *Colorado* (1915) 239 U.S. 441, 445 [60 L.Ed. 372, 375, 36 S.Ct. 141], was an accurate description of lawmaking when Justice Holmes wrote it. More than a half-century later, however, we hardly should proclaim that fundamental rights in this country are protected from harmful statutes and harmful regulations only because of individuals' "power, immediate or remote, over those who make the rule."

Notice and hearing now characterize the great bulk of legislating and rulemaking. Often the forms of notice and hearing differ greatly from those that typify most adjudication procedures.[2] Yet the appropriate protections of due process are there; and we should not encourage legislators and rulemakers who conceivably yearn for a more comfortable past—when often they did proceed without notice, without hearing, in protective secrecy. (See Nathanson, *Probing The Mind of the Administrator* . . . (1975) 75 Colum.L.Rev. 721, 724 ["The Advent of Informal Rulemaking: From *Bi-Metallic* to *Florida East Coast* and the APA"]; 1 Davis, Administrative Law Treatise (2d ed 1978) p. 449 ["due process limitations in the background, *always present* but seldom brought to the foreground" (italics added)]; cf. *id.*, § 6:31 ["Should Courts Require Notice and Comment Procedure for Rules the APA Exempts from That Requirement?"]; Davis, *The Requirement of a Trial-Type Hearing* (1956) 70 Harv.L.Rev. 193, 201 ["More harmful than helpful is the proposition . . . that hearings are required for judicial functions but not for legislative functions"]; see too Linde, *Due Process of Lawmaking* (1976) 55 Neb.L.Rev. 197.)

For the same reasons I think it is time to disapprove intended implications of the analogous dictum in *San Diego Bldg. Contractors Assn.* v. *City Council* (1974) 13 Cal.3d 205, 211 [118 Cal.Rptr. 146, 529 P.2d 570, 72 A.L.R.3d 973] ("it is black letter constitutional law that due process requires 'notice and hearing' only in quasi-judicial or adjudicatory settings and not with respect to the adoption of general legislation").

On August 29, 1979, the judgment was modified to read as printed above.

[2]See, for example, article 4 of chapter 4.5 of the California Administrative Procedure Act (Gov. Code, §§ 11420-11425); compare *Armistead* v. *State Personnel Board* (1978) 22 Cal.3d 198, 204 [149 Cal.Rptr. 1, 583 P.2d 744]; Newman, *Two Decades of Administrative Law in California: A Critique* (1956) 44 Cal.L.Rev. 190, 193 ("The Bar has shown startlingly little concern regarding improvements in administrative rule making").

EXHIBIT N

Citation	Rank(R)	Database	Mode
CAENV No. WQ 86-13	R 5 OF 9	CAENV-ADM1	P

In the Matter of the Petition of
BKK CORPORATION
ORDER NO. WQ 86-13
August 21, 1986

To Review Cleanup and Abatement Order No. 84-4 and Cease and Desist Order No. 84-89 Issued by the California Regional Water Quality Control Board, Los Angeles Region. Our File No. A-384.

BY THE BOARD:

Petitioner, BKK Corporation (BKK), filed a timely petition to review Order No. 84-89 of the California Regional Water Quality Control Board, Los Angeles Region (Regional Board). Order No. 84-89 is a cease and desist order. As part of Order No. 84-89, the Regional Board also ratified Cleanup and Abatement Order No. 84-4, an order previously issued by the Executive Officer. [FN1] BKK seeks review of the cease and desist order and cleanup and abatement order, insofar as those orders concern issues relating to the 'Miranda Seep,' in the vicinity of BKK's West Covina landfill. [FN2]

I. BACKGROUND

In 1984, BKK was operating a Class I landfill in the San Jose Hills about three miles south of the civic center of the City of West Covina. The landfill was subject to waste discharge requirements set by Regional Board Order No. 76-140, as amended by Order No. 84-41. The entire landfill covers 562 acres, but only 140 acres were used for Class I (hazardous waste) disposal operations. Portions of the remaining acreage were designated for disposal of nonhazardous waste, or were not permitted to accept waste. The facility currently is allowed to dispose of nonhazardous waste only.

During a July 13, 1984 field inspection, Regional Board staff sampled a seep located in a southerly-facing ravine, on BKK property but outside the landfill boundary, north of Miranda Street. The discharge from the seep, referred to in this order as the 'Miranda Seep,' was about one gallon per minute. The natural path of the discharge leads to a storm drain catch basin near the rear of private residences on Miranda Street, but the flow percolated into the ground before reaching the catch basin.

Laboratory analysis of the seep water indicated the presence of volatile chlorinated hydrocarbons. These results were confirmed by analysis of seep water sampled on July 25, 1984. The chlorinated hydrocarbons found in the samples included vinyl chloride, measured at forty parts per billion in both the July 13 seep water and the July 25 seep water.

Vinyl chloride presents a very serious health hazard. Waste containing more than 10 parts per million vinyl chloride is classified as hazardous. Title 22, Cal. Admin. Code s 66696. The 'action level' established by the Department of Health Services, based upon health risks of chemicals in drinking water, is two part per billion for vinyl chloride. Based upon vinyl chloride's carcinogenic effect, the Environmental Protection Agency recently established a recommended maximum contaminant level in drinking water of zero, and proposed a binding

maximum contaminant level in drinking water of one part per million. 50 Fed. Reg. 46880 (November 11, 1985).

On July 27, after concluding that the chlorinated hydrocarbons in the seep water were as a result of BKK's operations, the Regional Board Executive Officer issued Cleanup and Abatement Order No. 84-4. This cleanup and abatement order, delivered to BKK the same day, required BKK to "clean up the condition of pollution, or threatened pollution," indicated by the presence of the Miranda Seep and the levels of chlorinated hydrocarbons found in the seep water. The cleanup and abatement order required submission of a work plan, including provision for pumping to eliminate seepage. The order required submission of the workplan by July 30, 1984, and full compliance by August 15, 1984.

BKK's workplan, completed on August 3, 1984, estimated that the cleanup project would be completed by August 31, 1984. But the first extraction well did not begin pumping until August 30, 1984. On September 24, 1984, an inspection by Regional Board staff found no surface flow from the seep, although the lower end of the stream bed was still muddy. In addition, analysis of water obtained on September 20, 1984 from the well used to stop the seep indicated that the water still contained elevated concentrations of vinyl chloride.

Following a hearing on October 15, 1984, the Regional Board issued a cease and desist order, Order No. 84-88. As part of the order, the Regional Board found that BKK had violated, or was in threatened violation of, several provisions of the waste discharge requirements for the site. The Regional Board also affirmed Cleanup and Abatement Order No. 84-4. The Regional Board found that a condition of pollution still existed, and provided that compliance would be demonstrated when the vinyl chloride concentration was reduced to two parts per million, or the polluted aquifer was dewatered.

BKK petitions for review of the Regional Board's actions.

II. CONTENTIONS AND FINDINGS

1. Contention: BKK contends that failure to provide notice and an opportunity to challenge the proposed order before Cleanup and Abatement Order No. 84-4 was issued deprived BKK of due process of law.

Finding: BKK did not received notice and an opportunity to challenge the cleanup and abatement order until after the Regional Board Executive Officer issued the order. The Porter-Cologne Water Quality Control Act (Porter-Cologne Act), Cal. Water Code § 13000 et seq., does not require notice and an opportunity to be heard before issuance of a cleanup and abatement order. Due process is provided by an opportunity for a hearing after the order is issued.

The Legislature intended to provide a summary procedure, through issuance of cleanup and abatement order under Section **13304** of the Water Code, by which threatened or continuing water quality problems could be remedied promptly:

> "The Legislature specifically set up a process whereby a Regional Board Executive Officer could act expeditiously to correct water quality problems." State Water Recources Control Board Order No. WQ 85-10 at 5.

Requiring notice and an opportunity to be heard before issuance of a cleanup and abatement order would be inconsistent with this procedure. Hence the Porter-Cologne Act Does not require a hearing before a cleanup and abatement

order is issued. See Cal. Water Code s 13304.

Article 3, Section 3.5 of the California Constitution would prohibit this Board from holding that the statutory procedures for issuance and review of cleanup and abatement orders are unconstitutional. See State Water Resources Control Board Order No. 85-10 at 5. Moreover, a review of those procedures convinces us that the provisions of the Porter-Cologne Act are consistent with the constitutional requirement of procedural due process.

Once a cleanup and abatement order is issued, there is ample opportunity for the discharger to present its views and seek revision or rescission of the order. After reviewing a cleanup and abatement order issued by the Regional Board Executive Officer, the discharger may submit comments and request changes in the order. The Executive Officer may amend the order in response. The discharger may also request an opportunity to be heard by the Regional Board, which may amend or rescind the order. If the discharger is not satisfied with the decision of the Regional Board, or if the Regional Board fails to make a decision within sixty days of the discharger's request, the discharger may petition the State Board for review. Cal. Water Code s 13320. (FN3) State Board review ordinarily is based on the record before the Regional Board, but a hearing may be convened for the presentation of additional evidence which could not have been presented before the Regional Board or was improperly excluded by the Regional Board. See id. s 13320(b); 23 Cal. Admin. Code s 2050(b). The State Board's decision is subject to judicial review. Cal. Water Code s 13330.

These procedures are more than adequate to provide due process. The requirements of procedural due process are flexible. There are no fixed rules as to what procedures are required in a particular case. Procedural requirements depend upon a balancing of the interests involved. Saleeby v. State Bar, 39 Cal.3d 547, 565, 703 P.2d 525, 535, 216 Cal.Rptr. 357, 367 (1985). The Porter-Cologne Act recognizes a strong public interest in protecting the quality of the waters of the state. As part of the Porter-Cologne Act, the Legislature declares: 'that the state must be prepared to exercise its full power and jurisdiction to protect the quality of waters in the state from degradation.' Cal. Water Code s 13000. With respect to the private interest in activities involving discharge of waste, or which may create conditions of pollution or nuisance, the Porter-Cologne Act provides:

> 'No discharge of waste into the waters of the state, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the state are privileges, not rights.' Cal. Water Code s 13263(g).

Where the state's interest is sufficient compelling, the requirements of procedural due process may be satisfied by a hearing provided after issuance of an administrative order or other official action which impacts private interests. See Goldin v. Public Utilities Commission, 23 Cal.3d 638, 663, 590 P.2d 336, 345, 153 Cal.Rptr. 802, 818 (1979); Habrun v. State Department of Social Services, 145 Cal.App. 318, 321-22, 193 Cal.Rptr. 340, 342 (1983). In view of the strong public interest in protecting water quality, and the need for a procedure allowing for expeditious action to cleanup or abate water quality problems, we conclude that the state's interest in prompt issuance of cleanup and abatement orders is sufficient compelling to uphold the procedures provided for the Porter-Cologne Act.

2. Contention: BKK contends that there is insufficient evidence to find that

a condition of 'pollution,' contamination, or 'nuisance' exists.

Finding: The presence of vinyl chloride at the levels observed in the Miranda Seep and in the aquifer which is the source of the seep constitutes a condition of pollution as defined in Section 13050 of the Water Code. [FN4] The presence of vinyl chloride in the aquifer systems beneath the BKK landfill also threatens to cause pollution of alluvial aquifers in the San Gabriel Valley. There is evidence in the record that these aquifers are in hydraulic continuity with the aquifer system beneath the BKK landfill. [FN5]

The aquifer in the immediate vicinity of BKK landfill exhibits variable quality. Samples from the northernmost (upslope) monitoring well show relatively low salinity levels, ranging from 570 to 580 parts per million total dissolved solids. Other samples taken at the landfill exhibit higher salinity levels. For example, water from the Miranda Seep had 3,900 parts per million total dissolved solids. It is unclear whether the variable salinities in the aquifer in the vicinity of the landfill are due to naturally occurring conditions or to landfill operations.

The ground water in the alluvial aquifers of the San Gabriel Valley is of good quality and is beneficially used for drinking water. The nearest drinking water supply well, operated by Suburban Water Systems, is 1.5 miles west of the landfill. The evidence in the record supports the conclusion that these aquifers are in hydraulic continuity with the aquifer systems beneath the BKK landfill.

To support a finding that a condition of pollution exists, it is not necessary to establish that pollutants were observed in waters off of BKK's property. As this Board observed in another Order involving ground water pollution:

> Waters of the state are defined by Section 13050 (e) of the Water Code, subdivision (e) to include all groundwaters within or under the surface area of the state. There is no question that the groundwaters under the . . . site are waters of the state. The ownership of property may give rise to rights to use of water. However, such usufructuary rights do not by any means divest the state of title to these waters. (See Water Code Sections 100, 101, and 102). Since groundwaters under . . . site are waters of the state, pollution or threat of pollution of those waters alone would suffice to sustain a cleanup and abatement order under Section **13304** .' State Water Resources Control Board Order No. 90-4 at 15-17 (footnotes omitted).

Similarly, it is not necessary to find that waters of the state are currently being put to beneficial use in order to support a finding of pollution:

> 'Petitioners argued that since the groundwaters under the . . . site are not presently used for domestic purposes, no beneficial use has been impaired, and therefore the Regional Board's finding of pollution cannot be sustained. This contention lacks merit. The Regional Board need not await actual harm to beneficial uses to find pollution due to substances whose mere presence in drinking water is considered a health hazard. Moreover, there is no requirement that the affected waters must presently be used as a domestic water supply source in order to receive protection.' Id. at 17-18.

The record indicates that, but for pollutants added as a result of BKK's operations, at least portions of the ground water at the BKK site could potentially be used for domestic water supply. BKK asserts that the water has concentrations of flouride and manganese in excess of drinking water standards, but that would not rule out the possibility of use after treatment or blending

with other water supplies. Fluoride and manganese are naturally occurring elements which may be present at low concentrations in water supplies without presenting a public health hazard. [FN6] Vinyl chloride presents a far more serious public health hazard, and its presence has a far more serious impact on the potential for domestic use of a water supply than does the presence of fluoride and manganese. We therefore conclude that the presence of vinyl chloride in the waters in the vicinity of the BKK landfill unreasonably affects the potential beneficial use of those waters. BKK's operations have created a condition of pollution.

Of greater concern than pollution of ground waters at the BKK site is the threatened pollution of aquifers in the San Gabriel Valley which are currently being used for domestic water supply. [FN7] There is evidence in the record that these aquifers are in hydraulic continuity with the aquifer system beneath the BKK landfill. Unless adequate measures are taken to prevent the migration of vinyl chloride and other pollutants from the aquifer in the immediate vicinity of the BKK landfill--by cleaning up the aquifer or by undertaking measures to prevent the natural transport of waters in the aquifer--pollution of these San Gabriel Valley aquifers is threatened.

The Regional Board's findings in Order No. 84-38 and Cleanup and Abatement Order No. 84-4 that conditions of pollution and threatened pollution exist are supported by the record. The threatened pollution of aquifers in the San Gabriel Valley would provide sufficient basis for issuance of a cleanup and abatement order, independent of any finding of pollution in the immediate vicinity of the BKK landfill. See Cal. Water Code § **13304.**

We also conclude that there is another basis, independent of the Regional Board's findings of pollution and threatened pollution, in support of issuance of the orders issued by the Regional Board. The orders were issued in response to violations of waste discharge requirements. Cease and desist orders are based upon a finding that a discharge is taking place or threatening to take place in violation of waste discharge requirements or discharge prohibitions. Cal. Water Code § 13301. Cleanup and abatement orders may be based upon either: (1) a discharge in violation of waste discharge requirements or (2) a discharge or threatened discharge which creates or threatens to create a condition of pollution or nuisance. Id. § **13304.**

Thus, it may not be necessary to establish pollution or threatened pollution to support issuance of a cease and desist order or cleanup and abatement order. Where, by the express terms of the specific provision of the waste discharge requirements or discharge prohibition at issue, a condition of pollution or threatened pollution must be established in order to establish a violation of the waste discharge requirements or discharge prohibition, evidence of pollution or threatened pollution is required. Pollution or threatened pollution must also be established to support a cleanup and abatement order where there is no finding of a violation of a cleanup and abatement order. Otherwise, no demonstration of pollution or threatened pollution is required. [FN8]

The Regional Board ratified Cleanup and Abatement Order No. 84-4 as part of Order No. 84-49. The Regional Board also found, in Order No. 84-49, that BKK was in violation of waste discharge requirements. Where the conditions of waste discharge requirements found to have been violated do not themselves require a demonstration of pollution or threatened pollution in order to

establish a violation, the Regional Board's finding of violations of waste discharge requirements, supported by the record, provide a basis to uphold both Regional Board orders independent of the Regional Board's finding of pollution and threatened pollution.

3. Contention: BKK contends that it is not in violation of waste discharge requirements.

Finding: The discharge from the Miranda Seep contained chlorinated hydrocarbons, including vinyl chloride, above naturally occurring levels. At the time the seep was discovered, BKK was responding to a gas migration problem, that forced evacuation of homes adjacent to the landfill. The most serious problem was the presence of vinyl chloride gas. Chemical analysis of the Miranda Seep indicated that the discharge did not contain many of the pollutants indicative of leachate, such as heavy metals and relatively nonvolatile organic compounds. An upslope monitoring well, MW-15, had exhibited high concentrations of vinyl chloride, at 1,000 to 2,500 parts per billion. These facts support the conclusion that vinyl chloride and other chlorinated hydrocarbons were discharged from the Miranda Seep as a result of subsurface gas migration and dissolution into the aquifer which is the source of the seep.

The record also supports the conclusion that the probable source of the vinyl chloride gas was the Class I disposal area. It is highly unlikely that vinyl chloride gas would be found at the quantities and concentrations observed unless the gas had come from areas where Class I wastes had been disposed of.

With respect to the Class I disposal area, the waste discharge requirements provide, in part: B-3. Wastes shall be deposited only in class I areas and shall be prevented from escaping therefrom . The migration of vinyl chloride gas and dissolution into the aquifer is in violation of this requirement.

With respect to all areas of the landfill, the waste discharge requirements require:

> C-4. The migration of gases from the disposal site shall be controlled as necessary to prevent water pollution or nuisance.
>
> . . . .
>
> C-12. Wastes deposited at this site shall be confined thereto, and shall not be permitted to flow off the site or to enter downstream drainage ditches or water courses.

The migration of gases, which caused conditions of pollution and threatened pollution, constitutes a violation of requirement C-4 . The discharge from the Miranda Seep, containing vinyl chloride and other chlorinated hydrocarbons, constitutes a violation of requirement C-12, requiring that the wastes be confined to the landfill site and not permitted to enter downstream drainage ditches or water courses.

In summary, BKK was in violation of requirements B-3, C-4 and C-12 of its waste discharge requirements. Because these three requirements were violated, it is not necessary to determine whether any other conditions of the waste discharge requirements were violated. [FN9]

4. Contention: BKK contends that establishing cleanup levels at the level set by Department of Health Services action levels is unreasonable.

Finding: Order No. 84-89 establishes a cleanup level of 1 parts per billion vinyl chloride for the aquifer for the immediate vicinity of the BKK landfill. Order No. 84-89 provides that, unless the aquifer is dewatered, compliance with

Cleanup and Abatement Order No. 84-4 requires that vinyl chloride concentrations in the ground water be reduced to this level.

As explained in a recent State Board order involving ground water cleanup levels, 'action levels' are health-based criteria developed by the Department of Health Services, based on potential health effects when chemicals are found in drinking water. State Water Resources Control Board Order No. 68-8 at 7-8. Action levels are not adopted as regulations, and are not binding on the Regional Boards, but they may be used as evidence of what level of ground water cleanup may be appropriate to protect present and potential beneficial uses. [FN10]

The Regional Board did not treat the Department of Health Services' action levels as binding standards, but relied on these action levels as an indication as to what level of cleanup would reasonably be required to abate conditions of pollution and threatened pollution. As discussed earlier, the presence of vinyl chloride in the ground water at BKK site threatens to pollute other aquifers which are currently used for domestic water supplies. The Environmental Protection Agency has established a recommended maximum contaminant level for vinyl chloride of zero parts per billion. On the record before us, requiring cleanup to a level of two parts per billion vinyl chloride was reasonable. [FN11]

E. Contention: BKK contends that the schedule established by the Regional Board for completion of cleanup operations was unreasonable.

Finding: The time allowed by the Regional Board for BKK to achieve full compliance with Cleanup and Abatement Order No. 84-4 and Cease and Desist Order No. 84-38 was unreasonably brief.

Of necessity, cleanup and abatement orders often must be issued based upon limited information as to what measures are necessary to correct the problem, and how long correction will take. To assure that cleanup and abatement begins promptly, the Executive Officer issues the order based upon the information available at the time, rather than waiting for further investigation by the Board staff or the discharger that would provide more detailed information concerning how long it would take to comply. Based upon the information available to the Executive Officer at the time, we cannot fault the Executive Officer for the schedule originally included in Cleanup and Abatement Order No. 84-4.

Once a cleanup and abatement order is issued, however, the Executive Officer, and the Regional Board itself, must maintain the flexibility to revise the order as further information, including information and arguments submitted by the discharger, become available.

In this case, the cleanup and abatement order established an intermediate deadline for completion of a workplan. It may be anticipated that, in many cases, the Regional Board will have a great deal more information available to it after review of a workplan submitted by the discharger. Where this information demonstrates that the original compliance schedule is inappropriate, it should be revised.

Even after the workplan is submitted, further developments may require further revisions to the compliance schedule. If the discharger were held rigidly to the schedule proposed in the original workplan, without possibility of amendment, some dischargers might be discouraged from proposing tight schedules for completion of operations out of fear that unanticipated delays could result

in civil monetary remedies if the dates proposed in the workplan are not met. [FN13] As a result, cleanup operations would take longer. The same public policies that demand that the Executive Officer have authority to issue cleanup and abatement orders without a prior hearing, to assure prompt cleanup, also require flexibility to change the cleanup and abatement order as further information becomes available.

In this case, the Regional Board adhered to the cleanup schedule set when the cleanup and abatement order was first issued, in the face of further information demonstrating that the schedule was unrealistic.

In considering what would constitute a realistic cleanup schedule, two aspects of the cleanup should be considered separately:

(1) stopping the seepage at the Miranda Seep; and

(2) abating the condition of pollution and threatened pollution arising from the presence of vinyl chloride in the aquifer that fed the Miranda Seep.

The first aspect of cleanup could be accomplished relatively soon, although not as soon as required by Cleanup and Abatement Order No. 84-4. Full cleanup of the aquifer would take much longer.

a. Seepage Control

The canyon area where the Miranda Seep is located is steep, and lacks roads. Access problems created difficulties both in gathering information necessary to prepare a workplan and in carrying out operations to stop the seepage.

Cleanup and Abatement Order No. 84-4, delivered on July 27, 1984 required submission of a workplan by July 30, and full compliance by August 15, 1984. BKK mailed the workplan on August 3, 1984. The workplan proposed to provide for pumping wells to eliminate the seep, with an estimated date for completion of August 31, 1984. The Regional Board accepted the workplan on August 10, with the added condition that gas probes be installed near the proposed extration wells, but retained the original August 15 deadline for full compliance. Based upon our review of the information available to the Regional Board at that time, including the workplan submitted by BKK, we find insufficient evidence to support the Regional Board's decision not to extend the August 15 deadline for full compliance. [FN14]

Subsequent events indicate that even BKK's proposed August 31 completion date was overly optimistic. Well drilling proved difficult and time consuming. Pumping at the first well did not begin until August 30. On August 31, BKK informed the Regional Board of the difficulties encountered, and reasserted its claim that the August 15 compliance date set by Cleanup and Abatement Order No. 84-4 was unreasonable.

BKK encountered further difficulties in its efforts to drill a second well. By pumping water from the first well, BKK lowered the water table to the point where there was no surface flow from the seep. Regional Board staff inspected the area on September 25, 1984, and observed that there was no surface flow from the seep.

Based upon the additional information which became available as part of BKK's efforts to stop the seepage, and BKK's request for additional time, the Regional Board should have reassessed the reasonableness of the August 15 compliance date originally set for stopping the seepage. The cleanup and abatement order should have been amended to provide a reasonable time, beyond

the August 31 completion date previously estimated by BKK, to achieve full compliance. [FN14]

b. Aquifer Cleanup

Order No. 84-89 provides that full compliance with Cleanup and Abatement Order No. 84-4 will be established when the concentration of vinyl chloride in the ground water pumped by the well used to control the Miranda Seep is reduced to two parts per billion, or when the aquifer is completely dewatered.

The record provides relatively little evidence upon which to base a decision on what would constitute a reasonable time for compliance with the requirement of cleaning up the aquifer. Cleanup and Abatement Order No. 84-4 required a workplan for stopping seepage: it did not require a workplan for cleanup of the aquifer. It is clear, however, that cleanup or dewatering of the aquifer would require considerably more time than lowering the water table to the point where the seepage stopped.

The Regional Board therefore should have established a longer schedule for cleanup of the aquifer than for stopping the seepage. Requiring an additional workplan to set forth efforts to complete cleanup of the aquifer after efforts to stop the seepage were completed would also have been desirable. [FN15]

The cleanup and abatement order should be revised to provide different compliance dates for stopping the seepage and cleaning up the aquifer, and to establish a reasonable time for compliance with each of these requirements. These revisions may best be made by the Regional Board (or the Executive Officer), taking into account any new information which may have been developed since this petition was filed, or which may be developed as part of preparation of revisions to the cleanup and abatement order. [FN16] Accordingly, we remand Order No. 84-89 and Cleanup and Abatement Order No. 84-4 to the Regional Board. [FN17]

At the workshop session on this order, BKK requested a hearing to receive additional evidence, not part of the administrative record upon which this order is based. BKK requested an opportunity to present relevant evidence on the issue of whether there is a condition of pollution, or threat of pollution, either to the aquifer underlying the BKK site or the San Gabriel Valley aquifer. BKK also requested an opportunity to present evidence on the issue of whether the Regional Board's requirement limiting vinyl chloride concentrations to two parts per billion, or dewatering the polluted aquifer, is unreasonable. BKK's petition for review of the Regional Board's action did not request a hearing on this additional evidence, see 22 Cal. Admin. Code s 2050(b). At the workship session, the Regional Board Executive Officer stated that the Regional Board would consider new orders as required by this decision within the new few months. He agreed that the new evidence could be considered at that time. We believe the Regional Board is a more appropriate forum for the presentation of new evidence. We therefore decline to honor BKK's request to present additional evidence. See id. s 2050(b). This order is based upon the record before the Regional Board. See id. s 2054. Additional evidence may be presented to the Regional Board when it prepares revisions to the cleanup and abatement order. Evidence may be presented in support of revisions to the cleanup and abatement order with respect to the specific remedial actions to be carried out, the schedule for compliance, or any other changes which may be

justified by the additional evidence.

III. SUMMARY AND CONCLUSIONS

1. The Executive Officer of the Regional Board is not required to provide notice and an opportunity to be heard before issuing a cleanup and abatement order.
2. The presence of vinyl chloride in the aquifer in the immediate vicinity of the BKK landfill constitutes conditions of pollution and threatened pollution. The waters where vinyl chloride has been observed are polluted. We also conclude, based upon the evidence in the record, that other waters in hydraulic continuity with these polluted waters are threatened with pollution.
3. These conditions of pollution and threatened pollution have resulted from violations of BKK's waste discharge requirements.
4. Based upon the evidence before the Regional Board, the Regional Board's requirement that vinyl chloride concentrations be reduced to two parts per billion, or that the polluted aquifer be dewatered, is appropriate and proper.
5. The schedule for compliance with cleanup requirements was unreasonably short. Separate schedules should be established for stopping seepage and for cleanup of the aquifer, and reasonable times should be provided for each.

IV. ORDER

IT IS HEREBY ORDERED that the California Regional Water Quality Control Board, Los Angeles Region, shall amend Order No. 84-99 and Cleanup and Abatement Order No. 84-4 to establish separate schedules for stopping seepage and for groundwater cleanup, and shall provide reasonable times for each task. Cleanup and Abatement Order No. 84-4 may be amended by the Executive Officer.
IT IS FURTHER ORDERED that the petition in this matter is otherwise denied.

FN1 Order No. 84-99 also includes a referral to the Attorney General for enforcement. BKK's petition requested a stay of this referral. By letter dated January 29, 1985, BKK's request was denied.

FN2 Order No. 84-99 and BKK's original petition deal with several other issues besides the Miranda Seep. Based upon its conclusion that the other issues had become moot, BKK later requested that the State Board limit its considerations to the issues raised in the petition related to the Miranda Seep.

FN3 The Regional Board contends that this petition should have been filed within thirty days of issuance of Cleanup and Abatement Order No. 84-4. We do not agree. The Regional Board reviewed Cleanup and Abatement Order No. 84-4, and approved of the Executive Officer's decision, as part of Cease and Desist Order No. 84-99. Because BKK's petition was filed within thirty days of the Regional Board's issuance of Cease and Desist Order No. 84-99, it is timely for purposes of review of all issues decided by the Regional Board as part of the cease and desist order, including the decision not to amend or rescind Cleanup and Abatement Order No. 84-4.

FN4 "Pollution" means an alteration of the quality of the waters of the state

by waste to a degree which unreasonably affects (1) such waters for beneficial uses, or (2) facilities which serve such beneficial uses. 'Pollution' may include 'contamination'. Cal. Water Code § 13050(l).

FN5 Because we find that conditions of pollution and threatened pollution exist, it is unnecessary to determine whether these conditions also constitute contamination or nuisance.

FN6 Department of Health Services drinking water standards set a maximum contaminant level for flouride of approximately 2,000 parts per billion, with an 'optimum' level of approximately 1,000 parts per billion. 22 Cal. Admin. Code § 64435. The drinking water standard for manganese is a secondary standard, based upon consumer acceptance rather than health hazards, of 50 parts per billion. Id. § 64473.

FN7 The applicable water quality control plan lists municipal and domestic use as an existing beneficial use of the ground waters in the area, the San Gabriel Valley Subunit of the Los Angeles San Gabriel River Hydrologic Unit. State Water Resources Control Board and Regional Water Quality Control Board, Los Angeles Region (4), Water Quality Control Plan Report, Los Angeles River Basin (4B) at 1-2-11 (1975).

FN8 The legislative history of the Porter-Cologne Act indicates that prior law requiring proof of pollution or nuisance to enforce a cease and desist order, where violation of waste discharge requirements had been established, constituted a barrier to effective enforcement. The legislative history also indicates a legislative intent to correct the inadequacies in the enforcement provisions of the state's water quality law. See Final Report of the Study Panel to the California State Water Resources Control Board, Recommended Changes in Water Quality Control 19 (1969); 1969 Cal. Stats., Ch. 482, Section 35 (adopting report of the Study Panel as legislative history).

FN9 The Regional Board found BMK to be in violation of nine provisions of the waste discharge requirements. Some of the requirements cited as being violated apparently involve issues other than the Miranda Seep.

FN10 Similarly, the Environmental Protection Agency's Water Quality Criteria Documents are not adopted as regulations, and are not binding on the states, but may be used as information and guidance in deciding what water quality objectives are appropriate. See 40 C.F.R. § 131.11(b)(2). See generally 29 Ops.Cal.Atty.Gen. 227, 233 (1956); 2 K. Davis Administrative Law Treatise § 7.5 (2d Ed. 1979). A summary of the Water Quality Criteria Document for vinyl chloride states in part:

> 'For the maximum protection of human health from the potential carcinogenic effects due to exposure of vinyl chloride . . . the ambient water concentration should be zero . . .. However, zero level may not be attainable. Therefore, the levels which may result in incremental increase of cancer . . . are estimated . . ..' 45 Fed. Reg. 79318, 79341 (Nov. 28, 1980).

The level of vinyl chloride estimated to create an excess lifetime cancer risk

of 10-6 is 2.0 ?g/l (two parts per billion). Id.

FN11 BKK contends that no applicable water quality objectives have been adopted pursuant to Water Code Section 13241. This assertion is incorrect. The applicable water quality control plan establishes a general objective requiring that there be no adverse change in water quality, unless it is demonstrated that the change in consistent with the maximum benefit of the people of the state and will not unreasonably affect present and anticipated beneficial uses . See State Water Resources Control Board and Regional Water Quality Control Board, Los Angeles Region (4), Water Quality Control Plan Report, Los Angeles River Basin (4B) at 1-4-5, 5A-1 (1975). It has not been demonstrated that allowing higher vinyl chloride concentrations than allowable under Order No. 84-89 would be consistent with the maximum benefit of the people of the state.

We also note that while water quality objectives may be adopted as part of water quality control plans or state policy for water quality control, see Cal. Water Code ss 13240, 13170, 13241, these are not the exclusive means for setting water quality objectives. Site-specific objectives may be established as part of individual permitting and enforcement actions. See id. ss 13263, **13304.** Setting cleanup levels amounts to establishment of site-specific objectives. Establishing these objectives as part of individual permitting and enforcement actions, instead of through quasi-legislative plans and policies, does not constitute a denial of due process. See National Labor Relations Board v. Bell Aerospace Co., 416 U.S. 267, 290-95, 94 S. Ct. 1757, 1770-72 (1974).

FN12 Civil monetary remedies may be imposed for violations of schedules set by cleanup and abatement orders. Cal. Water Code ss 13350, 13385. Where liability is imposed based upon a discharge in violation of waste discharge requirements or other regulatory requirements, failure to comply with the schedule set by a cleanup and abatement order issued in response to the discharge may increase the amount of liability. Id.

As part of Order No. 84-89, the Regional Board adopted a referral to the Attorney General for enforcement, including imposition of civil monetary remedies. Because the deadline for compliance set by the cleanup and abatement order may affect the amount of liability, issues relating to the reasonableness of the schedule of compliance are not moot, even where they concern aspects of cleanup, such as stopping the seepage, which may already have been completed.

FN13 The Regional Board contends that BKK failed to achieve compliance with the August 15 deadline because resources that should have been used to correct the seepage problem were diverted to respond to the gas migration problem that had caused evacuation of homes near the landfill. But the August 31 completion date estimated in the workplan is not based upon the need to devote resources to other problems. Rather, the estimate is based on the proposed work to be done, and the assessment that access would be extremely difficult and working conditions would be hazardous. Aside from its claim that BKK diverted resources away from the Miranda Seep problem, the Regional Board does not cite any evidence that it was reasonable to expect cleanup to be completed in less time than estimated in BKK's workplan.

FN14 With one exception, BKK's efforts to stop the seepage appear to have been reasonable. A 3/4 horsepower pump that failed on August 30, 1984 was not replaced until September 11, 1984, an unreasonably long delay.
A Regional Board is not required to amend a cleanup and abatement order simply because the compliance date has not been achieved, especially where there have been unreasonable delays in achieving compliance. In this case, however, most of the difficulties which delayed compliance by BKK involved circumstances which indicated that the compliance date originally set by the cleanup and abatement order could no longer be considered reasonable . A new, reasonable compliance date should have been established.

FN15 To ensure that the aquifer is cleaned up as soon as possible, the cleanup and abatement order should have been more specific about cleanup of the aquifer. Indeed, it was not clear until the Regional Board issued Order No. 84-85 that the Regional Board expected cleanup and abatement of conditions of pollution or threatened pollution, as required by Order No. 84-4, to include cleanup of the aquifer. The Regional Board approved a workplan which was directed towards stopping the seepage, not cleanup of the aquifer. This uncertainty, as to whether cleanup of the aquifer was expected, supports our conclusion that it was unreasonable to expect cleanup of the aquifer on the same schedule as stopping the seepage.

FN16 Comments submitted by homeowners' associations in response to BKK's petitions request additional monitoring. They request monitoring of runoff in the Miranda Seep area, and monitoring of other seeps in the vicinity of the BKK landfill. These comments should be considered by the Regional Board in determining what monitoring requirements are appropriate in connection with the revised cleanup and abatement and cease and desist orders.

FN17 BKK also objects to a provision of Order No. 84-89 which states that the order does not extend the compliance dates or excuse violations of any requirements established by other regulatory authority with jurisdiction over the BKK site. This provision merely restates existing law that orders of the State and Regional Boards are not a limitation on the powers of other governmental authorities to establish and enforce further conditions. another agency might set more stringent requirements does not establish that a Regional Board order is unreasonable.

State Water Resources Control Board
State of California
CAENV No. WQ 86-13
END OF DOCUMENT

SFUND RECORDS CTR
2166-04748

This Lease Agreement made the 16th day of June 1966, by and between SUNDSTRAND CORPORATION, a corporation organized and existing under and by virtue of the laws of the State of Illinois, having its principal place of business in the City of Rockford, State of Illinois (hereinafter referred to as the "Lessor"), and HYDRAULIC RESEARCH & MANUFACTURING COMPANY, a Division of Bell Aerospace Corporation, Providence, Rhode Island, organized and existing under and by virtue of the laws of the State of Delaware, the Division having its principal place of business in the City of Burbank, County of Los Angeles, State of California, (hereinafter referred to as "Lessee");

WITNESSETH:

That LESSOR for and in consideration of the rents, covenants and agreements hereinafter reserved, mentioned and contained on the part of LESSEE, its successors and assigns, to be paid, kept and performed, has demised and leased, and by these presents does demise and lease unto the LESSEE, and the LESSEE does hereby take and hire, upon and subject to the conditions hereinafter expressed, the said certain real property in the County of Los Angeles, together with the buildings and improvements thereon erected, bounded and described in Exhibit "A" attached hereto, and by this reference made a part hereof, and hereinafter referred to as the "demised premises."

TO HAVE AND TO HOLD the demised premises unto the LESSEE, its successors and assigns, for an initial term commencing on the 1st day of June, 1966 and expiring on the 30th day of September 1971 (unless this lease shall sooner terminate as hereinafter provided), yielding and paying therefore during such initial term, over and above the other and additional payments to be made by the LESSEE as hereinafter provided, a net monthly basic rental for the first year of Five Hundred Dollars (500.00) and for the next succeeding four (4) years and four (4) months of Eleven Hundred Fifty Dollars ($1150.00)

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payable in advance on the first day of each and every calendar month hereafter in lawful money of the United States of America at the office of the LESSOR, Rockford, Illinois, or at such other place as may hereafter be designated by the LESSOR. Rental for a period of less than one month shall be adjusted pro rata. Said monthly rental is hereinafter sometimes referred to as the "basic rent" or the "basic rent expressly reserved hereunder."

1. COVENANT TO PAY RENT

The LESSEE covenants to pay the basic rent herein reserved and all other sums which may become due hereunder, or be payable by the LESSEE hereunder at the times and in the manner in this Lease provided.

2. USE OF PREMISES

The demised premises may be used by LESSEE for any lawful purpose.

3. TAXES

a. The LESSEE covenants and agrees to pay, as additional rent, before any fine, penalty, interest, or cost may be added thereto for the nonpayment thereof, all real estate taxes, to the extent to which allocable to the term of this Lease (which are hereinafter referred to as "imposition"); provided, however, that if, by law, any such imposition is payable, or may at the option of the taxpayer be paid, in installments (whether or not interest shall accrue on the unpaid balance of such imposition), the LESSEE may pay the same together with any accrued interest on the unpaid balance of such imposition in installments as the same respectively become due and before any fine, penalty, interest or cost may be added thereto for the nonpayment of any such installment and interest.

b. LESSOR agrees to give LESSEE notice of any imposition promptly after LESSOR shall have been advised of such imposition. The LESSEE shall have the right to contest the amount or validity of any such imposition by appropriate legal proceedings but this shall

not b[redacted]eemed or construed in any way a[redacted]elieving, modifying or extending the LESSEE's covenant to pay any such imposition at the time and in the manner in this Article provided.

4. INSURANCE

a. The LESSEE, shall, at the LESSEE's sole cost and expense keep all buildings erected upon the demised premises and the fixtures, therein, except Bldg. #17, insured for the benefit of the LESSOR and the LESSEE in an amount which shall be sufficient to prevent the LESSOR, and the LESSEE from becoming a co-insurer of any loss (but in no event in an amount less than eighty per cent (80%) of the full insurable value thereof excluding foundation and excavation costs), (a) against loss or damage by fire and (b) against such other risks, of a similar or dissimilar nature, as are or shall be customarily covered with respect to buildings similar in construction, general location, use and occupancy to the building then on the demised premises, including, but without limiting the generality of the foregoing windstorm, hail, explosion, riot and civil commotion, damage from aircraft and vehicles and smoke damage, as and when insurance against such other risks is obtainable.

b. The LESSEE shall also, at the LESSEE's sole cost and expense, but for the mutual benefit of the LESSOR, and the LESSEE, maintain (a) general public liability insurance against claims for personal injury, death or property damage occurring upon, in or about the demised premises or any elevators or escalators therein and on, in or about the adjoining streets and passageways, such insurance to afford protection to the limit of not less than $250,000 in respect to injury or death to a single person, and to the limit of not less than $1,000,000 in respect to any one accident, and to the limit of not less than $25,000 in respect to property damage; (b) steam boiler insurance on all steam boilers, pressure boilers or other such apparatus as the LESSOR may deem necessary to be covered by such

insurance and in such amount or amounts as the LESSOR may from time to time reasonably require; and (c) war damage insurance (whenever such insurance shall be written and a state of war or public emergency exists) upon all buildings and fixtures, except Bldg. #17, to the full insurable value thereof.

c. All policies of insurance shall be written in companies satisfactory to the LESSOR and shall contain such usual provisions and be written in such form and shall be distributed in such companies as shall be acceptable to the LESSOR. Such policies shall be delivered to the LESSOR endorsed "Premium Paid" by the company or agency issuing the same or accompanied by other evidence satisfactory to the LESSOR that the premiums thereon have been paid.

d. Subject to the rights of any mortgagee, the loss, if any, under any such policies shall be adjusted with the insurance company or companies, by the LESSOR and the LESSEE. The loss so adjusted shall be paid to the LESSEE or the LESSOR, as their interests may appear. All such policies shall provide that the loss, if any, thereunder shall be adjusted and paid as hereinabove provided, subject, however, to the rights of any mortgagee whose interest may be covered by any such policy or policies.

e. The premiums on all insurance policies in force at the termination of this Lease, shall be apportioned as between the LESSOR and LESSEE in such manner that the LESSOR shall reimburse the LESSEE for that portion of the aggregate premiums unearned on all such policies in force at the expiration of the term of this Lease or the LESSOR, in its sole discretion, may instead surrender such policies to the LESSEE for cancellation at such expiration.

5. MAINTENANCE

The LESSEE covenants throughout the term of this Lease and any renewal term, at the LESSEE's sole cost and expense, to take good care of the demised premises, including the buildings and improvements now or at any time hereafter erected thereon, except Bldg. #17, the equipment, fixtures, motors

and machinery thereof, sidewalks, curbs, roadways, parking areas, and fences, if any, and to keep the same in good order and condition.

LESSEE covenants throughout the term of this Lease (and, if LESSEE shall exercise any or all of its renewal options hereinafter provided for, throughout the term of such renewal period or periods) to make necessary major repairs to the major equipment, the roof, the outer walls, and other structural portions of the buildings, except Bldg. #17, on the demised premises at the LESSEE's sole cost and expense.

6. COMPLIANCE WITH LAWS

a. The LESSEE covenants throughout the term of this Lease, at the LESSEE's sole cost and expense (subject to reimbursement from the LESSOR for those costs not allocable to the term of this Lease) promptly to comply with all laws and ordinances and the orders, rules, regulations, and requirements of all federal, state, and municipal governments and appropriate departments, commissions, boards, and officers thereof, and the orders, rules, and regulations of the Board of Fire Underwriters where the demised premises are situated, or any other body hereafter constituted exercising similar functions, foreseen or unforeseen, ordinary as well as extraordinary, which may be applicable to the demised premises, the fixtures thereof and the sidewalks and curbs, if any, adjoining the demised premises or the use or manner of use of the demised premises.

b. The LESSEE shall have the right to contest by appropriate legal proceedings, without cost or expense to the LESSOR, the validity of any law, ordinance, order, rule, regulation, or requirements, of the nature herein referred to, and if by the terms of any such law, ordinance, order, rule, regulation, or requirements, compliance therewith may legally be held in obeyance without subjecting the LESSEE or the LESSOR to any liability of whatsoever nature for failure so to comply therewith, the LESSEE may postpone compliance

therewith until the final determination of any such proceedings, provided that all such proceedings shall be prosecuted with all due diligence and dispatch.

7. ALTERATIONS

The LESSEE shall have the right at any time and from time to time during the initial term of this Lease or any renewal term to make such changes and alterations, structural or otherwise, to the building, improvements, and fixtures now or hereafter on the demised premises as the LESSEE shall deem necessary or desirable in connection with the requirements of its business, which such changes and alterations (other than changes or alterations of the LESSEE's trade fixtures and equipment) shall be made in all cases subject to the following conditions which the LESSEE covenants to observe and perform:

a. No change or alteration shall be undertaken until the LESSEE shall have procured and paid for, so far as the same may be required from time to time, all municipal permits and authorizations of the various municipal departments having jurisdiction, and the LESSOR agrees to join in the application for such permits or authorizations whenever such action is necessary.

b. No changes or alterations involving an estimated cost of more than ~~$50,000~~ $25,000 (after the first year of the leasing term) shall be undertaken until the LESSOR shall have approved detailed plans and specifications, which approval shall not unreasonably be withheld.

c. Except as hereinafter provided, LESSEE shall have the right at any time during the term hereof to remove any and all fixtures and equipment installed by LESSEE on the leased premises regardless of the manner in which the same may be affixed thereto provided, however, that any damage to the leased premises resulting from the removal of any such fixtures or equipment shall be promptly repaired by LESSEE at its expense.

8. LIENS

The LESSEE shall not suffer or permit any mechanic's liens to be filed against the demised premises or any part thereof by reason of work, labor, services, or materials supplied or claimed to have been supplied to the LESSEE or anyone holding the demised premises or any part thereof through or under the LESSEE. If any such mechanic's liens shall at any time be filed against the demised premises, the LESSEE shall cause the same to be discharged of record within fifteen (15) days after the date of filing the same. If the LESSEE shall fail to discharge such mechanic's lien within such period, then, in addition to any other right or remedy of the LESSOR, the LESSOR may, but shall not be obligated to, discharge the same either by paying the amount claimed to be due or by procuring the discharge of such lien by deposit in court or by giving security or in such other manner as is, or may be, prescribed by law. Any amount paid by the LESSOR for any of the aforesaid purposes, and all reasonable legal and other expenses of the LESSOR, including reasonable counsel fees, in or about procuring the discharge of such lien, with all necessary disbursements in connection therewith, with interest thereon at the rate of six per cent (6%) per annum from the date of payment, shall be repaid by the LESSEE to the LESSOR on demand, and if unpaid may be treated as additional rent. Nothing herein contained shall imply any consent or agreement on the part of the LESSOR to subject the LESSOR's estate to liability under any mechanic's lien law.

9. WASTE

The LESSEE covenants not to do or suffer any waste or damage, or injury to any building or improvement now or hereafter on the demised premises, or the fixtures and equipment thereof, or permit or suffer any overloading of the floors thereof.

10. RIGHT OF ENTRY

a. the LESSEE agrees to permit the LESSOR and the authorized

representatives of the LESSOR, to enter the demised premises at all times during usual business hours subject to United States Government Security Regulations for the purpose of inspecting the same and making any necessary repairs to the demised premises and performing any work therein that may be necessary to comply with any laws, ordinances, rules, regulations, or requirements of any public authority or of the board of Fire Underwriters or any similar body or that the LESSOR may deem necessary to prevent waste or deterioration in connection with the demised premises. Nothing herein shall imply any duty upon the part of the LESSOR to do any such work which, under any provisions of this Lease, the LESSEE may be required to perform and the performance thereof by the LESSOR shall not constitute a waiver of the LESSEE's default in failing to perform the same. The LESSOR may during the progress of any work in the demised premises keep and store upon the demised premises all necessary materials, tools, and equipment. The LESSOR shall not in any event be liable for inconvenience, annoyance, disturbance, loss of business or other damage to the LESSEE by reason of making repairs or the performance of any work in the demised premises, or on account of bringing materials, supplies and equipment into or through the demised premises during the course thereof, and the obligations of the LESSEE under this Lease shall not thereby be affected in any manner whatsoever. The LESSOR agrees, however, in connection with the doing of any such work to cause as little inconvenience, annoyance, disturbance, loss of business or other damage to the LESSEE as may reasonably be possible in the circumstances.

b. The LESSOR is hereby given the right during usual business hours to enter the demised premises and to exhibit the same for the purposes of sale or hire during the final three (3) months of the initial term or of any renewal term, provided the right of renewal for a succeeding term has not been exercised; and the LESSOR shall be entitled to display on the demised premises, in such manner as not unreasonably to interfere with the LESSEE's business, the usual

"For Sale" or "To Let" signs. The LESSEE agrees that such signs may remain unmolested upon the demised premises.

11. ASSIGNMENT AND SUBLETTING

At any time when LESSEE is not in default under this Lease, LESSEE may transfer or assign its interest under this Lease to a successor corporation into which or with which the LESSEE, its corporate successors or assigns, is merged or consolidated or is a corporation acquiring all or substantially all of the other property and assets of LESSEE, its successors and assigns, provided that the duties and liabilities of the LESSEE hereunder are assumed by such successor corporation and further, provided that the net worth of such successor corporation is not less than the net worth of the LESSEE, its corporate successors or assigns, immediately prior to such merger, consolidation or acquisition. LESSEE may also transfer or assign its interest under this Lease to any person or corporation with the consent of the LESSOR which shall not be unreasonably withheld. LESSEE may also sublet all or any portion of the premises with the consent of LESSOR which shall not be unreasonably withheld, provided that, in the event of such subletting, LESSEE shall not be relieved of any of its obligations hereunder.

12. UTILITIES

The LESSEE agrees to pay or cause to be paid all charges for water, gas, electricity, light, heat, or power, telephone or other communication service used, rendered or supplied upon or in connection with the demised premises throughout the term of this Lease, and to indemnify the LESSOR and save it harmless against any liability or damages or such account. The LESSEE shall also at its sole cost and expense procure any and all necessary permits, licenses, or other authorizations required for the lawful and proper installation and maintenance upon the demised premises of wires, pipes, conduits, tubes, and other equipment and appliances for use in supplying any such service to and upon the demised premises.

13. INDEMNIFICATION

LESSEE covenants and agrees to indemnify LESSOR and hold him harmless from any and all liability, claim or expense resulting from the negligent act or failure to act of LESSEE, its officers, agents, or employees.

14. CONDEMNATION

In the event that during the term hereof any portion of the demised premises or any easement therein should be taken by condemnation proceedings, which substantially adversely affects the use thereof, the LESSEE may elect within thirty (30) days after such condemnation becomes effective to give written notice to LESSOR of its intention to terminate this Lease.

15. RESTORATION

a. The LESSEE covenants and agrees that in case of damage to or destruction of any existing building on the demised premises, except Bldg. #17, LESSEE will promptly at its sole cost and expense repair, restore and rebuild the same as nearly as possible to the condition they were in immediately prior to such damage or destruction, or, subject to the approval of the LESSOR which shall not be unreasonably withheld, with such changes or alterations as may be deemed necessary and desirable by LESSEE. Subject to the rights of any mortgagee of said premises having priority over this Lease all insurance money recovered in connection with said damage and/or destruction or an amount equivalent thereto shall be applied by the LESSOR (or by the LESSEE if the LESSEE received the same) to the payment of the cost of repairing, restoring and rebuilding, and any balance of said insurance money or equivalent amount in excess of the cost of repairing, restoring and rebuilding the damaged portion of any building on the demised premises shall be the property of and paid to the LESSEE or at the request of the LESSOR may be retained by and paid to the LESSOR and thereafter applied against basic rent as provided herein.

If at any time after the expiration of the initial term under this Lease the existing buildings on the demised premises, except Bldg. #17, are destroyed or damaged to such extent that the restoration thereof will cost an amount in excess of Five Thousand Dollars ($5,000) over and above the proceeds of any insurance and the LESSEE shall be unwilling to expend such amount, the LESSEE shall so notify LESSOR who shall have the option to expend such additional amount required for the restoration and/or repair of the building destroyed or damaged. In the event that LESSOR is unwilling to make such additional expenditure it shall so notify LESSEE immediately and in such event the term of this Lease shall expire as soon after the date on which LESSOR gives such notification to LESSEE as the LESSEE vacates said premises using reasonable dispatch.

16. BANKRUPTCY

a. If during the initial term of this Lease or any renewal term (i) the LESSEE shall make an assignment for the benefit of creditors, or (ii) a voluntary or involuntary petition be filed by or against the LESSEE under any law having for its purpose the adjudication of the LESSEE a bankrupt, or the extension of the time of payment, composition, adjustment, modification, settlement or satisfaction of the liabilities of the LESSEE or to which any property of the LESSEE may be subject, or the reorganization or liquidation of the LESSEE, or (iii) a receiver be appointed for the property of the LESSEE by reason of the insolvency or alleged insolvency of the LESSEE, or (iv) any department of the state or federal government, or any officer thereof duly authorized, shall take possession of the business or property of the LESSEE by reason of the insolvency or alleged insolvency of the LESSEE, the occurrence of any such contingency shall be deemed a breach of the Lease and this Lease shall, ipso facto, upon the happening of any of said contingencies be terminated and the same shall expire as fully and completely as if the day of the happening of such contingency were

the date herein specifically fixed for the expiration of the initial term or any renewal term and the LESSEE will then quit and surrender the demised premises to the LESSOR.

b. If, during the initial term of this Lease or any renewal term, (i) the LESSEE shall make default in fulfilling any of the covenants of this Lease (other than the covenants for the payment of basic rent, additional rent or other charges payable by the LESSEE hereunder), or (ii) the demised premises shall be left vacant or unoccupied or be deserted for a period of twenty-one (21) days, or (iii) this Lease, without the prior written consent of the LESSOR, or except as expressly permitted, shall be assigned or transferred in any manner, or shall by operation of law pass to or devolve upon any third party (except any personal representative or distributee of a deceased individual assignee of this Lease), the LESSOR may give to the LESSEE notice of any default or of the happening of any contingency in this Section referred to, and if at the expiration of twenty-one (21) days after the service of such notice the default or the contingency upon which said notice was based shall continue to exist, or in the case of a default or contingency which cannot with due diligence be cured within a period of twenty-one (21) days, if the LESSEE fails to proceed promptly after the service of such notice and with all due diligence to cure the same and thereafter to prosecute the curing of such default with all due diligence (it being intended that in connection with a default not susceptible of being cured with due diligence within twenty-one (21) days that the time of the LESSEE within which to cure the same shall be extended for such period as may be necessary to complete the same with all due diligence), the LESSOR, at its option may terminate this Lease and upon such termination the LESSEE will quit and surrender the demised premises to the LESSOR.

c. If the LESSEE shall make default in the payment of the basic rent expressly reserved hereunder, or any part of the same, and such

default shall continue for fifteen (15) days after notice thereof by the LESSOR, or shall make default in the payment of any item of additional rent, or any other charge required to be paid by the LESSEE hereunder or any part of the same and such default shall continue for twenty-one (21) days after notice thereof by the LESSOR, or if this Lease shall expire as in Section a. or Section b. of paragraph 16 provided, the LESSOR or the LESSOR's agents and servants may immediately or at any time thereafter re-enter the demised premises and remove all persons and all or any property therefrom, either by summary dispossess proceedings or by any suitable action or proceedings at law or by force or otherwise, without being liable to indictment, prosecution or damages therefore, and repossess and enjoy said premises together with all additions, alterations and improvements, without such re-entry and repossession working a forfeiture or waiver of the rents to be paid and the covenants to be performed by the LESSEE during the full term hereof. Upon the expiration of the term of this Lease by reason of the happening of any of the events hereinabove described in Section a. or Section b., or in the event of the termination of this Lease by summary dispossess proceedings or under any provision of law now or at any time hereafter in force by reason of or based upon or arising out of a default under or breach of this Lease on the part of the LESSEE, or upon the LESSOR recovering possession of the demised premises in the manner or in any of the circumstances hereinbefore mentioned or in any other manner or circumstances whatsoever, whether with or without legal proceedings, by reason of or based upon or arising out of a default under or breach of this Lease on the part of the LESSEE, the LESSOR may, at its options, at any time and from time to time relet the demised premises, or any part or parts thereof, for the account of the LESSEE or otherwise, and receive and collect the rents therefore, applying the same first to the payment of such expenses as the LESSOR may have incurred in recovering possession of the demised

premises, including the legal expenses and attorneys' fees, and for putting the same into good order or condition or preparing or altering the same for re-rental and all other expense, commissions and charges paid, assumed or incurred by the LESSOR in or about reletting the premises and then to the fulfillment of the covenants of the LESSEE hereunder. Any such reletting herein provided for may be for the remainder of the initial term or any renewal term of this Lease as originally granted or for a longer or shorter period. In any such case and whether or not the demised premises, or any part thereof, be relet, the LESSEE shall pay to the LESSOR the basic rent and all other charges required to be paid by the LESSEE up to the time of such termination of this Lease, or of such recovery of possession of the demised premises by the LESSOR, as the case may be, and thereafter, except in a case in which the liability of the LESSEE as hereinafter provided arises by reason of the happening of any of the contingencies referred to in Section a. hereof, the LESSEE covenants and agrees, if required by the LESSOR, to pay to the LESSOR until the end of the initial term of this Lease or any renewal term, as the case may be, the equivalent of the amount of all the basic rent reserved herein and all other charges required to be paid by the LESSEE, less the net avails of reletting, if any, and the same shall be due and payable by the LESSEE to the LESSOR on the several rent days herein specified, that is to say, upon each of such rent days the LESSEE shall pay to the LESSOR the amount of the deficiency then existing. In any of the circumstances hereinbefore mentioned in which the LESSOR shall have the right to hold the LESSEE liable upon the several rent days herein specified to pay to the LESSOR the equivalent of the amount of all the basic rent and all other charges required to be paid by the LESSEE less the net avails of reletting, if any, the LESSOR shall have the election in place and instead of holding the LESSEE so liable, forthwith to recover against the LESSEE as damages for loss of the

bargain and not as a penalty an aggregate sum which at the time of such termination of this lease or of such recovery of possession of the premises by the LESSOR, as the case may be, represents the then present worth of the excess, if any, of the aggregate of the basic rent and all other charges payable by the LESSEE hereunder that would have accrued for the balance of the initial term or any renewal term, as the case may be, over the aggregate rental value of the demised premises for the balance of such term.

17. RENEWAL

a. The LESSEE shall have the right, to be exercised as hereinafter provided, to extend the terms of this Lease for four (4) successive periods, the first such period being for five (5)years from the 1st day of October, 1971 to the 30th day of September 1976, and the remaining three (3) successive periods being for ten (10) years each, upon the following terms and conditions:

1. That the LESSEE is not in default in the performance of any of the terms, covenants and conditions herein contained in respect to a matter as to which notice of default has been given hereunder and which has not been remedied within the time limited in this lease, at the time of the exercise of such right or at the time of commencement of the renewal term;
2. That each renewal term shall be upon the same terms, covenants and conditions as in this Lease provided except that the basic rent for the first five (5) year renewal term shall be at a rate of Thirteen-Thousand Eight Hundred Dollars ($13,800) per annum and the remaining successive renewal terms shall be at the rate of Five Thousand Dollars ($5,000) per annum payable in equal monthly installments in advance;
3. All other impositions and payments upon the part of the LESSEE to be made as in this Lease provided shall continue to be made during each of such renewal terms, including, but without limiting the generality of the foregoing, payment of taxes,

sewer taxes and charges, assessments, fire and other insurance premiums, utility charges, and cost of repairs, additions and alterations.

b. The LESSEE shall have the right to exercise its right to the renewal terms by notifying the LESSOR in writing of its election to exercise the right to renew the term of this Lease at least six (6) months prior to the expiration of the initial term of the Lease and at least six (6) months prior to the end of any renewal term.

18. SURRENDER ON TERMINATION

The LESSEE shall upon termination of this Lease for any reason whatsoever surrender to the LESSOR the parts of the building, structures, fixtures and building equipment upon the demised premises, together with all additions, alterations and replacements thereof (except the LESSEE's trade fixtures, machinery and equipment), for which it is responsible according to the term of this Lease, in good order, condition and repair except for reasonable wear and tear. If changes or alterations shall have been made on the demised premises, the LESSEE shall, if LESSOR so requests, restore the demised premises as nearly as may be to their condition prior to such changes or alterations, with due allowance to reasonable wear and tear.

19. QUIET ENJOYMENT

The LESSOR covenants and agrees that the LESSEE, upon paying the basic rent and all other charges herein provided for and observing and keeping the covenants, agreements, and conditions of this Lease on its part to be kept, shall lawfully and quietly hold, occupy, and enjoy said demised premises during the term of this Lease, without hindrance or molestation of the LESSOR, or any person or persons claiming under the LESSOR, subject, however, to the matters hereinabove set forth immediately following the description of the demised premises.

20. ITIONAL REPAIRS

LESSEE covenants and agrees that it shall, at its sole cost and expense:

(a) Perform the required maintenance, repair or rehabilitation as necessary for its occupancy of the demised premises.

(b) That in the event it is now required or becomes required or necessary in the future to connect the demised premises to the existing sewer, LESSEE shall accomplish such connection at its sole expense.

(c) LESSEE agrees to tear down and remove the test cells and center building known as Building #17 at its sole cost and expense either during the term of the Lease or upon termination of the Lease and it is agreed and understood by the LESSOR and LESSEE that the LESSEE shall not be obligated to restore said test cells and center building.

21. NOTICES

All notices, demands, and requests which may or are required to be given by either party to the other shall be in writing. All notices, demands, and requests by the LESSOR to the LESSEE shall be sent by United States Registered Mail, postage prepaid, addressed to the LESSEE at 2835 North Naomi Street, Burbank, California, or at any such other place as the LESSEE may from time to time designate in a written notice to the LESSOR. All notices, demands, and requests by the LESSEE to the LESSOR shall be sent by United States Registered Mail, postage prepaid, addressed to the LESSOR at 2531 11th Street, Rockford, Illinois, or at such other place as the LESSOR may from time to time designate in a written notice to the LESSEE. Notices, demands, and requests which shall be served upon the LESSOR or the LESSEE in the manner aforesaid shall be deemed sufficiently served or given for all purposes hereunder at the time such notice, demand or request shall be mailed by United States Registered Mail as aforesaid in any post office or branch post office regularly maintained by the United States

Government.

22. INTERPRETATION

The demised premises are located in the State of California and all terms of this Lease shall be construed and enforced in accordance with the laws of said State of California.

23. SUCCESSORS AND ASSIGNS

The covenants and agreements herein contained shall bind enure to the benefit of the LESSOR, its successors and assigns, and the LESSEE, its successors and assigns.

IN WITNESS WHEREOF, the LESSOR and the LESSEE have respectively caused their corporate seals to be hereunto affixed and these presents to be signed by their respective duly authorized officers, the day and year first above written.

SUNDSTRAND CORPORATION

ATTEST:

James Wm Ethington
Secy.

George C Wolf
Legal Advisor

HYDRAULIC RESEARCH & MANUFACTURING COMPANY, A Division of Bell Aerospace Corporation

ATTEST:

J S Simon
Controller

Asst. Secy

EXHIBIT A

(To Lease dated 16 June, 1966, between Sundstrand Corporation, as Lessor, and Hydraulic Research & Manufacturing Company, as Lessee)

The following comprises the demised premises which are the subject of the above Lease and are limited to property presently owned by Sundstrand and described generally as follows:

Those portions of block 169 of the Maclay Rancho Ex-Mission of San Fernando, in the City of Los Angeles, County of Los Angeles, State of California, as per map recorded in Book 37, pages 5 et seq. of Miscellaneous Records, in the office of the County Recorder of said County, described as follows:

Parcel 1:

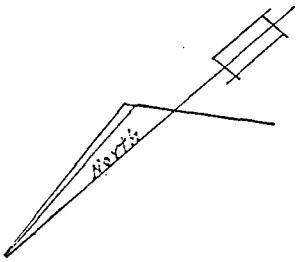
Beginning at a point in the southwesterly line of said block 169, distant 701.02 feet southeasterly from the most westerly corner of said block; thence northeasterly, parallel with the northwesterly line of said block, a distance of 332 feet to the true point of beginning; thence continuing southeasterly along a line parallel with the southwesterly line of said block, a distance of approximately 136.98 feet; thence southeast on a line deflecting southeast 59 degrees 12 minutes 57 seconds from the prolongation of the last above described course, a distance of approximately 56.48 feet; thence southeast 42.12 feet parallel with the southwest line; thence northeasterly approximately 49.45 feet along a line parallel with the northwesterly line of said block; thence southeasterly 135 feet along a line parallel with the southwesterly line of said block; thence northeasterly 300 feet along a line parallel with the northwesterly line of said block; thence northwesterly 313 feet along a line parallel with the southwesterly line of said block; thence southwesterly 360.63 feet along a line parallel with the northwesterly line of said block; thence northwesterly 30 feet along a line parallel with the southwesterly line of said block; thence southwesterly 38 feet to the true point of beginning.

Parcel 2:

Beginning at a point in the southwesterly line of said block 169, distant 701.02 feet southeasterly from the most westerly corner of said block; thence northeasterly parallel with the northwesterly line of said block, a distance of 730 feet; thence continuing southeasterly 343 feet along a line parallel with the southwesterly line of said block to the point of true beginning; thence continuing southeasterly 343 feet along a line parallel with the southwesterly line of said block; thence southwesterly 100 feet along a line parallel with the northwesterly line of said block; thence northwesterly 343 feet along a line parallel with the southwesterly line of said block; thence northeasterly 100 feet along a line parallel with the northwesterly line of said block to the point of true beginning.

Building & Land Plot

Intended only for Identification of Building # 17



Property Outline

Aetna Property

Fence

Sheet Metal Bldg.

Fence

Sheet Metal Bldg.

Concrete Tilt up Bldg.

TEST CELLS BLDG. #17

Gate

Fence

Fence

Glenoaks Blvd.

Fence

Trailer Court

350153

1044 E Glenoaks

2166-04748

ORIGINAL

SUBLEASE AGREEMENT

This Sublease Agreement made the 27th day of Sept. 1965, by and between SUNDSTRAND CORPORATION, a corporation organized and existing under and by virtue of the laws of the State of Illinois, having its principal place of business in the City of Rockford, State of Illinois (hereinafter referred to as the Sublessor), and LEDEEN INCORPORATED, a corporation organized and existing under and by virtue of the laws of the State of California, having its principal place of business in the city of El Monte, State of California, (hereinafter referred to as Sublessee);

W I T N E S E T H :

That AETNA LIFE INSURANCE COMPANY, a corporation organized and existing under and by virtue of the laws of the State of Cennecticut (hereinafter sometimes referred to as Aetna), having its principal place of business in the City of Hartford, State of Connecticut, did demise and lease certain real property in the City of Los Angeles, County of Los Angeles, State of California to AMERICAN MACHINE AND FOUNDRY COMPANY, a corporation organized and existing under and by virute of the laws of the State of New Jersey, having its principal place of business at 261 Madison Avenue, City of New York, County of New York, State of New York, in an Indentrue instrument dated the 28th day of September, 1956, (hereinafter sometimes referred to as the Indenture Instrument),

350154

a term of ten (10) years from the first day of October to and including the 30th day of September, 1966, with a right to extend the term for four (4) additional successive periods of ten (10) years each.

That AMERICAN MACHINE AND FOUNDRY COMPANY assigned its rights obligations under the Indenture Instrument to SUBLESSOR in an agreement dated the 31st day of January, 1958, that SUBLESSOR, by a Sublease Agreement made the 7th day of June, 1962, subleased said certain real property to LOCKHEED AIRCRAFT CORPORATION for its division the LOCKHEED-CALIFORNIA COMPANY, organized and existing under and by virtue of the laws of the State of California (hereinafter sometimes referred to as LOCHEED) having its principal place of business in the City of Burbank, County of Los Angeles, State of California. Said Sublease Agreement having ended by expiration of its terms on the 31st day of August, 1965.

That SUBLESSOR for and in consideration of the rents, covenants and agreements hereinafter reserved, mentioned and contained on the part of SUBLESSEE, its successors and assigns, to be paid, kept and performed, has demised and subleased, and by these presents does demise and sublease, unto the SUBLESSEE, and the SUBLESSEE does hereby take and hire, upon and subject to the conditions hereinafter expressed, the said certain real property in the County of Los Angeles, together with the buildings and improvements thereon erected, bounded and described as follows:

> That portion of block 169, of the Maclay Rancho Ex-Mission of San Fernando, in the city of Los Angeles, county of Los Angeles, state of California, as per map recorded in book 37, page 5 of the Miscellaneous Records, in the office of the county recorder of said county, described as follows:
>
> Beginning at a point in the southwesterly line of said block distant 701.02 feet southeasterly from the most westerly corner of said block; thence northeasterly parallel with the

northwesterly line of said block, a distance of 370.00 feet to the true point of beginning; thence continuing northeasterly along said parallel line 360.63 feet, more or less, to a point distant thereon southwesterly 530.00 feet from the northeasterly line of said block, said point being hereinafter referred to as point "A"; thence continuing northeasterly along said parallel line 530.00 feet to said northeasterly line; thence southeasterly along said northeasterly line 343.00 feet to the northwesterly line of the land described in the deed to Robert Ledger and wife, recorded in book 15473 page 182 of Official Records, in the office of said recorder; thence southwesterly along the last mentioned northwesterly line 530.00 feet, more or less, to a line that is parallel with the southwesterly line of said block and that passes through said point "A"; thence northwesterly along the last mentioned parallel line 313.00 feet, to the southeasterly line of that certain strip of land, 30 feet wide, described in parcel 2 of the deed to George P. Carver, recorded on June 2, 1955, as Instrument No. 1720, in book 47950 page 206 of said Official Records; thence southwesterly along the last mentioned southeasterly line 360.63 feet, more or less, to a line that is parallel with the southwesterly line of said block 169 and that passes through the true point of beginning; thence northwesterly along the last mentioned parallel line 30.00 feet to the true point of beginning.

Together with that portion of the southwesterly half of Sixth Street adjoining the above described land on the northeast as vacated and abandoned by a resolution of the Board of Supervisors of said county passed July 8, 1909 and entered in Road Book 11 page 47, in the office of said Board of Supervisors.

EXCEPT that portion included within the most southeasterly 30 feet of the above described land.

Subject to covenants, conditions, restrictions, rights, rights-of-way and easements of record.

The above described premises are hereinafter referred to as the "demised premises."

TO HAVE AND TO HOLD the demised premises unto the SUBLESSEE, its successors and assigns, for an initial term of six (6) years commencing on the 1st day of Oct., 1965, and expiring on the 30th day of Sept. 1971, (unless this Sublease shall sooner terminate as hereinafter provided), yielding and paying therefor during such initial term, over and above the other and additional payments to be made by the SUBLESSEE as hereinafter provided, as follows:

($28,560) per annum

TWENTY-EIGHT THOUSAND FIVE HUNDRED SIXTY DOLLARS for the initial term beginning on the 1st day of October, 1965 and ending on the 30th day of September, 1971.

Except as provided for in Article XX, Paragraph A, Page 29,

Said net annual basic rental shall be paid in equal monthly installments of TWO THOUSAND THREE HUNDRED EIGHTY DOLLARS ($2,380.00) in advance on the first day of each and every calendar month hereafter in lawful money of the United States of America at the office of the SUBLESSOR, Rockford, Illinois, or at such other place as may hereafter be designated by the SUBLESSOR. Rental for a period of less than one month shall be adjusted pro rata. Said net annual basic rental is hereinafter sometimes referred to as the "basic rent" or the "basic rent expressly reserved hereunder."

ARTICLE I

The SUBLESSEE covenants to pay the basic rent herein reserved and all other sums which may become due hereunder, or be payable by the SUBLESSEE hereunder at the times and in the manner in this sublease provided.

ARTICLE II

The SUBLESSEE covenants that it shall not use or occupy the demised premises or permit the same to be used or occupied for any dangerous, noxious, offensive or unlawful purpose nor for any purpose constituting a nuisance or prohibited by any prior agreement, covenant or other encumbrance affecting said premises.

ARTICLE III

Section 1. The SUBLESSEE covenants and agrees to pay, as additional rent, before any fine, penalty, interest or cost may be added

thereto for the nonpayment thereof, all real estate taxes, assessments, sewer taxes and charges, and other governmental charges, general and special, ordinary and extraordinary, unforeseen as well as foreseen, of any kind and nature whatsoever to the extent to which allocable to the term of the Sublease, including but not limited to assessments for public improvements or benefits which shall during the term hereby demised be laid, assessed, levied, or imposed upon or become due and payable or become a lien upon the demised premises or any part thereof (all of which taxes, assessments, sewer taxes or charges, levies and other governmental charges are hereinafter referred to as "imposition"); provided, however, that if, by law, any such imposition is payable, or may at the option of the taxpayer be paid, in installments (whether or not interest shall accrue on the unpaid balance of such imposition), the SUBLESSEE may pay the same together with any accrued interest on the unpaid balance of such imposition in installments as the same respectively become due and before any fine, penalty, interest or cost may be added thereto for the non-payment of any such installment and interest. With respect to any imposition for public improvements or benefits which by law is payable, or at the option of the taxpayer may be paid, in installments, the SUBLESSOR shall pay the installments thereof which become due and payable subsequent to the termination of the term of this sublease, and the SUBLESSEE shall pay those installments which become due and payable during the term of this Sublease. If an allocation of any imposition shall be made as aforesaid upon the basis of a particular duration of this Sublease and SUBLESSEE shall exercise any right or option granted by this Sublease to extend the term hereof or to extend its right of occupancy of the demised premises, such allocation shall be revised at the time of the exercise of such right or option so that the allocation is made upon the basis of the duration of this Sublease or SUBLESSEE's right of occupancy of the demised premises after giving effect to such exercise of such right or option.

In the event the parties are unable to agree upon any allocation of an imposition provided for in this Article XII, such allocation shall be made by Coldwell, Banker and Company or such other party or parties as SUBLESSOR and SUBLESSEE shall designate, and any allocation so made by Coldwell, Banker and Company or such other party or parties shall be binding and conclusive.

Section 2. If at any time during the term of this Sublease, under the laws of the State or any political subdivision thereof in which the demised premises are situated, a tax or excise on rents or other tax, however described, is levied or assessed by said State or political subdivision against the SUBLESSOR or its predecessors in interest or Aetna or the basic rent expressly reserved hereunder or the basic rent reserved under the Indenture Instrument, as a substitute in whole or in part for taxes assessed or imposed by said State or political subdivision on land and buildings or on land or buildings, the SUBLESSEE covenants to pay and discharge such tax or excise on rents or other tax but only to the extent of the amount thereof which is lawfully assessed or imposed upon the SUBLESSOR or its predecessors in interest or Aetna and which was so assessed or imposed as a direct result of the ownership or tenancy by the SUBLESSOR or its predecessors in interest or Aetna of the demised premises, or of the Sublease or the Indenture Instrument or of the rentals accruing under this Sublease or under the Indenture Instrument, it being the intention of the parties hereto that the basic rent to be paid hereunder shall be paid to the SUBLESSOR absolutely net without deduction of any nature whatsoever except as in this Sublease otherwise expressly provided. The payment to be made by the SUBLESSEE pursuant to this section shall be made before any fine, penalty, interest or cost may be added thereto for the non-payment thereof, and the SUBLESSEE covenants to furnish the SUBLESSOR, within twenty-five (25) days after the date when the same is payable as in this section provided, with evidence satisfactory to the SUBLESSOR that such tax or excise on rents or other tax has, to the extent aforesaid, been paid.

Section 3. Nothing in this Sublease contained shall require the SUBLESSEE to pay any franchise, estate, inheritance, succession, capital levy or transfer tax of the SUBLESSOR or Aetna, or any income, excess profits or revenue tax or any other tax, assessment, charge or levy upon the rent payable by the SUBLESSEE under this Sublease or by SUBLESSOR under the Indenture Instrument except to the extent hereinabove provided.

Section 4. SUBLESSOR agrees to give SUBLESSEE notice of any imposition promptly after SUBLESSOR shall have been advised of such imposition. The SUBLESSEE shall have the right to contest the amount or validity of any such imposition by appropriate legal proceedings but this shall not be deemed or construed in any way as relieving, modifying or extending the SUBLESSEE's covenant to pay any such imposition at the time and in the manner in this Article provided, unless the legal proceedings shall operate to prevent the sale of the demised premises or any part thereof or the placing of any lien thereon to satisfy such imposition prior to the final determination of such proceedings, and the SUBLESSEE shall have deposited with the SUBLESSOR or such person or corporation as the SUBLESSOR may in writing direct, as security for the payment of such imposition, money in amount sufficient to pay said imposition, together with all interest and penalties in connection therewith, and all charges that may or might be assessed against or become a charge on the demised premises, or any part thereof, in said legal proceedings. Upon the termination of such legal proceedings, the said moneys so deposited shall be applied to the payment, removal and discharge of said imposition, if any, then payable and the interest and penalties in connection therewith, and the charges accruing in such legal proceedings, and the balance, if any, shall be paid to the SUBLESSEE, provided the SUBLESSEE is not in default under this Sublease. In the event that such moneys shall be insufficient for this purpose, the SUBLESSEE shal forthwith pay over to the SUBLESSOR an amount of money sufficient, together with the

moneys so deposited pursuant to this Article, to pay the same. In the event of any default by the SUBLESSEE under this Sublease, the SUBLESSOR is authorized to use any money deposited under this Article to apply on account of such default or to pay the said imposition. The SUBLESSEE shall not be entitled to interest on the moneys deposited pursuant to this Section.

Section 5. The SUBLESSOR and/or Aetna shall not be required to join in any such proceeding unless it shall be necessary for it to do so in order to properly prosecute such proceedings and the SUBLESSOR and/or Aetna shall have been fully indemnified to its or their satisfaction against all costs and expenses in connection therewith which are related to and apportioned over the term of this Sublease, nor shall the SUBLESSOR and/or Aetna be subjected to any liability for the payment of any costs or expenses in connection with any proceedings brought by the SUBLESSEE, and the SUBLESSEE covenants to indemnify and save harmless the SUBLESSOR and/or Aetna from any such costs or expenses.

ARTICLE IV

Section 1. The SUBLESSEE, shall, at the SUBLESSEE's sole cost and expense keep all buildings erected upon the demised premises and the fixtures, therein, insured for the benefit of the SUBLESSOR, its predecessors in interest, Aetna and the SUBLESSEE in an amount which shall be sufficient to prevent the SUBLESSOR, its predecessors in interest Aetna and the SUBLESSEE from becoming a co-insurer of any loss (but in no event in an amount less than eighty per cent (80%) of the full insurable value thereof excluding foundation and excavation costs), (a) against loss or damage by fire and (b) against such other risks, of a similar or dissimilar nature, as are or shall be customarily covered

with respect to buildings similar in construction, general location, use and occupancy to the building then on the demised premises, including, but without limiting the generality of the foregoing, windstorm, hail, explosion, riot and civil commotion, damage from aircraft and vehicles and smoke damage, as and when insurance against such other risks is obtainable.

Section 2. The SUBLESSEE shall also, at the SUBLESSEE's sole cost and expense, but for the mutual benefit of the SUBLESSOR, its predecessors in interest, Aetna and the SUBLESSEE, maintain (a) general public liability insurance against claims for personal injury, death or property damage occurring upon, in or about the demised premises or any elevators or escalators therein and on, in or about the adjoining streets and passageways, such insurance to afford protection to the limit of not less than $250,000 in respect to injury or death to a single person, and to the limit of not less than $1,000,000 in respect to any one accident, and to the limit of not less than $25,000 in respect to property damage; (b) steam boiler insurance on all steam boilers, pressure boilers or other such apparatus as the SUBLESSOR may deem necessary to be covered by such insurance andin such amount or amounts as the SUBLESSOR may from time to time reasonably require; and (c) war damage insurance (whenever such insurance shall be written and a state of war or public emergency exists) upon all buildings and fixtures to the full insurable value thereof.

Section 3. All policies of insurance shall be written in companies satisfactory to the SUBLESSOR and shall contain such usual provisions and be written in such form and shall be distributed in such companies as shall be acceptable to the SUBLESSOR. Such policies shall be delivered to the SUBLESSOR endorsed "Premium Paid" by the company or

agency issuing the same or accompanied by other evidence satisfactory to the SUBLESSOR that the premiums thereon have been paid.

Section 4. Subject to the rights of any mortgagee, the loss, if any, under any such policies shall be adjusted with the insurance company or companies, by the SUBLESSOR, its predecessors in interest, Aetna and the SUBLESSEE. The loss so adjusted shall be paid to the SUBLESSEE or the SUBLESSOR its predecessors in interest, or Aetna, as their interests may appear. All such policies shall provide that the loss, if any, thereunder shall be adjusted and paid as hereinabove provided, subject, however, to the rights of any mortgagee whose interest may be covered by any such policy or policies.

Section 5. The premiums on all insurance policies in force at the termination of this Sublease, shall be apportioned as between the SUBLESSOR and SUBLESSEE in such manner that the SUBLESSOR shall reimburse the SUBLESSEE for that portion of the aggregate premiums unearned on all such policies in force at the expiration of the term of this Sublease or the SUBLESSOR, in its sole discretion, may instead surrender such policies to the SUBLESSEE for cancellation at such expiration.

ARTICLE V

The SUBLESSEE covenants and agrees that if it shall at any time fail to pay any imposition pursuant to the provisions of Article VII hereof, or to take out, pay for, maintain or deliver any of the insurance policies provided for in Article IV hereof, or shall fail to make any other payment or perform any other act on its part to be made or performed as in this Sublease provided, then the SUBLESSOR may, but shall not be obligated so to do, and without notice to or demand

upon the SUBLESSEE and without waiving, or releasing the SUBLESSEE from, any obligations of the SUBLESSEE in this Sublease contained, pay any such imposition, effect any such insurance coverage and pay premiums therefor, and may make any other payment or perform any other act on the part of the SUBLESSEE to be made and performed as in this Sublease provided, in such manner and to such extent as the SUBLESSOR may deem desirable, and in exercising any such rights to pay necessary and incidental costs and expenses, employ counsel and incur and pay reasonable attorneys' fees. All sums so paid by the SUBLESSOR and all necessary and incidental costs and expenses in connection with the performance of any such act by the SUBLESSOR, together with interest thereon at the rate of six per cent (6%) per annum from the date of the making of such expenditure by the SUBLESSOR, shall be deemed additional rent hereunder and, except as otherwise in this Sublease expressly provided, shall be payable to the SUBLESSOR on demand or at the option of the SUBLESSOR may be added to any basic rent then due or thereafter becoming due under this Sublease, and the SUBLESSEE covenants to pay any such sum or sums with interest as aforesaid and the SUBLESSOR shall have (in addition to any other right or remedy of the SUBLESSOR) the same rights and remedies in the event of the non-payment thereof by the SUBLESSEE as in the case of default by the SUBLESSEE in the payment of the basic rent.

ARTICLE VI

The SUBLESSEE covenants throughout the term of this Sublease and any renewal term, at the SUBLESSEE's sole cost and expense, to take good care of the demised premises, including the buildings and improvements now or at any time erected thereon, the equipment, fixtures, motors and machinery thereof, sidewalks, curbs, roadways, parking areas and fences, if any, and to keep the same in good order and condition, and

shall promptly at the SUBLESSEE's own cost and expense make all necessary repairs, interior and exterior, structural and non-structural, ordinary as well as extraordinary, foreseen as well as unforeseen. When used in this Article, the term "repairs" shall include replacements or renewals when necessary, and all such repairs made by the SUBLESSEE shall be equal in quality and class to the original work. The SUBLESSEE shall keep and maintain all portions of the demised premises, and the sidewalks adjoining same in a clean and orderly condition, free of accumulation of dirt, rubbish, snow and ice.

ARTICLE VII

Section 1. The SUBLESSEE covenants throughout the term of this Sublease, at the SUBLESSEE's sole cost and expense (subject to reimbursement from the SUBLESSOR for those costs not allocable to the term of this Sublease) promptly to comply with all laws and ordinances and the orders, rules, regulations and requirements of all federal, state and municipal governments and appropriate departments, commissions, boards and officers thereof, and the orders, rules and regulations of the Board of Fire Underwriters where the demised premises are situated, or any other body hereafter constituted exercising similar functions, foreseen or unforeseen, ordinary as well as extraordinary, which may be applicable to the demised premises, the fixtures thereof and the sidewalks and curbs, if any, adjoining the demised premises or the use or manner of use of the demised premises. The SUBLESSEE will likewise observe and comply with the requirements of all policies of public liability, fire and all other policies of insurance at any time in force with respect to the building and improvements on the demised premises and the equipment thereof.

Section 7. The SUBLESSEE shall have the right to contest by appropriate legal proceedings, without cost or expense to the SUBLESSOR, the validity of any law, ordinance, order, rule, regulation or requirement, of the nature herein referred to, and if by the terms of any such law, ordinance, order, rule, regulation or requirement, compliance therewith may legally be held in abeyance without subjecting the SUBLESSEE or the SUBLESSOR to any liability of whatsoever nature for failure so to comply therewith, the SUBLESSEE may postpone compliance therewith until the final determination of any such proceedings, provided that all such proceedings shall be prosecuted with all due diligence and dispatch.

ARTICLE VIII

The SUBLESSEE shall have the right at any time and from time to time during the initial term of this Sublease or any renewal term to make such changes and alterations, structural or otherwise, to the building, improvements and fixtures now or hereafter on the demised premises as the SUBLESSEE shall deem necessary or desirable in connection with the requirements of its business, which such changes and alterations (other than changes or alterations of the SUBLESSEE's trade fixtures and equipment) shall be made in all cases subject to the following conditions which the SUBLESSEE covenants to observe and perform:

(a) No change or alteration shall be undertaken until the SUBLESSEE shall have procured and paid for, so far as the same may be required from time to time, all municipal permits and authorizations of the various municipal departments having jurisdiction, and the SUBLESSOR agrees to join in the application for such permits or authorizations whenever such action is necessary.

(b) . changes or alterations involving an estimated cost of more than $50,000 shall be undertaken until the SUBLESSOR shall have approved detail[illegible]ns and specifications, which approval shall not unreasonably be withheld, and shall have been furnished by the SUBLESSEE, at the SUBLESSEE's expense with a bond on which the SUBLESSEE shall be principal, and a surety company authorized to do business in the state in which the demised premises are situated and satisfactory to the SUBLESSOR shall be surety, containing usual provisions which shall be satisfactory to the SUBLESSOR, conditioned upon the completion of and payment in full for such changes or alterations within a reasonable time, subject, however, to delays occasioned by strikes, lockouts, acts of God, inability to obtain labor or materials, governmental restrictions, or similar causes beyond the control of the SUBLESSEE, or the SUBLESSEE shall have deposited with the SUBLESSOR a sum sufficient to pay the entire cost of any such change or alteration as estimated by the architect or engineer under whose supervision the work is to be conducted, under an agreement whereby the SUBLESSOR shall from time to time pay out said sums upon the written request of the SUBLESSEE, which shall be accompanied by a certificate of the architect or engineer in charge of the work, stating (1) that the sum requested is justly due to the contractors, sub-contractors, material men, laborers, engineers, architects or other persons, firms or corporation rendering services or materials for such changes or alterations or is justly

required to reimburse the SUBLESSEE for expenditures made by the SUBLESSEE in connection with such changes or alterations, and when added to all sums previously paid out by the SUBLESSOR does not exceed the value of the work done to the date of such certificate; and (2) that the remaining funds so deposited by the SUBLESSEE with the SUBLESSOR will be sufficient upon the completion of such work to pay for the same in full; and, upon submission of proof satisfactory to the SUBLESSOR that the work has been paid for in full, turn over to the SUBLESSEE the balance of the funds so deposited by the SUBLESSEE with the SUBLESSOR. The SUBLESSEE shall also furnish the SUBLESSOR at the time of any such payment with an official search, or other evidence satisfactory to the SUBLESSOR, that there has not been filed with respect to the demised premises any mechanic's or any other lien which has not been discharged of record, in respect of any work, labor, services, or materials performed, furnished or supplied, or claimed to have been performed, furnished or supplied, in connection with any such work. The SUBLESSOR shall not be required to pay out any such sum when the demised premises shall be encumbered with any such lien.

(c) All work done in connection with any change or alteration shall be done promptly and in good and workmanlike manner and in compliance with the building and zoning laws of the place in which the demised premises are located and with all laws, ordinances, orders, rules, regulations and requirements of all federal, state and municipal governments and the

appropriate departments, commissions and boards and officers thereof, and in accordance with the orders, rules and regulations of the Board of Fire Underwriters where the demised premises are situate or any other body exercising similar functions; the cost of any such change or alterations shall be paid in cash so that the demised premises shall at all times be free of liens for labor and materials supplied or claimed to have been supplied to the demised premises; the work of any change or alteration shall be prosecuted with reasonable dispatch, delays due to strikes, lockouts, acts of God, inability to obtain labor, materials, governmental restrictions, or similar causes beyond the control of the SUBLESSEE excepted; workmen's compensation insurance covering all persons employed in connection with the work and with respect to whom death or injury claims could be asserted against the SUBLESSOR, its predecessor in interest, Aetna, the SUBLESSEE or the demised premises, general liability insurance for the mutual benefit of the SUBLESSEE, the SUBLESSOR, its predecessors in interest, Aetna, with limits of not less than $250,000 in the event of injury to one person and of not less than $1,000,000 in the event of injury to any number of persons in any one accident, and with limits of not less than $25,000 for property damage shall be maintained by the SUBLESSEE at the SUBLESSEE's sole cost and expense at all times when any work is in process in connection with any change or alteration. All such insurance shall be in a company or companies authorized to do business in the state in which the demised premises are situate and satisfactory to the

[illegible] and Aetna, and all such policies shall be delivered to the SUBLESSOR endorsed "Premium Paid" by the company or agency issuing the same or with other evidence of payment of the premiums satisfactory to the SUBLESSOR.

(d) All improvements and alterations (other than the SUBLESSEE's trade fixtures and equipment) made or installed by the SUBLESSEE shall immediately upon completion or installation thereof be and become the property of the SUBLESSOR or Aetna without payment therefor by the SUBLESSOR or Aetna, and shall be surrendered to the SUBLESSOR upon the expiration or sooner termination of this Sublease.

ARTICLE XI

The SUBLESSEE shall not suffer or permit any mechanic's liens to be filed against the demised premises or any part thereof by reason of work, labor, services or materials supplied or claimed to have been supplied to the SUBLESSEE or anyone holding the demised premises or any part thereof through or under the SUBLESSEE. If any such mechanic's lien shall at any time be filed against the demised premises, the SUBLESSEE shall cause the same to be discharged of record within twenty-one (21) days after the date of filing the same. If the SUBLESSEE shall fail to discharge such mechanic's lien within such period, then, in addition to any other right or remedy of the SUBLESSOR, the SUBLESSOR may, but shall not be obligated to, discharge the same either by paying the amount claimed to be due or by procuring the discharge of such lien by deposit in court or by giving security or in such other manner as is, or may be, prescribed by law. Any amount paid by the SUBLESSOR for any of the aforesaid purposes, and all

reasonable legal and other expenses of the SUBLESSOR, including reasonable counsel fees, in or about procuring the discharge of such lien, with all necessary disbursements in connection therewith, with interest thereon at the rate of six per cent (6%) per annum from the date of payment shall be repaid by the SUBLESSEE to the SUBLESSOR on demand, and if unpaid may be treated as additional rent. Nothing herein contained shall imply any consent or agreement on the part of the SUBLESSOR to subject the SUBLESSOR's estate to liability under any mechanic's lien law.

ARTICLE X

The SUBLESSEE covenants not to do or suffer any waste or damage, disfigurement or injury to any building or improvement now or hereafter on the demised premises, or the fixtures and equipment thereof, or permit or suffer any overloading of the floors thereof.

ARTICLE XI

Section 1. The SUBLESSEE agrees to permit the SUBLESSOR and its predecessors in interest and Aetna and the authorized representatives of the SUBLESSOR, such predecessor and Aetna to enter the demised premises at all times during usual business hours subject to United States Government Security regulations for the purpose of inspecting the same and making any necessary repairs to the demised premises and performing any work therein that may be necessary to comply with any laws, ordinances, rules, regulations or requirements of any public authority or of the Board of Fire Underwriters or any similar body or that the SUBLESSOR or Aetna may deem necessary to prevent waste or deterioration in connection with the demised premises. Nothing herein shall imply any duty upon the part of the SUBLESSOR or Aetna to do any such work which, under any provisions of this Sublease, the SUBLESSEE may be required to

perform and the performance thereof by the SUBLESSOR or both shall not constitute a waiver of the SUBLESSEE's default in failing to perform the same. The SUBLESSOR and Aetna may during the progress of any work in the demised premises keep and store upon the demised premises all necessary materials, tools and equipment. The SUBLESSOR and Aetna shall not in any event be liable for inconvenience, annoyance, disturbance, loss of business or other damage to the SUBLESSEE by reason of making repairs or the performance of any work in the demised premises, or on account of bringing materials, supplies and equipment into or through the demised premises during the course thereof, and the obligations of the SUBLESSEE under this Sublease shall not thereby be affected in any manner whatsoever. The SUBLESSOR agrees, however, in connection with the doing of any such work to cause as little inconvenience, annoyance, disturbance, loss of business or other damage to the SUBLESSEE as may reasonably be possible in the circumstances.

Section 2. The SUBLESSOR is hereby given the right during usual business hours to enter the demised premises and to exhibit the same for the purposes of sale or hire, and during the final three (3) months of the initial term or of any renewal term, the SUBLESSOR shall be entitled to display on the demised premises in such manner as not unreasonably to interfere with the SUBLESSEE's business the usual "For Sale" or "To Let" signs, and the SUBLESSEE agrees that such signs may remain unmolested upon the demised premises.

ARTICLE XIII

At any time when SUBLESSEE is not in default under this Sublease, SUBLESSEE may transfer or assign its interest under this Sublease to a successor corporation into which or with which the SUBLESSEE, its corporate successors or assigns, is merged or consolidated or to a corporation acquiring all or substantially all of the other

property and assets of SUBLESSEE, its successors and assigns, provided that the duties and liabilities of the SUBLESSEE hereunder are assumed by such successor corporation and further, provided that the net worth of such successor corporation is not less than the net worth of the SUBLESSEE, its corporate successors or assigns, immediately prior to such merger, consolidation or acquisition, provided that the consent of Aetna shall have been obtained to such transfer or assignment if required under the Indenture Instrument. SUBLESSEE may also transfer or assign its interest under this Sublease to any person or corporation with the consent of the SUBLESSOR which shall not be unreasonably withheld, provided that the consent of Aetna shall have been obtained to such transfer or assignment if required under the Indenture Instrument SUBLESSEE may also sublet all or any portion of the premises with the consent of SUBLESSOR which shall not be unreasonably withheld, provided that, in the event of such subletting, SUBLESSEE shall not be relieved of any of its obligations hereunder, provided that the consent of Aetna shall have been obtained to such sublease if required under the Indenture Instrument.

ARTICLE XIII

The SUBLESSEE agrees to pay or cause to be paid all charges for water, gas, electricity, light, heat or power, telephone or other communication service used, rendered or supplied upon or in connection with the demised premises throughout the term of this sublease, and to indemnify the SUBLESSOR and save it harmless against any liability or damages on such account. The SUBLESSEE shall also at its sole cost and expense procure any and all necessary permits,licenses or other authorizations required for the lawful and proper installation and maintenance upon the demised premises of wires, pipes, conduits, tubes and other equipment and appliances for use in supplying any such service to and upon the demised premises.

ARTICLE XXV

The SUBLESSEE agrees to indemnify and save the SUBLESSOR against and from any and all claims by or on behalf of any person or persons, firm or firms, corporation or corporations, arising from the conduct or management of or from any work or thing whatsoever done in or about the demised premises, and will further indemnify and save the SUBLESSOR harmless against and from any and all claims arising during the initial term of this Sublease or any renewal term from any condition of the building on the demised premises or any street, curb or sidewalk on or adjoining the demised premises, or of any vaults, passageways or spaces therein or appurtenant thereto, or arising from any breach or default on the part of the SUBLESSEE in the performance of any covenant or agreement on the part of the SUBLESSEE to be performed, pursuant to the terms of this Sublease, or arising from any act of negligence of the SUBLESSEE, or any of its agents, contractors, servants, employees or licensees, or arising from any accident, injury or damage whatsoever caused to any person, firm or corporation occurring during the initial term of this Sublease or any renewal thereof, in or about the demised premises, or upon or under the sidewalks, the land adjacent thereto, and from and against all costs, counsel fees, expenses and liabilities incurred in or about any such claim or action or proceeding brought thereon; and in case any action or proceeding be brought against the SUBLESSOR by reason of any such claim, the SUBLESSEE upon notice from the SUBLESSOR covenants to resist or defend such action or proceeding by counsel reasonably satisfactory to the SUBLESSOR.

ARTICLE XXVI

Should condemnation either of a part or all the demised premises occur during the initial or any renewal term, the SUBLESSEE

shall, within thirty (30) days after such condemnation, either terminate the ~~former~~ term then in effect, or remain in possession and repair the Subleased premises. If the SUBLESSEE elects to terminate the ~~former~~ term, such ~~former~~ term shall cease and terminate thirty (30) days after the SUBLESSOR received such notice of termination. In such event the SUBLESSEE shall be entitled to receive and retain any award in respect of the loss of, or damage to, the SUBLESSEE's leasehold interest and the SUBLESSOR shall be entitled to receive and retain any award made in respect of the Subleased premises. Should the SUBLESSEE, however, elect to remain in possession, the ~~former~~ term shall continue as to the remaining portion of the Subleased premises. In such event, the SUBLESSEE shall be entitled to and shall receive the SUBLESSOR's and the SUBLESSEE's award in said condemnation proceedings and the SUBLESSOR shall assign and hereby assigns to the SUBLESSEE the SUBLESSOR's award in respect of damage to the Subleased premises. With the proceeds so received, the SUBLESSEE shall make all repairs or alterations, if any, to the Subleased premises made necessary by such condemnation; should the cost of such repairs or alterations be less than the award assigned by the SUBLESSOR to the SUBLESSEE, the SUBLESSEE shall pay to the SUBLESSOR the remaining balance of such award.

Section 1. The SUBLESSEE covenants and agrees that in case of damage to or destruction of any building on the demised premises, SUBLESSEE will promptly at its sole cost and expense repair, restore and rebuild the same as nearly as possible to the condition they were immediately prior to such damage or destruction, or, subject to the approval of the SUBLESSOR which shall not be unreasonably withheld, with such changes or alterations as may be deemed necessary and

[illegible] by SUBLESSEE. Subject to the rights of any mortgagee of said premises having priority over this Sublease all insurance money recovered in connection with said damage and/or destruction or an amount equivalent thereto shall be applied by the SUBLESSOR (or by the SUBLESSEE if the SUBLESSEE received the sums) to the payment of the cost of repairing, restoring and rebuilding, and any balance of said insurance money or equivalent amount in excess of the cost of repairing, restoring and rebuilding the damaged portion of any building on the demised premises shall be the property of and paid to the SUBLESSEE or at the request of the SUBLESSOR may be retained by and paid to the SUBLESSOR and thereafter applied against basic rent as provided herein.

Section 2. If at any time after the expiration of the initial term under this Sublease the building on the demised premises is destroyed or damaged to such extent that the restoration thereof will cost an amount in excess of Five Thousand Dollars ($5,000) over and above the proceeds of any insurance and the SUBLESSEE shall be unwilling to expend such amount, the SUBLESSEE shall so notify SUBLESSOR who shall have the option to expend such additional amount required for the restoration and/or repair of the building destroyed or damaged. In the event that SUBLESSOR is unwilling to make such additional expenditure it shall so notify SUBLESSEE in writing, and in such event the term of this Sublease shall expire as soon after the date on which SUBLESSOR gives such notification to SUBLESSEE as the SUBLESSEE vacates said premises using reasonable dispatch.

ARTICLE [illegible]

[illegible] Sublease shall be prior to and shall not become or be made subordinate to the lien of any mortgage or mortgages which at any

time may be [illegible] premises except a first mortgage in a principal [illegible] exceed 50-2/3% of the fair market value of the property [illegible] time such mortgage is placed. Said mortgage shall provide [illegible] the SUBLESSEE shall have the right to cure any default occurring under any such mortgage and to have all amounts so paid by SUBLESSEE applied against basic rent hereunder.

ARTICLE XVIII

Section 1. If during the initial term of this Sublease or any renewal term (a) the SUBLESSEE shall make an assignment for the benefit of creditors, or (b) a voluntary or involuntary petition be filed by or against the SUBLESSEE under any law having for its purpose the adjudication of the SUBLESSEE a bankrupt, or the extension of the time of payment, composition, adjustment, modification, settlement or satisfaction of the liabilities of the SUBLESSEE or to which any property of the SUBLESSEE may be subject, or the reorganization or liquidation of the SUBLESSEE, or (c) a receiver be appointed for the property of the SUBLESSEE by reason of the insolvency or alleged insolvency of the SUBLESSEE, or (d) any department of the state or federal government, or any officer thereof duly authorized, shall take possession of the business or property of the SUBLESSEE by reason of the insolvency or alleged insolvency of the SUBLESSEE, the occurrence of any such contingency shall be deemed a breach of the Sublease and this Sublease shall, ipso facto, upon the happening of any of said contingencies be terminated and the same shall expire as fully and completely as if the day of the happening of such contingency were the date herein specifically fixed for the expiration of the initial term or any renewal term and the SUBLESSEE will then quit and surrender the [illegible] premises to the SUBLESSOR.

Section 2. If, during the initial term of this Sublease or any renewal term, (a) the SUBLESSEE shall make default in fulfilling any of the covenants of this Sublease (other than the covenants for

the payment of basic rent, additional rent or other charges payable by the SUBLESSEE hereunder), or (b) the demised premises shall be left vacant or unoccupied or be deserted for a period of twenty-one (21) days, or (c) this Sublease, without the prior written consent of the SUBLESSOR, or except as expressly permitted, shall be assigned or transferred in any manner, or shall by operation of law pass to or devolve upon any third party (except any personal representative or distributee of a deceased individual assignee of this Sublease), the SUBLESSOR may give to the SUBLESSEE notice of any default or of the happening of any contingency in this Section referred to, and if at the expiration of twenty-one (21) days after the service of such notice the default or the contingency upon which said notice was based shall continue to exist, or in the case of a default or contingency which cannot with due diligence be cured within a period of twenty-one (21) days, if the SUBLESSEE fails to proceed promptly after the service of such notice and with all due diligence to cure the same and thereafter to prosecute the curing of such default with all due diligence (it being intended that in connection with a default not susceptible of being cured with due diligence within twenty-one (21) days that the time of the SUBLESSEE within which to cure the same shall be extended for such period as may be necessary to complete the same with all due diligence), the SUBLESSOR, at its option may terminate this Sublease and upon such termination the SUBLESSEE will quit and surrender the demised premises to the SUBLESSOR.

Section 8. If the SUBLESSEE shall make default in the payment of the basic rent expressly reserved hereunder, or any part of the same, and such default shall continue for fifteen (15) days after notice thereof by the SUBLESSOR, or shall make default in the

payment of any item of additional rent, or any other charge required to be paid by the SUBLESSEE hereunder or any part of the same and such default shall continue for twenty-one (21) days after notice thereof by the SUBLESSOR, or if this Sublease shall expire as in Section 1 or Section 2 of this Article provided, the SUBLESSOR or the SUBLESSOR's agents and servants may immediately or at any time thereafter re-enter the demised premises and remove all persons and all or any property therefrom, either by summary dispossess proceedings or by any suitable action or proceeding at law or by force or otherwise, without being liable to indictment, prosecution or damages therefor, and repossess and enjoy said premises together with all additions, alterations and improvements, without such re-entry and repossession working a forfeiture or waiver of the rents to be paid and the covenants to be performed by the SUBLESSEE during the full term hereof. Upon the expiration of the term of this Sublease by reason of the happening of any of the events hereinabove described in Section 1 or Section 2, or in the event of the termination of this Sublease by summary dispossess proceedings or under any provision of law now or at any time hereafter in force by reason of or based upon or arising out of a default under or breach of this Sublease on the part of the SUBLESSEE, or upon the SUBLESSOR recovering possession of the demised premises in the manner or in any of the circumstances hereinbefore mentioned or in any other manner or circumstances whatsoever, whether with or without legal proceedings, by reason of or based upon or arising out of a default under or breach of this sublease on the part of the SUBLESSEE, the SUBLESSOR may, at its option, at any time and from time to time relet the demised premises, or any part or parts thereof, for the account of the SUBLESSEE or otherwise, and receive and collect the rents therefor, applying the same first to the payment of such expenses as the SUBLESSOR may have incurred in recovering possession of the demised premises, including the legal expenses and attorneys' fees and for putting the same into good order or condition or preparing or altering the same for re-rental and all other expense, commissions and charges paid, assumed or incurred by

th[illegible]SSOR in or about reletting the premises and then to the fulfillment of the covenants of the SUBLESSEE hereunder. Any such reletting herein provided for may be for the remainder of the initial term or any renewal term of this Sublease as originally granted or for a longer or shorter period. In any such case and whether or not the demised premises, or any part thereof, be relet, the SUBLESSEE shall pay to the SUBLESSOR the basic rent and all other charges required to be paid by the SUBLESSEE up to the time of such termination of this Sublease, or of such recovery of possession of the demised premises by the SUBLESSOR, as the case may be, and thereafter, except in a case in which the liability of the SUBLESSEE as hereinafter provided arises by reason of the happening of any of the contingencies referred to in Section 1 hereof, the SUBLESSEE covenants and agrees, if required by the SUBLESSOR, to pay to the SUBLESSOR until the end of the initial term of this Sublease or any renewal term, as the case may be, the equivalent of the amount of all the basic rent reserved herein and all other charges required to be paid by the SUBLESSEE, less the net avails of reletting, if any, and the same shall be due and payable by the SUBLESSEE to the SUBLESSOR on the several rent days herein specified, that is to say, upon each of such rent days the SUBLESSEE shall pay to the SUBLESSOR the amount of the deficiency then existing. In any of the circumstances hereinbefore mentioned in which the SUBLESSOR shall have the right to hold the SUBLESSEE liable upon the several rent days herein specified to pay to the SUBLESSOR the equivalent of the amount of all the basic rent and all other charges required to be paid by the SUBLESSEE less the net avails of reletting, if any, the SUBLESSOR shall have the election in place and instead of holding the SUBLESSEE so liable, forthwith to recover against the SUBLESSEE as damages for loss of the bargain and not as a penalty an aggregate sum which at the time of such termination of this sublease or of such recovery of possession

f the premises by the SUBLESSOR, as the case may be, represents the then present worth of the excess, if any, of the aggregate of the basic rent and all other charges payable by the SUBLESSEE Hereunder that would have accrued for the balance of the initial term or any renewal term, as the case ... y be, over the aggregate rental value of the demised premises for the balance of such term.

ARTICLE XIX

Section 1. The SUBLESSEE shall have the right, to be exercised as hereinafter provided, to extend the terms of this sublease for four (4) successive periods, the first such period being for five (5) years from the 1st day of October, 1971 to the 30th day of September, 1976, and the remaining three (3) successive periods being for ten (10) years each, upon the following general terms and conditions:

(a) That the SUBLESSEE is not in default in the performance of any of the terms, covenants and conditions herein contained in respect to a matter as to which notice of default has been given hereunder and which has not been remedied within the time limited in this lease, at the time of the exercise of such right or at the time of commencement of the renewal term;

(b) That each renewal term shall be upon the same terms, covenants and conditions as in this Sublease provided except that the basic rent for the first five year renewal term shall be at a rate of Twenty-Eight Thousand Five Hundred Sixty Dollars ($28,560) per annum and the remaining successive renewal terms shall be at the rate of Twelve Thousand Five Hundred Dollars ($12,500) per annum payable in equal monthly installments in advance;

(c) All other impositions and payments upon the part of the SUBLESSEE to be made as in this Sublease provided shall continue to be made during each

of such renewal terms, including, but without limiting the generality of the foregoing, payment of taxes, sewer taxes and charges, assessments, fire an other insurance premiums, utility charges, and cost of repairs, additions and alterations.

Section 2. The SUBLESSEE shall have the right to exercise its right to the renewal terms by notifying the SUBLESSOR in writing of its election to exercise the right to renew the term of this Sublease at least thirteen months prior to the expiration of the initial term of the Sublease and at least thirteen months prior to the end of any renewal term.

ARTICLE XX

SUBLESSEE covenants and agrees that it shall, at its sole cost and expense;

(a) Perform the required maintenance or repair on the airconditioning pumps as necessary for its occupancy of the demised premises except that SUBLESSOR agrees to credit Fifteen Hundred Dollars ($1, 500) to SUBLESSEE to perform required maintenance and repairs to the airconditioning pumps. Said Fifteen Hundred Dollars ($1, 500) credit will be deducted from first months rental on subject building. Under this agreement, first month rental on subject building will be Eight Hundred and Eighty Dollars ($880).

(b) That in the event it is now required or becomes required or necessary in the future to connect the demised premises to the existing sewer, SUBLESSEE shall accomplish such connection;

(c) Have the right to erect a fence with a gate therein separating the demised premises from the premises owned by the SUBLESSOR adjacent to the demised premises, such gate to be opened at the request of the SUBLESSOR to permit ingress and agress for the movement of equipment or materials which cannot otherwise be brought into the SUBLESSOR'S adjacent property. The erection of said fence does not constitute a relinquishment of SUBLESSORS easement across the demised premises for the benefit of its adjacent property herein above referred to.

ARTICLE XXI

The SUBLESSEE shall upon termination of this Sublease for any reason whatsoever surrender to the SUBLESSOR the building, structures, fixtures and building equipment upon the demised premises, together with all additions, alterations and replacements thereof (except the SUBLESSEE's trade fixtures, machinery and equipment), in good order, condition and repair except for reasonable wear and tear. If changes or alterations shall have been made on the demised premises, the SUBLESSEE shall, if SUBLESSOR so requests, restore the demised premises as nearly as may be to their condition prior to such changes or alterations, with due allowance to reasonable wear and tear.

ARTICLE XXII

The SUBLESSOR covenants and agrees that the SUBLESSEE, upon paying the basic rent and all other charges herein provided for and observing and keeping the covenants, agreements and conditions of this Sublease on its part to be kept, shall lawfully and quietly hold, occupy and enjoy said demised premises during the term of this Sublease, without hindrance or molestation of the SUBLESSOR, or any person or persons claiming under the SUBLESSOR, subject, however, to the matters hereinabove set forth immediately following the description of the demised premises and to any mortgage having priority entered into pursuant to ARTICLE XVII.

ARTICLE XXIII

All notices, demands and requests which may or are required to be given by either party to the other shall be in

writing. All notices, demands and requests by the SUBLESSOR to the SUBLESSEE shall be sent by United States Registered Mail, postage prepaid, addressed to the SUBLESSEE at the demised premises, or at any such other place as the SUBLESSEE may from time to time designate in a written notice to the SUBLESSOR. All notices, demands and requests by the SUBLESSEE to the SUBLESSOR shall be sent by United States Registered Mail, postage prepaid, addressed to the SUBLESSOR at 2531 11th Street, Rockford, Illinois, or at such other place as the SUBLESSOR may from time to time designate in a written notice to the SUBLESSEE. Notices, demands and requests which shall be served upon the SUBLESSOR or the SUBLESSEE in the manner aforesaid shall be deemed sufficiently served or given for all purposes hereunder at the time such notice, demand or request shall be mailed by United States Registered Mail as aforesaid in any post office or branch post office regularly maintained by the United States Government.

ARTICLE XXIV

The demised premises are located in the State of California and all terms of this Sublease shall be construed and enforced in accordance with the laws of said State of California.

ARTICLE XXV

The covenants and agreements herein contained shall bind and enure to the benefit of the SUBLESSOR, its successors and assigns, and the SUBLESSEE, its successors and assigns.

IN WITNESS WHEREOF, the SUBLESSOR and the SUBLESSEE have respectively caused their corporate seals to be hereunto affixed and

these presents to be signed by their respective duly authorized officers, the day and year first above written.

SUNDSTRAND CORPORATION

BY _____
VICE PRESIDENT

ATTEST:

_____

LEDEEN INCORPORATED

BY _____
Controller

ATTEST:

_____

GUARANTY

In consideration of the SUBLESSOR making of the foregoing Sublease and for other good and valuable considerations receipt of which is hereby acknowledged, the undersigned hereby absolutely guarantees the payment by the SUBLESSEE of the rent fixed in the foregoing Sublease (and any renewal or extension thereof) at the times therein specified and the performance by SUBLESSEE of all the terms and conditions of the said Sublease. The undersigned expressly waives notice of all defaults by the SUBLESSEE.

HYDRAULIC RESEARCH AND MANUFACTURING COMPANY
A Division of Bell Aerospace Corp.

BY _____
President

ATTEST:

_____

2166-04748

CONTINENTAL LAWYERS TITLE COMPANY
A WHOLLY OWNED SUBSIDIARY OF
LAWYERS TITLE INSURANCE CORPORATION
60 UNIVERSAL CITY PLAZA
UNIVERSAL CITY, CALIFORNIA 91608
(818) 760-2700

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HR TEXTRON
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LEGAL

CONTINENTAL LAWYERS ESCROW
60 UNIVERSAL CITY PLAZA
UNIVERSAL CITY, CA 91608

ATTENTION: PAT

YOUR NO. 4050978A
OUR NO. 4082095-81

DATED AS OF DECEMBER 1, 1989 AT 7:30 A.M.

IN RESPONSE TO THE ABOVE REFERENCED APPLICATION FOR A POLICY OF TITLE INSURANCE

CONTINENTAL LAND TITLE COMPANY

HEREBY REPORTS THAT IT IS PREPARED TO ISSUE, OR CAUSE TO BE ISSUED AS OF THE DATE HEREOF, A POLICY OR POLICIES OF TITLE INSURANCE DESCRIBING THE LAND AND THE ESTATE OR INTEREST THEREIN HEREINAFTER SET FORTH, INSURING AGAINST LOSS WHICH MAY BE SUSTAINED BY REASON OF ANY DEFECT, LIEN OR ENCUMBRANCE NOT SHOWN OR REFERRED TO AS AN EXCEPTION IN SCHEDULE B OR NOT EXCLUDED FROM COVERAGE PURSUANT TO THE PRINTED SCHEDULES, CONDITIONS AND STIPULATIONS OF SAID POLICY FORMS.

THE PRINTED EXCEPTIONS AND EXCLUSIONS FROM THE COVERAGE OF SAID POLICY OR POLICIES ARE SET FORTH IN THE ATTACHED LIST. COPIES OF THE POLICY FORMS SHOULD BE READ. THEY ARE AVAILABLE FROM THE OFFICE WHICH ISSUED THIS REPORT.

THIS REPORT (AND ANY SUPPLEMENTS OR AMENDMENTS HERETO) IS ISSUED SOLELY FOR THE PURPOSE OF FACILITATING THE ISSUANCE OF A POLICY OF TITLE INSURANCE AND NO LIABILITY IS ASSUMED HEREBY. IF IT IS DESIRED THAT LIABILITY BE ASSUMED PRIOR TO THE ISSUANCE OF A POLICY OF TITLE INSURANCE, A BINDER OR COMMITMENT SHOULD BE REQUESTED.

THE FORM OF POLICY OF TITLE INSURANCE CONTEMPLATED BY THIS REPORT IS:

1. CALIFORNIA LAND TITLE ASSOCIATION STANDARD COVERAGE POLICY [x]
2. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY [ ]
3. AMERICAN LAND TITLE ASSOCIATION RESIDENTIAL TITLE INSURANCE POLICY [ ]
4. AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY FORM B [ ]

Pat Jarrett /gls

TITLE OFFICER PAT JARRETT

350155

SCHEDULE A ORDER NO. 4082095-81

THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

PARCELS 1, 2, 3, 4 AND 5: A FEE

PARCEL 5A: AN EASEMENT

TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

LEO I. KAPLAN AND JAMES A. KAPLAN, AS TRUSTEES UNDER DECLARATION OF TRUST DATED SEPTEMBER 17, 1976, EXECUTED BY LEO I. KAPLAN AND EVELYN L. KAPLAN, AS TRUSTORS AND LEO I. KAPLAN AND JAMES A. KAPLAN AS ORIGINAL TRUSTEES, AS TO PARCELS 1, 2, 4, 5 AND 5A, AND DONALD KAPLAN, A MARRIED MAN, AS HIS SEPARATE PROPERTY, AS TO AN UNDIVIDED ONE HALF INTEREST AND RICHARD KAPLAN, A MARRIED MAN AS HIS SEPARATE PROPERTY, AS TO AN UNDIVIDED ONE HALF INTEREST, AS TO PARCEL 3

THE LAND REFERRED TO IN THIS REPORT IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF LOS ANGELES AND IS DESCRIBED AS FOLLOWS:

PARCEL 1:

THAT PORTION OF BLOCK 169 OF THE MACLAY RANCHO, EX-MISSION OF SAN FERNANDO, IN THE CITY OF LOS ANGELES, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 37 PAGES 5 ET SEQ., OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, BOUNDED BY THE FOLLOWING DESCRIBED LINES:

COMMENCING AT A POINT IN THE SOUTHWESTERLY LINE OF SAID BLOCK, DISTANT SOUTHEASTERLY THEREON 1044.02 FEET FROM THE MOST WESTERLY CORNER OF SAID BLOCK; THENCE NORTHEASTERLY, PARALLEL WITH THE NORTHWESTERLY LINE OF SAID BLOCK, 430 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTHEASTERLY, PARALLEL WITH SAID NORTHWESTERLY LINE, 200 FEET; THENCE SOUTHEASTERLY, PARALLEL WITH SAID SOUTHWESTERLY LINE, 333 FEET, MORE OR LESS, TO THE SOUTHEASTERLY LINE OF SAID BLOCK; THENCE SOUTHWESTERLY, ALONG SAID SOUTHEASTERLY LINE, 200 FEET TO A LINE PARALLEL WITH SAID SOUTHWESTERLY LINE AND WHICH PASSES THROUGH THE TRUE POINT OF BEGINNING; THENCE NORTHWESTERLY, ALONG SAID PARALLEL LINE, 333 FEET, MORE OR LESS, TO THE TRUE POINT OF BEGINNING.

ALSO THAT PORTION OF THE NORTHWESTERLY 10 FEET OF GRANT AVENUE, (NOW MONTAGUE AVENUE) ADJOINING SAID LAND ON THE SOUTHEAST, WHICH LIES BETWEEN THE SOUTHEASTERLY PROLONGATION OF THE NORTHEASTERLY LINE OF THE HEREINBEFORE DESCRIBED LAND, AND THE SOUTHEASTERLY PROLONGATION OF THE SOUTHWESTERLY LINE OF SAID LAND, AS VACATED BY ORDER OF THE BOARD OF SUPERVISORS ON DECEMBER 22, 1902, FILED IN ROAD BOOK 7 PAGE 45.

- CONTINUED -

PARCEL 2:

THAT PORTION OF BLOCK 169 OF THE MACLAY RANCHO, EX-MISSION OF SAN FERNANDO, IN THE CITY OF LOS ANGELES, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 37 PAGES 5 ET SEQ., OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, BOUNDED BY THE FOLLOWING DESCRIBED LINES:

COMMENCING AT A POINT IN THE SOUTHWESTERLY LINE OF SAID BLOCK, DISTANT SOUTHEASTERLY THEREON 1044.02 FEET FROM THE MOST WESTERLY CORNER OF SAID BLOCK; THENCE NORTHEASTERLY, PARALLEL WITH THE NORTHWESTERLY LINE OF SAID BLOCK, 630 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTHEASTERLY, PARALLEL WITH SAID NORTHWESTERLY LINE, 100 FEET; THENCE SOUTHEASTERLY, PARALLEL WITH SAID SOUTHWESTERLY LINE, 333 FEET, MORE OR LESS, TO THE SOUTHEASTERLY LINE OF SAID BLOCK; THENCE SOUTHWESTERLY, ALONG SAID SOUTHEASTERLY LINE, 100 FEET TO A LINE PARALLEL WITH SAID SOUTHWESTERLY LINE AND WHICH PASSES THROUGH THE TRUE POINT OF BEGINNING; THENCE NORTHWESTERLY, ALONG SAID PARALLEL LINE, 333 FEET, MORE OR LESS, TO THE TRUE POINT OF BEGINNING.

ALSO THAT PORTION OF THE NORTHWESTERLY 10 FEET OF GRANT AVENUE, (NOW MONTAGUE AVENUE) ADJOINING SAID LAND ON THE SOUTHEAST, WHICH LIES BETWEEN THE SOUTHEASTERLY PROLONGATION OF THE NORTHEASTERLY LINE OF THE HEREINBEFORE DESCRIBED LAND, AND THE SOUTHEASTERLY PROLONGATION OF THE SOUTHWESTERLY LINE OF SAID LAND, AS VACATED BY ORDER OF THE BOARD OF SUPERVISORS ON DECEMBER 22, 1902, FILED IN ROAD BOOK 7 PAGE 45.

PARCEL 3:

THAT PORTION OF BLOCK 169 OF THE MACLAY RANCHO, EX-MISSION OF SAN FERNANDO, IN THE CITY OF LOS ANGELES, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 37 PAGES 5 ET SEQ., OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE SOUTHWESTERLY LINE OF SAID BLOCK, DISTANT 701.02 FEET SOUTHEASTERLY FROM THE MOST WESTERLY CORNER OF SAID BLOCK; THENCE NORTHEASTERLY PARALLEL WITH THE NORTHWESTERLY LINE OF SAID BLOCK, 332 FEET; THENCE SOUTHEASTERLY PARALLEL WITH SAID SOUTHWESTERLY LINE 136.98 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTHWESTERLY PARALLEL WITH SAID SOUTHWESTERLY LINE 136.98 FEET; THENCE SOUTHWESTERLY PARALLEL WITH SAID NORTHWESTERLY LINE 12.00 FEET; THENCE SOUTHEASTERLY PARALLEL WITH SAID SOUTHWESTERLY LINE 208.00 FEET; THENCE NORTHEASTERLY PARALLEL WITH SAID NORTHWESTERLY LINE 60.52 FEET; THENCE NORTHWESTERLY PARALLEL WITH SAID SOUTHWESTERLY LINE 42.12 FEET; THENCE WESTERLY IN A DIRECT LINE TO THE TRUE POINT OF BEGINNING.

- CONTINUED -

PARCEL 4:

THAT PORTION OF BLOCK 169 OF THE MACLAY RANCHO EX-MISSION DE SAN FERNANDO, IN THE CITY OF LOS ANGELES, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 37 PAGES 5 ET SEQ., OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE SOUTHWESTERLY LINE OF SAID BLOCK, DISTANT SOUTHEASTERLY THEREON 909.02 FEET FROM THE MOST WESTERLY CORNER OF SAID BLOCK; THENCE NORTHEASTERLY PARALLEL WITH THE NORTHWESTERLY LINE OF SAID BLOCK 169, A DISTANCE OF 370 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING NORTHEASTERLY ALONG SAID PARALLEL LINE A DISTANCE OF 60 FEET; THENCE SOUTHEASTERLY PARALLEL WITH SAID SOUTHWESTERLY LINE A DISTANCE OF 478 FEET, MORE OR LESS, TO THE SOUTHEASTERLY LINE OF SAID BLOCK 169; THENCE SOUTHWESTERLY, ALONG SAID SOUTHEASTERLY LINE, A DISTANCE OF 60 FEET TO A LINE WHICH IS PARALLEL WITH SAID SOUTHWESTERLY LINE OF SAID BLOCK AND PASSES THROUGH THE TRUE POINT OF BEGINNING; THENCE NORTHWESTERLY ALONG SAID PARALLEL LINE, A DISTANCE OF 478.53 FEET, MORE OR LESS, TO THE TRUE POINT OF BEGINNING.

TOGETHER WITH THAT PORTION OF THE NORTHWESTERLY 10 FEET OF GRANT AVENUE (NOW MONTAGUE AVENUE) ADJOINING SAID LAND ON THE SOUTHEAST, WHICH LIES BETWEEN THE SOUTHEASTERLY PROLONGATION OF THE NORTHEASTERLY AND SOUTHWESTERLY LINES OF THE HEREINBEFORE DESCRIBED LAND, AS VACATED BY ORDER OF THE BOARD OF SUPERVISORS ON DECEMBER 22, 1902, FILED IN ROAD BOOK 7 PAGE 45 OF RECORDS OF SAID COUNTY.

PARCEL 5:

THAT PORTION OF BLOCK 169 OF THE MACLAY RANCHO, EX-MISSION OF SAN FERNANDO, IN THE CITY OF LOS ANGELES, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 37 PAGES 5 ET SEQ., OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE SOUTHWESTERLY LINE OF SAID BLOCK, DISTANT 701.02 FEET SOUTHEASTERLY FROM THE MOST WESTERLY CORNER OF SAID BLOCK; THENCE NORTHEASTERLY PARALLEL WITH THE NORTHWESTERLY LINE OF SAID BLOCK, 320.00 FEET; THENCE SOUTHEASTERLY PARALLEL WITH THE SOUTHWESTERLY LINE OF SAID BLOCK 208.00 FEET; THENCE NORTHEASTERLY PARALLEL WITH THE NORTHWESTERLY LINE OF SAID BLOCK 60.52 FEET; THENCE SOUTHEASTERLY PARALLEL WITH THE SOUTHWESTERLY LINE OF SAID BLOCK 135 FEET; THENCE SOUTHWESTERLY PARALLEL WITH THE NORTHWESTERLY LINE OF SAID BLOCK 370 FEET; THENCE NORTHWESTERLY PARALLEL WITH THE SOUTHWESTERLY LINE OF SAID BLOCK 343 FEET TO THE POINT OF BEGINNING.

- CONTINUED -

ALSO THAT PORTION OF THE NORTHEASTERLY ONE HALF OF 5TH STREET (VACATED) ADJOINING THE ABOVE DESCRIBED LAND ON THE SOUTHWEST.

PARCEL 5A:

AN EASEMENT FOR ROAD AND PUBLIC UTILITY PURPOSES OVER THAT PORTION OF BLOCK 169 OF THE MACLAY RANCHO EX-MISSION OF SAN FERNANDO, IN THE CITY OF LOS ANGELES, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 37 PAGES 5 ET SEQ., OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE SOUTHWESTERLY LINE OF SAID BLOCK, DISTANT 701.02 FEET SOUTHEASTERLY FROM THE MOST WESTERLY CORNER OF SAID BLOCK; THENCE NORTHEASTERLY PARALLEL WITH THE NORTHWESTERLY LINE OF SAID BLOCK, 1260.63 FEET, MORE OR LESS, TO THE NORTHEASTERLY LINE OF SAID BLOCK 169; THENCE SOUTHEASTERLY ALONG SAID NORTHEASTERLY LINE 30.00 FEET; THENCE SOUTHWESTERLY PARALLEL WITH SAID NORTHWESTERLY LINE 1260.63 FEET TO THE SOUTHWESTERLY LINE OF SAID BLOCK; THENCE NORTHWESTERLY ALONG SAID SOUTHWESTERLY LINE 30.00 FEET TO THE POINT OF BEGINNING.

TOGETHER WITH AN EASEMENT FOR ROAD AND PUBLIC UTILITY PURPOSES OVER THAT PORTION OF THE SOUTHWESTERLY ONE HALF OF 6TH STREET ADJOINING THE ABOVE DESCRIBED LAND ON THE NORTHEAST, AS VACATED AND ABANDONED BY A RESOLUTION OF THE BOARD OF SUPERVISORS OF SAID COUNTY PASSED JULY 8, 1909, AND ENTERED IN ROAD BOOK 11 PAGE 47, IN THE OFFICE OF SAID BOARD OF SUPERVISORS.

EXCEPT THAT PORTION OF PARCEL 5A INCLUDED WITHIN THE LINES OF PARCEL 5 OF THIS DESCRIPTION.

SCHEDULE A-1

ORDER NO. 4082095-81

REQUIREMENT NO. 1:

IF TITLE IS TO BE INSURED IN THE TRUSTEE(S) OF A TRUST, (OR IF THEIR ACT IS TO BE INSURED), THIS COMPANY WILL REQUIRE A COPY OF THE TRUST INSTRUMENT CREATING SUCH TRUST, AND ALL AMENDMENTS THERETO, TOGETHER WITH A WRITTEN VERIFICATION BY ALL PRESENT TRUSTEES THAT THE COPY IS A TRUE AND CORRECT COPY OF THE TRUST, AS IT MAY HAVE BEEN AMENDED, THAT IT IS IN FULL FORCE AND EFFECT AND THAT IT HAS NOT BEEN REVOKED OR TERMINATED.

ESCROW COMMENTS:_____

_____

_____

REQUIREMENT NO. 2:

WE WILL REQUIRE A STATEMENT OF INFORMATION FROM THE PARTIES NAMED BELOW IN ORDER TO COMPLETE THIS REPORT, BASED ON THE EFFECT OF DOCUMENTS, PROCEEDINGS, LIENS, DECREES, OR OTHER MATTERS WHICH DO NOT SPECIFICALLY DESCRIBE SAID LAND, BUT WHICH, IF ANY DO EXIST, MAY AFFECT THE TITLE OR IMPOSE LIENS OR ENCUMBRANCES THEREON.
PARTIES: RICHARD KAPLAN AND DONALD KAPLAN

(NOTE: THE STATEMENT OF INFORMATION IS NECESSARY TO COMPLETE THE SEARCH AND EXAMINATION OF TITLE UNDER THIS ORDER. ANY TITLE SEARCH INCLUDES MATTERS THAT ARE INDEXED BY NAME ONLY, AND HAVING A COMPLETED STATEMENT OF INFORMATION ASSISTS THE COMPANY IN THE ELIMINATION OF CERTAIN MATTERS WHICH APPEAR TO INVOLVE THE PARTIES BUT IN FACT AFFECT ANOTHER PARTY WITH THE SAME OR SIMILAR NAME. BE ASSURED THAT THE STATEMENT OF INFORMATION IS ESSENTIAL AND WILL BE KEPT STRICTLY CONFIDENTIAL TO THIS FILE.)

ESCROW COMMENTS:_____

_____

_____

REQUIREMENT NO. 3:

YOUR ORDER FOR TITLE WORK CALLS FOR A SEARCH OF PROPERTY THAT IS IDENTIFIED BY A STREET ADDRESS ONLY. BASED ON OUR RECORDS, WE BELIEVE THAT THE DESCRIPTION IN THIS REPORT COVERS THE PARCEL THAT YOU REQUESTED. HOWEVER, WE CAN GIVE NO ASSURANCE OF THIS.

- CONTINUED -

TO PREVENT ERRORS AND TO BE CERTAIN THAT THE PROPER PARCEL OF LAND WILL APPEAR ON THE DOCUMENTS AND ON THE POLICY OF TITLE INSURANCE, WE REQUIRE THAT WRITTEN APPROVAL OF THE LEGAL DESCRIPTION IN THIS REPORT BE SENT TO US, SIGNED BY THE ESCROW OFFICER OR BY THE PARTIES TO THE TRANSACTION.

ESCROW COMMENTS: _____

_____

_____

NOTE NO. 1: THE CHARGE FOR A POLICY OF TITLE INSURANCE, WHEN ISSUED THROUGH THIS TITLE ORDER, WILL BE BASED ON THE BASIC (NOT SHORT-TERM) TITLE INSURANCE RATE.

NOTE NO. 2: CAUTION

THIS PRELIMINARY TITLE REPORT HAS BEEN WRITTEN IN ANTICIPATION OF A CLTA POLICY TO BE ISSUED. IF YOUR TRANSACTION IS SOMETHING OTHER THAN WHAT HAS BEEN STATED, WE WILL REQUIRE ADDITIONAL INFORMATION. UPON RECEIVING SAID ADDITIONAL INFORMATION, WE WILL MAKE ADDITIONAL REQUIREMENTS IN ORDER TO CLOSE THIS TRANSACTION AND ISSUE THE POLICY(S) OF TITLE INSURANCE.

TO AVOID DELAYS AT THE TIME OF CLOSING, PLEASE ADVISE THE TITLE OFFICER HEREIN NAMED OF ANY ADDITIONAL INFORMATION AND ALLOW AT LEAST ONE WEEK PRIOR TO THE CLOSE OF ESCROW, TO PROCESS THE INFORMATION AND RECEIVE APPROVAL.

NOTE NO. 3: IF YOU ARE AWARE OF ANY IMPROVEMENTS WHATSOEVER THAT HAVE BEEN RECENTLY COMPLETED, THAT ARE ONGOING, OR CONTEMPLATED PRIOR TO CLOSING, THIS OFFICE MUST BE INFORMED OF THESE FACTS IMMEDIATELY SO THAT YOUR TRANSACTION IS NOT DELAYED.

TAX ADVANCE NOTE:

IN ORDER TO PROPERLY APPLY ANY PAYMENTS FOR REAL PROPERTY TAXES IN AN EFFICIENT AND TIMELY MANNER, THIS OFFICE SHOULD BE SENT THE TAX BILLS WHICH ARE IN THE POSSESSION OF THE OWNER (S), PRIOR TO THE CLOSE OF THIS TRANSACTION. THIS OFFICE WILL THEN BE ABLE TO FORWARD SAID BILLS ALONG WITH THE NECESSARY PAYMENT. IT HAS BEEN DETERMINED THAT DELAYS IN CONFIRMING TAX PAYMENTS ARE GREATLY MINIMIZED WHEN THE TAX BILLS ARE FORWARDED TO THE L. A. COUNTY TAX COLLECTOR ALONG WITH THE REQUISITE PAYMENTS.

4082095-81

TRUST CERTIFICATION

_____, 19___

TO: CONTINENTAL LAND TITLE COMPANY &
LAWYERS TITLE INSURANCE CORPORATION:

RE: TRUST AGREEMENT DATED _____, MADE UNDER THE LAWS OF THE STATE OF _____, BY _____.
(NAME(S) OF PERSON(S) WHO CREATED THE TRUST)

THE UNDERSIGNED TRUSTEE(S) CERTIFIES TO YOU THAT AS OF THE DATE HEREOF:

1. THE ABOVE TRUST AGREEMENT HAS NOT BEEN REVOKED AND IS IN FULL FORCE AND EFFECT.

2. THE FOLLOWING ARE NOW ACTING AS TRUSTEES UNDER THE TRUST AGREEMENT AND ARE THE ONLY TRUSTEES QUALIFIED TO ACT:

_____

_____

_____

3. THE SUCCESSOR TRUSTEE(S) UNDER SAID TRUST AGREEMENT ARE AS FOLLOWS:

_____

_____

_____

4. THE TRUST AGREEMENT HAS NOT BEEN AMENDED EXCEPT AS FOLLOWS:

_____

_____

_____

5. THE ATTACHED COPY OF THE TRUST DOCUMENT IS A TRUE COPY OF THE ORIGINAL WHICH IS IN OUR POSSESSION AND THE ATTACHED COPIES OF THE AMENDMENTS SET FORTH IN ITEM 4 ARE TRUE COPIES OF THE ORIGINALS WHICH ARE ALSO IN OUR POSSESSION.

_____ _____

TRUST CERTIFICATION
(cont.)

STATE OF CALIFORNIA)
)SS
COUNTY OF _____)

ON _____, 19 ___, BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, PERSONALLY APPEARED _____
_____, PERSONALLY KNOWN TO ME (OR PROVED TO ME ON THE BASIS OF SATISFACTORY EVIDENCE) TO BE THE PERSON(S) WHOSE NAME(S) IS/ARE SUBSCRIBED TO THE FOREGOING TRUST CERTIFICATION, AND ACKNOWLEDGED TO ME THAT THEY EXECUTED THE SAME.

WITNESS MY HAND AND OFFICIAL SEAL,

_____
NOTARY PUBLIC, IN AND FOR SAID COUNTY AND STATE.

SCHEDULE B

ORDER NO. 4082095-81

AT THE DATE HEREOF EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN THE POLICY FORM DESIGNATED ON THE FACE PAGE OF THIS REPORT WOULD BE AS FOLLOWS:

A. PROPERTY TAXES, INCLUDING ANY PERSONAL PROPERTY TAXES AND ANY ASSESSMENTS COLLECTED WITH TAXES, FOR THE FISCAL YEAR 1989 - 1990.

1ST INSTALLMENT:	$1,067.36
PENALTY:	$ 106.73
2ND INSTALLMENT:	$1,067.34
PENALTY AND COST:	$ 116.73

HOMEOWNERS EXEMPTION: NONE

CODE AREA:	13
ASSESSMENT NO:	2537-2-11

SAID MATTER AFFECTS: PARCELS 1 AND 2

B. PROPERTY TAXES, INCLUDING ANY PERSONAL PROPERTY TAXES AND ANY ASSESSMENTS COLLECTED WITH TAXES, FOR THE FISCAL YEAR 1989 - 1990.

1ST INSTALLMENT:	$33.90
PENALTY:	$ 3.39
2ND INSTALLMENT:	$33.89
PENALTY AND COST:	$13.38

HOMEOWNERS EXEMPTION: NONE

CODE AREA:	13
ASSESSMENT NO:	2537-2-18

SAID MATTER AFFECTS: PARCEL 3

C. A SALE TO THE STATE OF CALIFORNIA FOR GENERAL AND SPECIAL TAXES AND SUBSEQUENT DELINQUENCIES FOR THE

FISCAL YEAR:	1987-1988
TAXING AUTHORITY:	LOS ANGELES COUNTY
AMOUNT TO PAY PRIOR TO:	DECEMBER 31, 1989 $195.18
	JANUARY 31, 1990 $197.06

SAID MATTER AFFECTS: PARCEL 3

- CONTINUED -

D. PROPERTY TAXES, INCLUDING ANY PERSONAL PROPERTY TAXES AND ANY ASSESSMENTS COLLECTED WITH TAXES, FOR THE FISCAL YEAR 1989 - 1990.

1ST INSTALLMENT:	$135.69
PENALTY:	$ 13.56
2ND INSTALLMENT:	$135.67
PENALTY AND COST:	$ 23.56

HOMEOWNERS EXEMPTION: NONE

CODE AREA:	13
ASSESSMENT NO:	2537-2-3

SAID MATTER AFFECTS: PARCEL 4

E. A SALE TO THE STATE OF CALIFORNIA FOR GENERAL AND SPECIAL TAXES AND SUBSEQUENT DELINQUENCIES FOR THE

FISCAL YEAR:	1986-1987
TAXING AUTHORITY:	LOS ANGELES COUNTY
AMOUNT TO PAY PRIOR TO:	DECEMBER 31, 1989 $841.22
	JANUARY 31, 1990 $850.19

SAID MATTER AFFECTS: PARCEL 4

F. PROPERTY TAXES, INCLUDING ANY PERSONAL PROPERTY TAXES AND ANY ASSESSMENTS COLLECTED WITH TAXES, FOR THE FISCAL YEAR 1989 - 1990.

1ST INSTALLMENT:	$2,401.08
PENALTY:	$ 240.10
2ND INSTALLMENT:	$2,401.06
PENALTY AND COST:	$ 250.10

HOMEOWNERS EXEMPTION: NONE

CODE AREA:	13
ASSESSMENT NO:	2537-2-1

SAID MATTER AFFECTS: PARCEL 5

G. THE LIEN OF SUPPLEMENTAL TAXES, IF ANY, ASSESSED PURSUANT TO THE PROVISIONS OF CHAPTER 3.5 (COMMENCING WITH SECTION 75) OF THE REVENUE AND TAXATION CODE OF THE STATE OF CALIFORNIA.

- CONTINUED -

1. A WAIVER AND RELEASE OF CLAIM BY ROBERT LEDGER AND WIFE, AS OWNERS, RELEASE THE CITY OF LOS ANGELES FROM ANY LIABILITY FOR DAMAGES BY REASON OF CHANGE OF GRADE, SLOPING OR IMPROVEMENT ALONG SAID LAND, RECORDED JULY 27, 1939 IN BOOK 16768 PAGE 270 OF OFFICIAL RECORDS.

2. ANY RIGHT OF THE SOUTHERN CALIFORNIA EDISON COMPANY, LTD., TO MAINTAIN AND OPERATE ITS ELECTRIC TRANSMISSION LINES OVER SAID LAND THAT MAY BE DISCLOSED BY THE INTERLOCUTORY DECREE ENTERED IN CASE NO. 440457, LOS ANGELES COUNTY SUPERIOR COURT.

3. AN EASEMENT FOR THE PURPOSES SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS RESERVED IN A DOCUMENT
PURPOSE: UTILITIES
RECORDED: IN BOOK 53501 PAGE 92, OFFICIAL RECORDS

AFFECTS: SOUTHWESTERLY 30 FEET OF PARCEL 4

4. A COVENANT AND AGREEMENT
EXECUTED BY: LEO I. KAPLAN AND EVELYN L. KAPLAN
IN FAVOR OF: CITY OF LOS ANGELES
RECORDED: APRIL 6, 1962 AS INSTRUMENT NO. 4642
IN BOOK M 986 PAGE 244, OFFICIAL RECORDS

WHICH AMONG OTHER THINGS PROVIDES:

THE AFFECTED LAND SHALL BE HELD AS ONE PARCEL AND THAT NO PORTION THEREOF SHALL BE SOLD SEPARATELY.

THIS COVENANT AND AGREEMENT SHALL RUN WITH THE LAND AND SHALL BE BINDING UPON ANY FUTURE OWNERS, ENCUMBRANCERS, THEIR SUCCESSORS, HEIRS OR ASSIGNS AND SHALL CONTINUE IN EFFECT UNTIL THE ADVISORY AGENCY OF THE CITY OF LOS ANGELES APPROVES ITS TERMINATION.

SAID MATTER AFFECTS: A PORTION OF PARCEL 1

5. A COVENANT AND AGREEMENT
EXECUTED BY: LEO I. KAPLAN AND EVELYN L. KAPLAN
IN FAVOR OF: CITY OF LOS ANGELES
RECORDED: APRIL 6, 1962 AS INSTRUMENT NO. 4643
IN BOOK M 986 PAGE 247, OFFICIAL RECORDS

WHICH AMONG OTHER THINGS PROVIDES:

IN CONSIDERATION OF THE ISSUANCE BY THE CITY OF LOS ANGELES OF A BUILDING PERMIT FOR THE CONSTRUCTION OF AN OVERSIZED BUILDING ON SAID PROPERTY, WE DO HEREBY COVENANT AND AGREE TO AND WITH SAID CITY, PURSUANT TO SECTION 91.0506(K) OF THE LOS ANGELES MUNICIPAL CODE, TO MAINTAIN ON SAID PROPERTY, A YARD OF 55 FEET IN WIDTH, UNOBSTRUCTED FROM GROUND TO SKY, AS SHOWN ON THE ATTACHED PLOT PLAN.

- CONTINUED -

THIS COVENANT AND AGREEMENT SHALL RUN WITH THE LAND AND SHALL BE BINDING UPON OURSELVES, ANY FUTURE OWNERS, ENCUMBRANCERS, THEIR SUCCESSORS, HEIRS OR ASSIGNEES AND SHALL CONTINUE IN EFFECT SO LONG AS SAID OVERSIZED BUILDING SHALL REMAIN THEREON OR UNLESS OTHERWISE RELEASED BY AUTHORITY OF THE SUPERINTENDENT OF BUILDING OF THE CITY OF LOS ANGELES.

SAID MATTER AFFECTS: A PORTION OF PARCEL 1

6. A DEED OF TRUST TO SECURE PERFORMANCE UNDER AN AGREEMENT REFERRED TO THEREIN, AND ANY OTHER OBLIGATIONS SECURED THEREBY

DATED:	JULY 6, 1967
TRUSTOR:	LEO I. KAPLAN AND EVELYN L. KAPLAN, HUSBAND AND WIFE
TRUSTEE:	EQUITABLE TRUST COMPANY, A CALIFORNIA CORPORATION
BENEFICIARY:	SECURITY FIRST NATIONAL BANK, A NATIONAL BANKING ASSOCIATION
RECORDED:	JUNE 11, 1967 AS INSTRUMENT NO. 2589 IN BOOK T 5220 PAGE 140, OFFICIAL RECORDS

SAID MATTER AFFECTS: PARCELS 1 AND 2

7. AN OIL AND GAS LEASE FOR THE TERM THEREIN PROVIDED WITH CERTAIN COVENANTS, CONDITIONS AND PROVISIONS, TOGETHER WITH EASEMENTS IF ANY, AS SET FORTH THEREIN.

DATED:	APRIL 3, 1975
LESSOR:	RICHARD KAPLAN AND DONALD KAPLAN
LESSEE:	STANDARD OIL COMPANY OF CALIFORNIA, A CORPORATION
RECORDED:	JANUARY 23, 1976 AS INSTRUMENT NO. 4673, OFFICIAL RECORDS

NO ASSURANCE IS MADE AS TO THE PRESENT OWNERSHIP OF THE LEASEHOLD CREATED BY SAID LEASE, NOR AS TO OTHER MATTERS AFFECTING THE RIGHTS OR INTEREST OF THE LESSOR OR LESSEE IN SAID LEASE.

SAID LEASE AFFECTS THAT PORTION OF SAID LAND LYING BELOW A DEPTH OF 500 FEET FROM THE SURFACE THEREOF.

SAID LEASE DOES NOT PROVIDE FOR THE RIGHT OF SURFACE ENTRY.

SAID MATTER AFFECTS: PARCEL 3 AND OTHER PROPERTY

SAID OIL AND GAS LEASE WAS AMENDED BY AMENDMENT OF SUBSURFACE OIL AND GAS LEASE RECORDED FEBRUARY 11, 1986 AS INSTRUMENT NO. 86-185928, OFFICIAL RECORDS.

- CONTINUED -

8. AN OIL AND GAS LEASE FOR THE TERM THEREIN PROVIDED WITH CERTAIN COVENANTS, CONDITIONS AND PROVISIONS, TOGETHER WITH EASEMENTS IF ANY, AS SET FORTH THEREIN.

DATED:	APRIL 3, 1975
LESSOR:	LEO I. KAPLAN AND EVELYN L. KAPLAN, HIS WIFE
LESSEE:	STANDARD OIL COMPANY OF CALIFORNIA, A CORPORATION
RECORDED:	JANUARY 29, 1976 AS INSTRUMENT NO. 4288, OFFICIAL RECORDS

NO ASSURANCE IS MADE AS TO THE PRESENT OWNERSHIP OF THE LEASEHOLD CREATED BY SAID LEASE, NOR AS TO OTHER MATTERS AFFECTING THE RIGHTS OR INTEREST OF THE LESSOR OR LESSEE IN SAID LEASE.

SAID LEASE AFFECTS THAT PORTION OF SAID LAND LYING BELOW A DEPTH OF 500 FEET FROM THE SURFACE THEREOF.

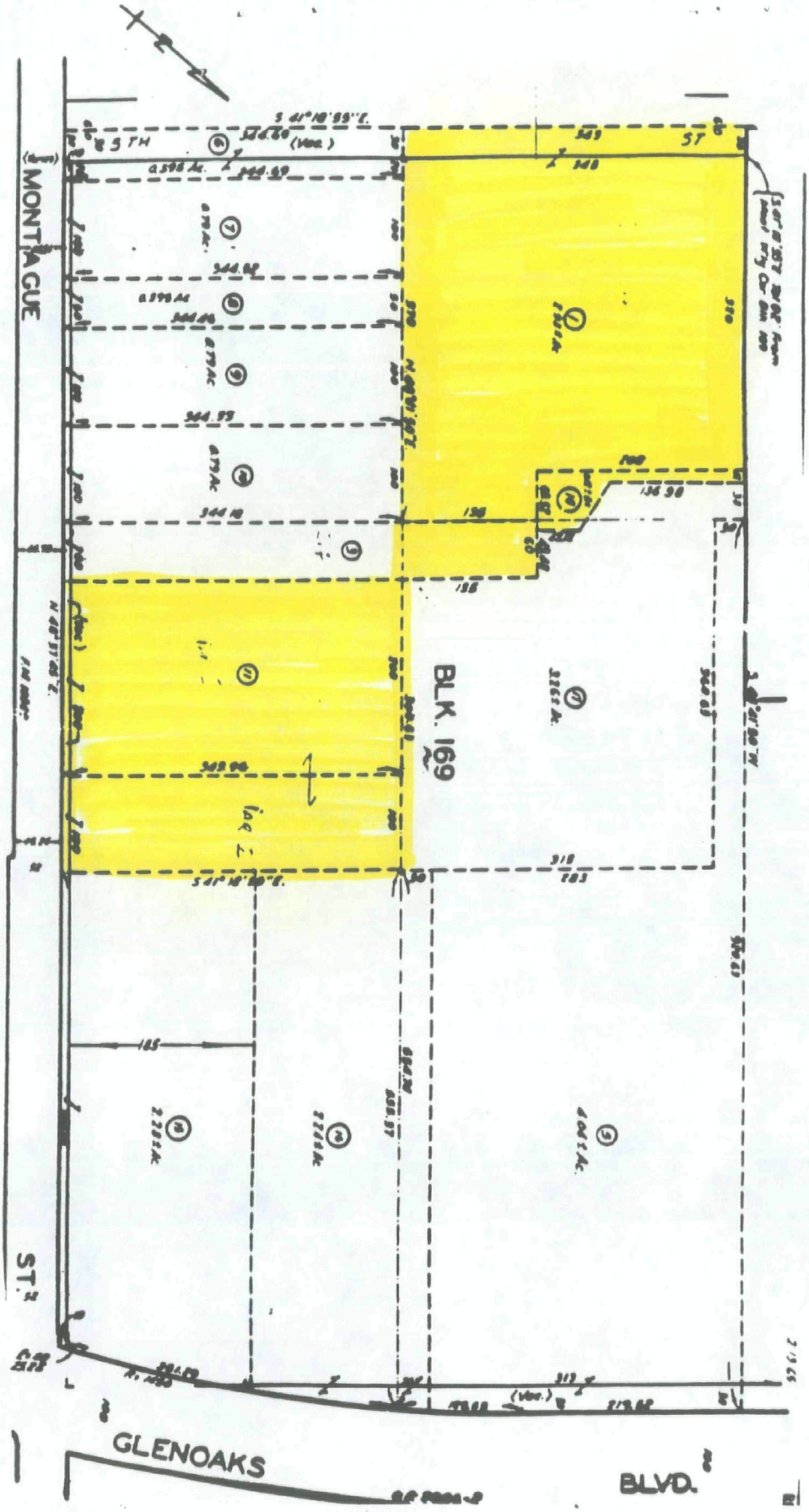
SAID LEASE DOES NOT PROVIDE FOR THE RIGHT OF SURFACE ENTRY.

SAID MATTER AFFECTS: PARCEL 5

SAID OIL AND GAS LEASE WAS MODIFIED BY AMENDMENT OF SUBSURFACE OIL AND GAS LEASE RECORDED FEBRUARY 11, 1986 AS INSTRUMENT NO. 86-185935, OFFICIAL RECORDS.

9. ANY INVALIDITY OR DEFECT IN THE TITLE OF THE VESTEES IN THE EVENT THAT THE TRUST REFERRED TO IN THE VESTING PORTION OF SCHEDULE A IS INVALID OR FAILS TO GRANT SUFFICIENT POWERS TO THE TRUSTEE(S) OR IN THE EVENT THERE IS A LACK OF COMPLIANCE WITH THE TERMS AND PROVISIONS OF THE TRUST INSTRUMENT.

END OF SCHEDULE B B12-12-89



THE MACLAY RANCHO
EX MISSION OF SAN FERNANDO
M. R. 37-5-16

THIS IS NEITHER A PLAT NOR A SURVEY. IT IS FURNISHED AS A CONVENIENCE TO LOCATE THE LAND INDICATED HEREON WITH REFERENCE TO STREETS AND OTHER LAND. NO LIABILITY IS ASSUMED BY REASON OF RELIANCE HEREON.

1. CALIFORNIA LAND TITLE ASSOCIATION STANDARD COVERAGE POLICY - 1988

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.

EXCEPTIONS FROM COVERAGE – SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

Part I

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.

Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

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2. AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY (10-21-87)
AND
AMERICAN LAND TITLE ASSOCIATION LEASEHOLD OWNER'S POLICY (10-21-87)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the estate or interest insured by this policy.

3. AMERICAN LAND TITLE ASSOCIATION RESIDENTIAL TITLE INSURANCE POLICY (6-1-87)
EXCLUSIONS

In addition to the Exceptions in Schedule B, you are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of any law or government regulation. This includes building and zoning ordinances and also laws and regulations concerning:
   - land use
   - improvements on the land
   - land division
   - environmental protection

   This exclusion does not apply to violations or the enforcement of these matters which appear in the public records at Policy Date. This exclusion does not limit the zoning coverage described in Items 12 and 13 of Covered Title Risks.
2. The right to take the land by condemning it, unless:
   - a notice of exercising the right appears in the public records
   - on the Policy Date
   - the taking happened prior to the Policy Date and is binding on you if you bought the land without knowing of the taking
3. Title Risks:
   - that are created, allowed, or agreed to by you
   - that are known to you, but not to us, on the Policy Date – unless they appeared in the public records
   - that result in no loss to you
   - that first affect your title after the Policy Date – this does not limit the labor and material lien coverage in Item 8 of Covered Title Risks
4. Failure to pay value for your title.
5. Lack of a right:
   - to any land outside the area specifically described and referred to in Item 3 of Schedule A

     or
   - in streets, alleys, or waterways that touch your land

   This exclusion does not limit the access coverage in Item 5 of Covered Title Risks.

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4. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY (10-21-87)
AND
AMERICAN LAND TITLE ASSOCIATION LEASEHOLD LOAN POLICY (10-21-87)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy (except to the extent that this policy insures the priority of the lien of the insured mortgage over any statutory lien for services, labor or material or to the extent insurance is afforded herein as to assessments for street improvements under construction or completed at Date of Policy); or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any statutory lien for services, labor or materials (or the claim of priority of any statutory lien for services, labor or materials over the lien of the insured mortgage) arising from an improvement or work related to the land which is contracted for and commenced subsequent to Date of Policy and is not financed in whole or in part by proceeds of the indebtedness secured by the insured mortgage which at Date of Policy the insured has advanced or is obligated to advance.

2166-04748

LEWIS, D'AMATO, BRISBOIS & BISGAARD

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

LAWYERS

FIVE PARK-SUITE 300
261 SOUTH FIGUEROA STREET
LOS ANGELES, CALIFORNIA 90012
TELEPHONE (213) 628-7777

CABLE ADDRESS "FIVEPARK"
TELEX: 194508

TELECOPIERS:
LOS ANGELES: (213) 628-0969
SAN DIEGO: (619) 233-8627
SAN FRANCISCO: (415) 434-0882
ORANGE COUNTY: (714) 547-0235
WASHINGTON, D.C.: (202) 737-6515

SAN FRANCISCO OFFICE
SUITE 1900
601 CALIFORNIA STREET
SAN FRANCISCO, CALIFORNIA 94108
TELEPHONE (415) 362-2580
TELEX: 6502787404

ORANGE COUNTY OFFICE
SUITE 202
902 NORTH GRAND AVENUE
SANTA ANA, CALIFORNIA 92701
TELEPHONE (714) 541-9444

SAN DIEGO OFFICE
SUITE 800
101 WEST BROADWAY
SAN DIEGO, CALIFORNIA 92101
TELEPHONE (619) 233-1006

WASHINGTON, D.C. OFFICE
SUITE 1350
1001 PENNSYLVANIA AVENUE, N.W.
WASHINGTON, D.C. 20004
TELEPHONE (202) 737-7810
TELEX: 204797

CHRISTOPHER P. BISGAARD
A PROFESSIONAL CORPORATION
DIRECT DIAL (213) 680-5001

June 29, 1989

10445 Glenoaks

Martin D. Bell, Esq.
HR Textron
25200 West Rye Canyon Road
Valencia, California 91355

Dear Marty:

I received written confirmation from Bill Tolson today authorizing me to send you material in our file relating to past owners of the property on which the Textron facility is currently located. I hope this will be of assistance to you.

We continue to await further word from you if we can be of assistance to your company.

Very truly yours,

CHRISTOPHER P. BISGAARD of
LEWIS, D'AMATO, BRISBOIS & BISGAARD

CPB:law
Enclosure
TEXT10LT.003

350156

Based upon information supplied to cur offices from Ticor Title Insurance, the following is a list of ownership regarding the above-referenced property from 1930 to the present. For your files, I have attached to this memorandum the package of information received from Ticor Title Insurance.

1. August 19, 1933 - John A. Logan transferred the property by deed to the First Bond and Mortgage Company.

2. March 27, 1934 - Johr A. Logan and Aline Logan, husband and wife, transferred the property by quit-claim deed to Nellie G. Salmon.

3. May 22, 1935 - First Bond and Mortgage Company of Glendale, California transferred the property by deed to John A. Logan.

4. June 21, 1935 - John A. Logan and Aline Logan, husband and wife, transferred the property to Nellie G. Salmon by quitclaim deed.

5. May 9, 1939 - the City of Los Angeles brought a condemnation action against numerous persons and entities, including John A. Logan, to condemn the subject property for public street purposes (opening and widening).

6. November 13, 1946 - John A. Logan and Aline Logan, husband and wife, transferred the property by deed to Nellie G. Salmon.

7. November 13, 1946 - Nellie G. Salmon transferred by deed the property to Manuel Martinez and Concha Martinez, husband and wife.

8. November 13, 1946 - Manuel Martinez and Concha Martinez transferred the property by deed to Leslie A. Howell and Gladys I. Howell.

9. June 11, 1952 - Leslie A. Howell and Gladys I. Howell transferred the property to John L. Groark.

10. June 11, 1952 - John L. Groark and Philip Rapp transferred by deed the property to John L. Groark and Mary Rapp.

11. November 10, 1955 - John L. Groark and Mary Rapp transferred the property by deed to American Machine & Foundry Company.

12. September 28, 1956 - American Machine & Foundry Company transferred the property by deed to Aetna Life Insurance Company.

13. April 15, 1958 - American Machine & Foundry Company transferred the property by deed to Sunstrand Machine Tool Company.

14. April 23, 1979 - Aetna Life Insurance Company transferred the property by corporation grant deed to William and Jean Tolson (as joint tenants as to undivided one-half interest) and to Gary and Joan O'Brien (as joint tenants as to an undivided one-half interest).

15. September 21, 1983 the Tolsons and the O'Briens transferred the property by quitclaim deed to William Tolson and Jean Tolson, husband and wife as to an undivided one-half interest, and to Joan O'Brien a single women as to an undivided one-quarter interest, and Gary O'Brien and Susan O'Brien, husband and wife as to a undivided one-quarter interest.

LEGAL DESCRIPTION

10445 GLENOAKS BLVD., PACOIMA, CA

That portion of Block 169, of the Maclay Rancho Ex-Mission of San Fernando, in the City of Los Angeles, County of Los Angeles, State of California, as per map recorded in Book 37, Page 5 of the Miscellaneous Records, in the office of the county recorder of said county, described as follows:

Beginning at a point in the southwesterly line of said block distant 701.02 feet southeasterly from the most westerly corner of said block; thence northeasterly parallel with the northwesterly line of said block, a distance of 370.00 feet to the true point of beginning; thence continuing northeasterly along said parallel line 360.63 feet, more or less, to a point distant thereon southwesterly 530.00 feet from the northeasterly line of said block, said point being hereinafter referred to as point "A"', thence continuing northeasterly along said parallel line 530.00 feet to said northeasterly line; thence southeasterly along said northeasterly line 343.00 feet to the northwesterly line of the land described in the deed to Robert Ledger and wife, recorded in Book 15473, Page 182, of Official Records, in the office of said recorder; thence southwesterly along the last mentioned northwesterly line 530.00 feet, more or less, to a line that is parallel with the southwesterly line of said block and that passes through said point "A"' thence northwesterly along the last mentioned parallel line 313.00 feet, to the southeasterly line of that certain strip of land, 30 feet wide, described in Parcel 2 of the deed to George P. Carver, recorded on June 2, 1955, as Instrument No. 1720, in Book 47950, Page 206, of said Official Records; thence southwesterly along the last mentioned southeasterly line 360.63 feet, more or less, to a line that is parallel with the southwesterly line of said Block 169 and that passes through the true point of beginning; thence northwesterly along the last mentioned parallel line 30.00 feet to the true point of beginning.

Together with that portion of the southwesterly half of Sixth Street adjoining the above described land on the northeast as vacated and abandoned by a resolution of the Board of Supervisors of said county passed July 8, 1909, and entered in Road Book 11, Page 47, in the office of said Board of Supervisors.

EXCEPT that portion included within the most southeasterly 30 feet of the above described land.

Subject to covenants, conditions, restrictions, rights, rights-of-way and easements of record.

350157

CAT. NO. NN00490
TO 1727 CA 19.1 (10-84)
CLTA Guarantee Face Page (Rev. 6-8-71)

TICOR TITLE INSURANCE

Guarantee

LIABILITY	FEE
XXXXXX $1,000.00	$ 450.00
CUSTOMER REF.	ORDER NO
10445 Glenoaks Blvd	G. 054343

Ticor Title Insurance Company of California, a corporation, herein called the Company, **Guarantees**

Pillsbury, Madison & Sutro Law Offices
515 South Flower Street
Suite 3300
Los Angeles, Ca. 90071
Attn: Walid M. Abouzeid

herein called the Assured, against actual loss not exceeding the liability amount stated above which the Assured shall sustain by reason of any incorrectness in the assurances set forth in Schedule A.

LIABILITY EXCLUSIONS AND LIMITATIONS

1. No guarantee is given nor liability assumed with respect to the identity of any party named or referred to in Schedule A or with respect to the validity, legal effect or priority of any matter shown therein.

2. The Company's liability hereunder shall be limited to the amount of actual loss sustained by the Assured because of reliance upon the assurances herein set forth, but in no event shall the Company's liability exceed the liability amount set forth above.

Dated: 4-27-1988 @ 7:30 A.M.
Nawal:nt

TICOR TITLE INSURANCE COMPANY OF CALIFORNIA

By Gerald L. Ippel President

Attest Erich E. Everlach Secretary

Please note carefully the Liability Exclusions and Limitations and the specific assurances afforded by this guarantee. If you wish additional liability, or assurances other than as contained herein, please contact the Company for further information as to the availability and cost.

350158

Schedule A

No.
G054343

CHAIN OF TITLE GUARANTEE

The assurances referred to on the face page are:

That, according to those public records which, under the recording laws, impart constructive notice of matters ~~relating to the interest, if any, which was (acquired) (reserved) by~~

FEE CHAIN

There are no fee conveyances describing said real property, or any portion thereof other than those shown below under exceptions.

~~pursuant to a~~

in and to the land described as follows:

FOR LEGAL DESCRIPTION, SEE ATTACHED,,,,,

Only the following matters appear in such records ~~subsequent to~~ From: 1-1-30 To 4-27-88

	DOCUMENT	INSTRUMENT#	RECORDING DATE
1-	Deed	420	8-19-33
2-	Deed	1301	3-27-34
3-	Deed	590	5-22-35
4-	Deed	728	6-21-35
5-	Ntc/Action	870	5-9-39 Pcl.13A,13B &15A R-1241 Info
6-	Decree	1368	12-28-43 Pcl.13A,13B &1 R-1241 Info
7-	Decree	1865	11-13-46
8-	Deed	1866	11-13-46

This Guarantee does not cover:

1. Taxes, assessments and matters related thereto.
2. Instruments, proceedings or other matters which do not specifically describe said land.

DOCUMENT	INSTRUMENT#	RECORDING DATE	
9 - Deed	1867	11-13-46	
10- Deed	1868	11-13-46	
11- Deed	1337	6-11-52	
12- Deed	1338	6-11-52	
13- Deed	874	11-10-55	
14- Deed	2235	9-28-56	
15- Deed	3479	4-15-58	Info
16- Deed	431062	4-23-79	
17- Quitclaim Deed	1110406	9-21-83	

2166-04748 /1

AUG 19/33 420
DD

JOHN A LOGAN
MARR MAN AS HIS SEP PPTY

THE FIRST BOND AND MORTGAGE
COMPANY A CORP

NO CCR&R

~~NO~~
$10- IRS NO
GRANT
HBN TO SD GTE ITS HEIRS OR ASGNS FOREV

Arb 13-14-18 ~~or~~ arb 17 Blk 169 Maclay Ro

PARC 1- 10.40 ACS COM S 48°37' 45" W 10.13 FT AND N 41°18' 55" W 343 FT FR INTERSEC OF SW LN OF REMSEN ST, WITH NW L N OF MONTAGUE ~~ST,~~ AVE TH N 41°18'55" W 343 FT, WITH A UNIFORM DEPTH OF 1320.63 FT, S 48° 41'-50" W - PART OF VAC STS

arb 17

PARC 2- SW-~~6~~ 30 FT OF VAC ST ADJ ON NE AND SE 371.02 FT OF NW 701.02 FT OF NE 570.63 FT
NE 60 FT OF SW 690 FT OF NW 701.02 FT, ~~or~~ arb 17

PARC 3- NE 132 FT OF SW 954 FT OF NW 330 FT, arb 7
CONTD-

AUG 19/33 420
DD

PG 2 CONTD-

Arb 6 Blk 169

PARC 4- NE 132 FT OF SW 822- FT OF NW 330FT
N

arb 1 ~~or~~ vac St adj

PARC 5- BEG AT SWLY COR OF SD LT 169, TH FOLL ALG THE NWLY LN SD LT N 48°41'50" E 102 FT, TH PAR WITH SWLY LN SD LT SOUTH 41° 18'55" E 330 FT, TH PAR WITH NWLY LN S 48° 41' 50" W 102 FT TO PT ON SWLY LN SD LT, TH FOLL ALG SWLY LN SD LT N 41°18'55" W 330 FT TO POB

THAT POR OF FIFTH ST, AS VAC BY BOARD OF SUP BEING STRIP OF LD 30 FT IN WID- PAR WITH AND ADJ TO SWLY LN OF SD LT, ALL OF THE ABOVE CONT 1 AC OF LD- BEING DEL AS LT 1 UPON OFFICIAL REC MAP NO___ REC BK 3455- PG 90 REC OF SD CO

ALL OF THE ABOVE BEING IN LT 169 MACLAY RO- 37-5 M/R
5/27/33-
ACK BEF ETHEL KEARY NP CO LA
EXEC OK
RET FIRST BOND AND MTG CO 1743- S SAN FERNANDO RD GLENDALE
ABS-MS

350159

B-1050-22

12661-232

MARCH 27/34 1301
DD

JOHN A LOGAN
ALINE LOGAN HAY

NELLIE G SALMON (NS)

YDC CH&R

$10 IRS NO
REMISE, REL AND FOREV Q CL

10.40 ACS COM S 48°37'45" W 10.13 FT AND N 41°18'55" W 343 FT FROM INTERSEC OF SW LN OF REMSEN ST WITH NW LN OF MONTAGUE AVE, TH N 41°18'55" W 343 FT, WITH A UNIFORM DEPTH OF 1320.63 FT, S 48°41'50" W - PART OF VACATED STS,

THE NE 132 FT OF SW 822 FT OF NW 330 FT

AND BEG AT NWLY COR OF SD LT 169- TH FOLL ALONG NWLY LN SD LT N 48°41'50" E 102 FT, TH PAR WITH SWLY LN SD LT S 41°18'55" E 330 FT, TH PAR WITH NWLY LN S 48°41' 50" W 102 FT TO PT ON SWLY LN SD LT, TH FOLL ALG SWLY LN SD LT N 41°18'55" W 330 FT TO POB

CONTD

MARCH 27/34 1301
DD

PG 2- CONTD-

ALSO THAT POR OF FIFTH ST AS VAC BY BD OF SUPERVISORS- BEING STRIP OF LD 30 FT IN WID- PAR WITH AND ADJACENT TO SWLY LN OF SD LT ALL OF THE ABOVE CONT 1 AC OF LD BEING DELINEATED AS LT 1, UPON OFFICIAL REC MAP NO____ RLC BK 3455- PG 90 REC OF SD CO

ALL OF THE ABOVE BEING IN LT 169- MACLAY RC- REC BK 2- 37- PG 5 MR

11/6/33-
ACK BEF ETHEL KEARY NP CO LA
EXEC OK

RET GUARDIAN TITLE CO 649 S OLIVE ST LA

2

ACK REF. JOSEPHINE WILKINSON N P, LA CO
FIRST NATL BK, EL MONTE CAL DTD: 1-10-35 EXEC OK ABS: 2

MAY 22-35

586 TO 589 NG.

FIRST BOND AND MORTGAGE COMPANY OF GLENDALE CALIFORNIA A CORP JOHN A LOGAN (NS) 590 DD.

NO C C R & R $1.00 & OVC NO. IRS.
GRANT

PCL 1.
10.40 ACRES, COMMENCING S 48° 37' 45" W 10.13 FT & N 41° 18' 55" W 343 FT FR INTERSECTION OF SW LINE OF RONSEN ST WITH THE NW LINE OF MONTAGUE AVE; TH N 41° 18' 55" W 343 FT, WITH A UNIFORM DEPTH OF 1320.63 FT, S 48° 41' 50" W PART OF VACATED STS;

PCL 2. SW 30 FT OF VACATED ST ADJOINING ON THE NE & SE 371.02 FT OF NW 701.02 FT OF NE 570.63 FT; NE 60 FT OF SW 690 FT OF NW 701.02 FT;

CONT 1

2

(CONT 2) MAY 22-35 590

PCL 3. DD.
NE 132 FT OF SW 954 FT OF NW 330 FT;
PCL 4. NE 132 FT OF SW 822 FT OF NW 330 FT;
PCL 5. BEGNG AT THE NWLY COR OF SD LT 169; TH FOL ALG THE NWLY LINE OF SD LT, N 48° 41' 50" E, 102 FT; TH PARAL WITH THE SWLY LINE OF SD LT, S 41° 18' 55" E 330 FT; TH PARAL WITH THE NWLY LINE S 48° 41' 50" W, 102 FT TO A PNT ON THE SWLY LINE OF SD LT; TH FOL ALG THE SWLY LINE OF SD LT N 41° 18' 55" W 330 FT TO THE POB, & ALSO
THAT POR OF FIFTH ST AS VACATED BY BOARD OF SUPERVISORS, BEING A STRIP OF LD 30 FT IN WIDTH, PARAL WITH & ADJACENT TO THE SWLY LINE OF SD LT, ALL OF ABOVE CONTAINING ONE ACRE OF LD, BEING DELINEATED AS LT 1, UPON OFFICIAL RECS MAP NO. REC IN BK 3455 PG 90 RECS OF SD CO. (CO NOT SHOWN)
ALL ABOVE BEING IN LT 6969 MACLAY RO 37-5 MR.
SD CORP SIGNS & ACKS BY EDWIN A SCHELL, PRES, & J. V. MAHONEY, SECY (UND SEAL) ACKS BEF. H. C. GEYER N P, LA CO

GORDON

DTD: 9-17-34 EXEC OK
GTEE 1846 CLEVELAND ROAD, GLENDALE ABS: VW
CONT ?. 2

BECY 807 CALIFORNIA ST LA.CAL.

ABS:BG

GORDON

2

JUNE 21-35 13457-260 728

JOHN AK LOGAN DD
ALINE LOGAN NELLIE G SALMON -NS-
HUS & WF

NO C C R & R
$10 NO IRS REMISE, REL, Q CL:

ALL THOSE PORTS OF BLK 169, MACLAY RO Cubs 14.18 37-5 MR
__CO LA- DAF:
PCL 1: 10.40 ACRES, COM S 48°
37' 45" W 10.13 FT & N 41°18' 55" W 343 FT FR INTERSEC
OF SW LN OF REMSEN ST WITH NW LN OF MONTAGUE AV; TH N
41° 18' 55" W 343 FT, WITH A UNIFORM DEPTH OF 1320.63 FT,
S 48° 41' 50" W, PT OF VACATED STREETS;

PCL 2: NE 132 FT OF SW 822 FT OF NW 330 FT;
PCL 3: BEG AT NWLY COR OF SD LT 169, TH FOL ALG THE NWLY
LN OF SD BLK, N 48° 41' 50" E 102 FT; TH PAR WITH SWLY LN
OF SD BLK, S 41° 18' 55" E 330 FT; TH PAR WITH NWLY LN

CONT-1 SCHEV 2 SKINNER

CONT-2 JUNE 21-35 728

DD

S 48° 41' 50" W, 102 FT TO A PT ON SWLY LN OF SD
BLK; TH FOL ALG THE SWLY LN OF SD BLK N 41° 18' 55"
W 330 FT TO POB. AND ALSO

PCL 4: THAT PORT OF 5TH ST, AS VACATED BY BD OF
SUPERVISORS OF SD L A CO, BEING A STRIP OF LD 30 FT
IN WDITH, PAR & ADJACENT TO SWLY LN OF PCL 3 ABV DESC-

ACK BEF HARMINA M ~~HANNO~~/ HANNAM, NP CO LA

DT 6-20-35 EXEC OK

NELLIE G SALMON, 830 C C CHAPMAN BLDG, LA ABS:JL

CONT-2 2

16533
381

MAY 9-39 870

THE CITY OF LOS ANGELES, A MUN CORP, PLTF. VS

HENRY C JENSEN
EDWARD HUBER ALSTON
C W ANDERSON
RUTH ANDERSON
BANK OF AMERICA NATIONAL TRUST AND SAVINGS ASSOCIATION, A N B A
BANK OF AMERICA NATIONAL TRUST AND SAVINGS ASSOCIATION, A N B A, FMLY
BANK OF ITALY NATIONAL TRUST AND SAVINGS ASSOCIATION, A N B A
BANK OF AMERICA NATIONAL TRUST AND SAVINGS ASSOCIATION, A N B A, AS TR FOR
ROBERT J FARGHER
ARTHUR G BRENNER
CLARA R BRENNER
MARY E BURRELL
ALLEN C BYER
CHARLOTTE D BYER
CITY OF LOS ANGELES, A MUN CORP
DEPARTMENT OF WATER AND POWERS
(CONTD #1)

NOTICE OF ACTION

Case map B-1241

(CONTD #2) DP

MAY 9-39 870

COAST FEDERAL SAVINGS AND LOAN ASSOCIATION OF LOS ANGELES, A CORP
DOMENICA COCCIANTE
PASQUALE COCCIANTE
CAROLINE CONGER
FLORENCE E CONGER
FLORENCE E CONGER, AS EXTRX OF EST OF F S CONGER, DECD.
CONSUMER'S ROCK AND GRAVEL COMPANY INC A CORP
CORPORATION OF AMERICA, A CORP, AS TR FOR
BANK OF AMERICA NATIONAL TRUST AND SAVINGS ASSOCIATION, A N B A
CORPORATION OF AMERICA, A CORP, FMLY
NATIONAL BANKITALY COMPANY, A CORP, AS TR FOR
BANK OF AMERICA NATIONAL TRUST
(CONTD #2)

NOTICE OF ACTION

Case map B/1241

DP (CONTD #3)

MAY 9-39 870

AND SAVINGS ASSOCIATION

NOTICE OF ACTION

DP (CONTD #3) MAY 9-39 870

NOTICE OF ACTION

AND SAVINGS ASSOCIATION
A N B A, FMLY
BANK OF ITALY NATIONAL TRUST
AND SAVINGS ASSOCIATION, A N B A
AGOSTINO CROVO
COUNTY OF LOS ANGELES, A BODY CORP
BERTA B DOLSON
CHARLES R DOLSON
JUANITA DUFRESNE
ROBERT J F ARGHER
EDWARD A FISHER
ZELLA FISHER
ANNA FREITAG V.
MATHILDA HAACK
MARIE A HANSEN
HOMER A HANSEN
ARNOLD HIGSON
CLARENCE HIGSON
JAMES HIGSON
JOHN HIGSON (CONTD #3) 2

DP (CONTD #4) MAY 9-39 870

NOTICE- ETC

HAROLD PRICE HIGSON
HERBERT STAN HIGSON
THOMAS HIGSON
HOME OWNERS LOAN CORPORATION, A CORP
EMMA M/ M JENSEN
JUNE A KNAPP
GRACE LEDGER
ROBERT LEDGER
WALTER J LITTLE, AS ADMR OF EST OF
JAMES HENRY HIGSON, DECD
JOHN A LOGAN
LOS ANGELES LAND AND WATER COMPANY, A CORP
LOS ANGELES CITY SCHOOL DISTRICT OF
LOS ANGELES, A PUB CORP
LOS ANGELES COUNTY FLOOD CONTROL
DISTRICT, A BODY CORP
LOS ANGELES TRUST AND SAFE DEPOSIT
COMPANY, A CORP AS TR FOR
SECURITY FIRST NATIONAL BANK OF
LOS ANGELES, A N B A (CONTD #4) 2

(CONTD #5) MAY 9-39 870

NOTICE, ETC

MARY E LYNCH
WILLIAM H LYNCH
MACLAY RANCHO WATER COMPANY, A CORP
LILLIAN MATESKY
LOUIS MATTIS
MINNIE MATTIS

(CONTD #5) MAY 9-39 870

NOTICE,ETC

MARY E LYNCH
WILLIAM H LYNCH
MACLAY RANCHO WATER COMPANY, A CORP
LILLIAN MATESKY
LOUIS MATTIS
MINNIE MATTIS
JOHN McCARTHY
W E McCARTHY
MYRTLE I McCRACKEN
W F McCRACKEN
MIDWAY GAS COMPANY, A CORP
MUNICIPAL SECURITY COMPANY, A CORP
PACIFIC STATES SAVINGS AND LOAN
COMPANY, A CORP
J EDWARD REID AND
J M LANCASTER, AS TRS FOR
SOUTHERN COMMERCIAL CORPORATION, A CORP
MARION G ROEN (CONTD #5) 2

(CONTD #6) MAY 9-39 870

NOTICE,ETC.

CLAUDE L RUSH
NELLIE I RUSH
NELLIE G SALMON
EMILY M SCHEUER
ELIZABETH SCHILLER
WILLIAM SCHURKES
SCOTTISH RITE CATHEDRAL ASSOCIATION
OF LOS ANGELES, A CORP
SECURITY FIRST NATIONAL BANK OF LOS
ANGELES, A N B A
NORMAN T SHEWARD
ROBERT LELAND SHEWARD
ELLEN ELIZABETH SMITH
SOUTHERN CALIFORNIA EDISON COMPANY
LTD, A CORP, FMLY
KERN RIVER COMPANY, A CORP
SOUTHERN COMMERCIAL CORPORATION, A CORP
STATE OF CALIFORNIA
NELS O STRAND 2
(CONTD #6)

(CONTD #7) MAY 9-39 870

NOTICE,ETC,

T G & T CO, A CORP, AS TR FOR
ARTHUR G BRENNER AND
CLARA R BRENNER
T G & T CO, A CORP, TR FOR
COAST FEDERAL SAVINGS AND LOAN
ASSOCIATION OF LOS ANGELES, A CORP
T G & T CO, A CORP AS TR FOR
EDWARD A FISHER AND
ZELLA FISHER

(CONTD #6)

(CONTD #7) MAY 9-39 870

NOTICE,ETC.

T G & T CO, A CORP, AS TR FOR
ARTHUR G BRENNER AND
CLARA R BRENNER
T G & T CO, A CORP, TR FOR
COAST FEDERAL SAVINGS AND LOAN
ASSOCIATION OF LOS ANGELES, A C ORP
T G & T CO, A CORP AS TR FOR
EDWARD A FISHER AND
ZELLA FISHER
T G & T CO, A CORP AS TR FOR
NELS O STRAND
T I & T CO, A CORP, AS TR FOR
WILLIAM SCHURKES
TROMPETER & COMPANY, A CORP
GORDON W WALKER
EARL WALLACE
GEORGE YOKONIZO
BERTILLE ZEIGER, DFTS.

(CONTD #7) 2

(CONTD #8) MAY 9-39 870

NOTICE,ETC.

NOTICE OF THE PENDENCY OF SD ACT WAS REC____

TO CONDEMN FOR PUBLIC ST PURP SD LD. CASE NO 440457 SC LA CO

FOR OPENING AND LAYING OUT OF PROPOSED PUBLIC ST EXTG NELY FR OSBORNE ST AT NORRIS AVE TO FOOTHILL BLVD AT A PNT APPROX 700 FT SELY OF TERRA BELLA ST; AND
FOR WIDENING OF REMSEN AVE, A PUB ST OF LA CY, BET WICKS PL AND BRANFORD ST AND FOR
WIDENING AND LAYING OUT OF REMSEN AVE, A PUB ST OF LA CY, BET A PNT APPROX 580 FT NWLY OF BRANFORD ST AND NWLY TERMINUS OF THAT POR OF SD REMSEN AVE EXTG NWLY FR OSBORNE ST AND
FOR OPENING, EXTG AND LAYING OUT OF REMSEN AVE A PUB ST OF LA CY BET NWLY TERMINUS OF THAT POR OF SD REMSEN AVE EXTG NWLY FR OSBORNE ST AND A PNT APPROX 750 FT NWLY THEREOF, IN LA CY, CO SD REAL PROP BEING PARTIC BOUNDED AND DAFD TO WIT:

(CONTD #8) 2

(CONTD #9) MAY 9-39 870

NOTICE,ETC.

PAR 1-A: THAT POR OF PETER HAACK'S RANCH, 13-101 MPS. LA CY, CO DAFD
BEGNG AT A PNT IN NWLY LN OF OSBORNE ST, 60 FT WIDE, DIST [illegible] FT FR NWLY PRLONG OF CENTER LN OF

PNT APPROX 750 FT NWLY OF [illegible] ST AND NWLY TERMINUS OF THAT
POR OF SD REMSEN AVE EXTG NWLY FR OSBORNE ST AND
FOR OPENING, EXTG LAYING OUT OF REMSEN AVE A PUB ST OF CY
BLT NWLY TERMINUS OF THAT POR OF SD REMSEN AVE EXTG NWLY FR
OSBORNE ST AND A PNT APPROX 750 FT NWLY THEREOF; IN LA CY,CO
SD REAL PROP BEING PARTIC BOUNDED AND DAF; TO WIT:

(CONTD #8) 2

(CONTD #9) MAY 9-39 870

MDa. NOTICE,ETC.

PAR 1-A: THAT POR OF PETER HAACK'S RANCH, 13-101 MPS.
LA CY,CO DAF;
BEGNG AT A PNT IN NWLY LN OF OSBORNE ST, 60 FT WIDE, DIST
THRON S 48°41'50" W 33.23 FT FR NWLY PRLONG OF CENTER LN OF
THAT POR OF NORRIS AVE, 60 FT WIDE; EXTG SELY FR OSBORNE ST;
TH N 41°18'10" W 10 FT; TH NELY ALG A CURVE CONC TO NW TANG
AT ITS POB TO A LN BEARING N 48°41'50" E AND HAVING A RADIUS
OF 1160 FT AN ARC DIST OF 365.14 FT TO A PNT IN SWLY LN OF LT "A"
TR 1510 AS IN 18/197 MPS; TH SELY ALG SD SWLY LN 67 FT TO
SD NWLY LN OF OSBORNE ST; TH S 48°41'50" W ALG SD NWLY LN 359.15
FT TO POB.

(CONTD #9) 2

(CC)
CONT 10 MAY 9/39 870

PAR 2-A: THAT POR LT "A" TR1510, — 18/197 MPS N/ACTION
DAF: BEG AT PT IN NWLY LN OSBORNE ST, 60 FT IN WIDTH,
DIST THEREON S 48°41'50" W, 33.23 FT FR NWLY PROL OF CENTER LN
OF THAT POR OF NORRIS AVE, 60 FT IN WIDTH, EXTENDING SELY FR
OSBORNE ST; TH N 41°18'10" W, 10 FT; TH NELY ALG A CURVE CONC TO
NW TANGENT AT ITS POB TO A LN BEARING N 48°41'50" E 365.14 FT TO
PT IN SWLY LN OF SD LT "A" SD LAST MENT PT BEING THE TRUE POINT
OF BEG, TH CONTINUING NELY ALG SD CURVE HAVING A RADIUS OF 1160 FT,
AN ARC DIST OF 42.32 FT TO NELY LN SD LT "A"; TH SELY ALG SD NELY
LN 80.82 FT TO MOST ELY COR SD LT "A"; TH SWLY ALG SELY LN SD
LT "A", A DIST OF 40 FT TO MOST SLY COR SD LT "A"; TH NWLY ALG SD
SWLY LN 67 FT TO TRUE POB; ALSO THAT POR LT 24, SD TR 1510, DAF;

BEG AT PT IN NWLY LN OSBORNE ST, 60 FT IN WIDTH DIST THEREON
S 48°41'50" W, 33.23 FT FR NWLY PROL OF CENTER LN OF THAT POR
OF NORRIS AVE, 60 FT IN WIDTH, EXTENDING SELY FR OSBORNE ST; TH
N 41°18'10" W, 10 FT; TH NELY ALG A CURVE CONC TO NW TANGENT AT ITS
POB TO LN BEARING N 48°41'50" E & HAVING A RADIUS OF 1160 FT,
AN ARC DIST OF 803.80 FT; TH N 8°59'28" E, & TANG TO SD CURVE
647.45 FT TO PT IN SELY LN SD LT 24, SD LAST MENT PT BEING THE
TRUE POB. TH CONTINUING N 8°59'28" E, 970.66 FT TO NELY LN OF 2
CONT

S 48°41'50" W, 33.23 FT FR NWLY PROL OF CENTER LN OF THAT POR OF NORRIS AVE, 60 FT IN WIDTH, EXTENDING SELY FR OSBORNE ST; TH N 41°18'10" W, 10 FT; TH NELY ALG A CURVE CONC TO NW TANGENT TO ITS POB TO LN BEARING N 48°41'50" E & HAVING A RADIUS OF 1160 FT, AN ARC DIST OF 803.88 FT; TH N 8°59'28" E, & TANG TO SD CURVE 647.45 FT TO PT IN SELY LN SD LT 24, SD LAST MENT PT BEING THE TRUE POB. TH CONTINUING N 8°59'28" E, 970.66 FT TO NELY LN OF

CONT 2

CONT 11 MAY 9/39 870

SD LT 24; TH SELY ALG SD NELY LN LT 24, 103.97 FT TO LN PARA WITH & DIST 80 FT ELY, MEAS AT RT ANGS FR THAT CERT COURSE HRN DESC AS HAVING A BEARING OF N 8°59'28" E; TH S 8°59'28" W ALG SD PARA LN 807.90 FT TO SD SELY LN LT 24; TH SWLY ALG SD SELY LN, 125.23 FT TO TRUE POB; ALSO THAT POR LT 25, SD TR 1510, DAF:

N/ACTION

BEG AT PT IN NWLY LN OSBORNE ST, 60 FT IN WIDTH, DIST THEREON S 48°41'50" W, 33.23 FT FR NWLY PROL OF CENTER LN OF THAT POR OF NORRIS AVE, 60 FT IN WIDTH, EXTENDING SELY FR OSBORNE ST; TH N 41°18'10" W, 10 FT; TH NELY ALG A CURVE CONC TO THE NW TANG AT ITS POB TO A LN BEARING N 48°41'50" E & HAVING A RADIUS OF 1160 FT, AN ARC DIST OF 803.88 FT; TH N 8°59'28" E & TANG TO SD CURVE 1823.35 FT TO SELY LN SD LT 25, SD LAST MENT POINT BEING THE TRUE POB, TH CONTINUING N 8°59'28" E 6.10 FT; TH NELY ALG A CURVE CONV TO THE SE TANG AT ITS POB TO SD LAST MENT COURSE & HAVING A RADIUS OF 1540 FT, AN ARC DIST OF 691.13 FT; TH N 34°42'13" E & TANG TO SD LAST MTNE CURVE 593.36 FT TO NELY LN SD LT 25 SD LAST MENT PT BEING DIST THEREON 456.22 FT NWLY FR SWLY PROL OF SELY LN OF LT 26, SD TR 1510; TH SELY ALG SD NELY LN LT 25, A DIST OF 82.44 FT TO LN PARA WITH & DIST 80 FT SELY MEAS AT RT ANGS FR THAT CERT COURSE HRN DESC AS HAVING A BEARING OF N 34°42'13" E, TH S

CONT 12 MAY 9/39 870

34°42'13" W, ALG SD PARA LN 573.44 FT TO PT OF TANGENCY IN A CURVE CONC ENTRIC WITH & DIST 80 FT SELY MEAS RADIALLY, FR THE CURVE HRN DESC AS HAVING A RADIUS OF 1540 FT; TH SWLY ALG SD CONCENTRIC CURVE, THE SAME HAVING A RADIUS OF 1460 FT, AN ARC DIST OF 561.26 FT TO SD SELY LN OF LT 25; TH SWLY ALG SD SELY LN 129.95 FT TO TRUE POB.

N/ACTION

CONT 12 2

(CC)
CONT 13 MAY 9/39 870

(CCD)
CONT 13 MAY 9/39 870

PAR 3-A: THAT POR LT 47, TR 1510, -- 18/197 MPB N/ACTION
DAF: BEG AT PT IN NWLY LN OSBORNE ST, 60 FT IN
WIDTH DIST THEREON S 48°41'50" W 33.23 FT FR NWLY PROL OF CENTER
LN OF THAT POR OF NORRIS AVE, 60 FT IN WIDTH, EXTENDING SELY FR
OSBORNE ST; TH N 41°18'10" W, 10 FT; TH NELY ALG A CURVE CONC TO
NW TANGENT AT ITS POB TO A LN BEARING N 48°41'50" E, & HAVING A
RADIUS OF 1160 FT, AN ARC DIST OF 407.46 FT TO PT IN SELY LN OF
SD LT 47, SD LAST MENT PT BEING THE TRUE POB; TH CONTINUING NELY
ALG SD CURVE HAVING A RADIUS OF 1160 FT, AN ARC DIST OF 396.42
FT; TH N 8°59'28" E & TANG TO SD CURVE 97.50 FT TO NELY LN OF
SD LT 47; TH SELY ALG SD NELY LN 103.97 FT TO A LN PARA WITH
& DIST 80 FT ELY MEAS AT RT ANGS FR THE COURSE HRN DESC AS
HAVING A BEARING OF N 8°59'28" E, TH S 8°59'28" W ALG SD PARA
LN 31.10 FT TO PT OF TANGENCY IN A CURVE CONCENTRIC WITH & DIST
80 FT SELY, MEAS NORMALLY, TO THAT CERT CURVE HRN DESC AS HAVING
A RADIUS OF 1160 FT; TH SWLY ALG SD CONCENTRIC CURVE THE SAME
HAVING A RADIUS OF 1240 FT, AN ARC DIST OF 395.69 FT; TH SELY IN
A DIRECT LN 15.92 FT TO PT IN SELY LN SD LT 47 DIST THEREON
56.57 FT NELY FR THE MOST SLY COR SD LT 47; TH SWLY ALG SD SELY
LNTO SD MOST SLY COR; TH NWLY ALG SD SWLY LN 80.82 FT TO TRUE POB.
CONT 13

CONT 14 MAY 9/39 870 (X)

PAR 4-A: THAT POR LTS 45 & 46, TR 1510, -- 18/197 MPB/ACTION
DAF: BEG AT PT IN NWLY LN OSBORNE ST, 60 FT IN
WIDTH DIST THEREON S 48°41'50" W 33.23 FT FR NWLY PROL
OF CENTER LN OF THAT POR OF NORRIS AVE, 60 FT IN WIDTH, EXTENDING
SELY FR OSBORNE ST; TH N 41°18'10" W 10 FT; TH NELY ALG A CURVE
CONC TO NW TANGENT AT ITS POB TO A LN BEARING N 48°41'50" E &
HAVING A RADIUS OF 1160 FT, AN ARC DIST OF 803.88 FT; TH N 8°59'
28" E & TANG TO SD CURVE 97.50 FT TO PT IN THE SWLY LN OF SD LT
46, SD LAST MENT PT BEING THE TRUE POB; TH CONTINUING N 8°59'28"
E 549.95 FT TO NWLY LN SD LT 45; TH NELY ALG SD NWLY 125.23 FT TO
A LN PARA WITH & DIST 80 FT ELY MEAS AT RT ANGS FR NLY PROL OF
THAT CERT COURSE HRN DESC AS HAVING A BEARING OF N 8°59'28" E,
TH S 8°59'28" W 712.70 FT ALG SD PARA LN TO SD SWLY LN OF LT 46;
TH NWLY ALG SD SWLY LN 103.97 FT TO TRUE POB

X

See Book 52 Fol. 13

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CONT 15 MAY 9/39 870

PAR 5-A: THAT POR LTS 34 & 42, TR 1510, - 18/197 MPB N/ACTION
DAF: BEG AT PT IN NWLY LN OSBORNE ST, 60 FT IN WIDTH,
DIST THEREON S 48°41'50" W 33.23 FT FR NWLY PROL OF CENTER LN
OF THAT POR OF NORRIS AVE, 60 FT IN WIDTH EXTENDING SELY FR
OSBORNE ST; TH N 41°18'10" W 10 FT; TH NELY ALG A CURVE CONC TO NW
TANG AT ITS POB TO LN BEARING N 48°41'50" E & HAVING A RADIUS OF
1160 FT, AN ARC DIST OF 803.88 FT; TH N 8°59'28" E & TANG TO
SD CURVE 1618.11 FT TO PT IN SWLY LN SD LT 34, SD LAST MENT PT BEING

CONT 15 MAY 3/39 870

PAR 5-A: THAT POR LTS 34 & 42, TR 1510, - 18/197 MPS N/ACTION DAF: BEG AT PT IN NWLY LN OSBORNE ST, 60 FT IN WIDTH, DIST THEREON S 45°41'50" W 33.23 FT FR NWLY PROL OF CENTER LN OF THAT POR OF NORRIS AVE, 60 FT IN WIDTH EXTENDING SELY FR OSBORNE ST; TH N 41°18'10" W 10 FT; TH NELY ALG A CURVE CONC TO NW TANG AT ITS POB TO LN BEARING N 40°41'50" E & HAVING A RADIUS OF 1160 FT, AN ARC DIST OF 803.88 FT; TH N 8°59'28" E & TANG TO SD CURVE 1618.11 FT TO PT IN SWLY LN SD LT 34, SD LAST MENT PT BEING THE TRUE POB; TH SELY ALG SD SWLY LN 103.97 FT TO PT IN A LN PAR WITH & DIST 80 FT ELY MEAS AT RT ANGS FR CERT COURSE HRIN DESC AS HAVING A LENGTH OF 1618.11 FT; TH N 8° 59'28" E ALG SD PARA LN 13.46 FT; TH N 74° 73°50'16" E, 21.25 FT TO PT IN NWLY PROL OF A LN PARA WITH & DIST 10.35 FT SWLY, MEAS AT RT ANGS FR SWLY LN OF THAT POR OF REMSEN AVE, 50 FT IN WIDTH, EXTENDING NWLY FR OSBORNE ST. TH S 41°18'55" E ALG SD LAST MENT PROL 515.70 FT TO

CONT 15 2

KU
CONT- MAY 9-39 870

THE S ELY LN OF SD LT 34; TH N ELY ALG SD LAST MENT S ELY LN 60.35 FT TO THE MOST WLY COR OF SD LT 42, SD LAST MENT COR BEING A PNT IN THE N ELY LN OF SD RX REMSEN AVE; TH S ELY ALG SD N ELY LN OF REMSEN AVE 691.21 FT TO THE MOST SLY COR OF SD LT 42; TH N ELY ALG THE S ELY LN OF SD LT 42, A DIST OF 49.65 FT; TH N 86°18'32" W 14.14 FT TO A PNT IN A LN PAR WITH & DIST 39.65 FT N ELY FROM SD N ELY LN OF REMSEN AVE; TH N 41°18'55" W & PAR WITH SD N ELY LN OF REMSEN AVE 1304.93 FT TO A PNT IN A LN PAR WITH & DIST 80 FT ELY, MEAS AT RT ANGLES, FROM THE NLY PROLONG OF SD COURSE HRIN DESC AS HAV A LENGTH OF 1618.11 FT; TH N 8°59'28" E, ALG SD LAST MENT PAR LN 109.33 FT; TH NLY ALG A CURVE CONCAVE TO THE E TANGENT TO SD LAST MENT COURSE & HAV A RADIUS OF 1460 FT, AN ARC DIST OF 93.94 FT TO THE N WLY LN OF SD LT 34; TH S WLY ALG SD LAST MENT N WLY LN 258.28 FT TO THE N WLY PROLONG OF SD LN PAR WITH & DIST 10.35 FT S WLY MEAS AT RT ANGLES FROM SD POR OF REMSEN AVE; TH N S 41°18'55" E ALG SD LAST MENT PAR LN 106.54 FT TO THE NLY PROLONG OF SD COURSE HRIN DESC AS HAV A LENGTH OF 1618.11 FT; TH S 8°59'28" W ALG SD LAST MENT PROLONG 38.45 FT TO TRUE POB. N/A.

CONT- 2

CONT- MAY 9-39 870

PAR 6-A: THAT POR LTS 19, 20, 26, 27, 28 & 29 TR 1510, DAF: BEGIN AT A PNT IN THE S WLY LN OF SD LT 26 DIST THEREON N 41°18'35" W 463.69 FT FROM THE MOST SLY COR OF SD LT 26; TH N 34°42'13" E 996.24 FT; TH N ELY ALG A CURVE CONCAVE TO THE SE TANGENT TO SD LAST MENT COURSE & HAV A RADIUS OF 2540 FT, AN ARC DIST OF 493.73 FT TO THE N ELY LN OF SD LT 19 N/A. 18-197 MPS

10.3[illegible] FT [illegible] MEAS AT RT ANGLES FROM SD POR OF NEWCOM AVE; TH N S 41°18'55" E ALG SD LAST MENT PAR LN 106.54 FT TO THE NLY PROLONG OF SD COURSE HRIN DESC AS HAV A LENGTH OF 1618.11 FT; TH S 8°59'28" W ALG SD LAST MENT PROLONG 38.45 FT TO TRUE POB.

CONT- 2

CONT- MAY 9-39 870

PAR 6-A: THAT POR LTS 19, 20, 26, 27, 28 & 29 N/A.
TR 1510, DAF: 18-197 MPS
BEGNG AT A PNT IN THE S WLY LN OF SD LT 26 DIST THRON N 41°18'35" W 463.69 FT FROM THE MOST SLY COR OF SD LT 26; TH N 34°42'13" E 796.24 FT; TH N ELY ALG A CURVE CONCAVE TO THE SE TANGENT TO SD LAST MENT COURSE & HAV A RADIUS OF 2540 FT, AN ARC DIST OF 493.78 FT TO THE N ELY LN OF SD LT 19, SD LAST MENT PNT BEING DIST THRON 654.71 FT S ELY FROM THE MOST NLY COR OF SD LT 19; TH S ELY ALG THE N ELY LNS OF SD LTS 19 & 29, A DIST OF 60.10 FT TO A PNT IN A CURVE CONCENTRIC WITH & DIST 80 FT S ELY MEAS RADIALLY FROM SD LAST MENT CURVE; TH S WLY ALG SD CONCENTRIC CURVE, THE SAME BEING CONCAVE TO THE SE & HAV A RADIUS OF 2460 FT, AN ARC DIST OF 474.25 FT TO A PNT OF TANGENCY IN A LN PAR WITH & DIST 80 FT S ELY, MEAS AT RT ANGLES FROM THAT CERT COURSE HRIN DESC AS HAV A BEARING OF N 34°42'13" E; TH S 34°42'13" W 816.16 FT TO SD S WLY LN OF LT 26; TH N 41°18'35" W 82.44 FT TO POB.

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CONT- MAY 9-39 870

PAR 7-A: THAT POR BLK 83, THE MACLAY RD, N/A.
EX-MISSION OF SAN FERNANDO, DAF: 137-5 MR.
BEGNG AT A PNT IN THE S WLY LN OF SD BLK 83 DIST THRON N 41°18'35" W 650.69 FT FROM THE MOST SLY COR OF SD BLK 83; TH N ELY ALG A CURVE CONCAVE TO THE SE TANGENT AT ITS POB TO A LN BEARING N 47°08'53" E & HAV A RADIUS OF 2460 FT, AN ARC DIST OF 66.30 FT; TH N 48°41'32" E 563.86 FT TO THE N ELY LN OF THE S 10 ACS OF SD BLK 83; TH N WLY ALG SD N ELY LN 40 FT TO THE MOST NLY COR OF SD S 10 ACS; TH S WLY ALG THE N WLY LN OF SD S 10 ACS 630.16 FT TO THE MOST WLY COR OF SD S 10 ACS; TH S ELY ALG THE S WLY LN OF SD BLK 83, A DIST OF [illegible] 40.89 FT TO POB.

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KU
CONT- MAY 9-39 870

[illegible] THAT [illegible] THE MACLAY RD N/A.

KU
CONT- MAY 9-39 870

PAR 8-A: THAT POR BLK 83, THE MACLAY RO, N/A.
EX MISSION OF SAN FERNANDO
DAF: 37-5 MR.
BEGNG AT A PNT IN THE S WLY LN OF SD BLK 83 DIST THRON N 41°18'35" W 730.72 FT FROM THE MOST SLY COR OF SD BLK 83; TH N ELY ALG A CURVE CONCAVE TO THE SE TANGENT AT ITS POB TO A LN BEARING N 47°11'48" E & HAV A RADIUS OF 2540 FT, AN ARC DIST OF 66.30 FT; TH N 48°41'32" E 563.85 FT TO THE N ELY LN OF THE W 10 ACS OF SD BLK 83; TH S ELY ALG SD N ELY LN 40 FT TO THE MOST ELY COR OF SD W 10 ACS; TH S WLY ALG THE S ELY LN OF SD W 10 ACS 630.16 FT TO THE MOST SLY COR OF SD W 10 ACS; TH N 41°18'35" W ALG SD S WLY LN OF BLK 83, A DIST OF 39.14 FT TO POB.

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CONT- MAY 9-39 870

PAR 9-A: THAT POR OF BLK 83, THE MACLAY RO, N/A.
EX MISSION OF SAN FERNANDO, DAF:
BEGNG AT A PNT IN THE S WLY LN OF SD BLK 83 37-5 MR.
DIST THRON N 41°18'35" W 730.72 FT FROM THE MOST SLY COR OF SD BLK 83; TH N ELY ALG A CURVE, CONCAVE TO THE SE TANGENT AT ITS POB TO A LN BEARING N 47°11'48" E & HAV A RADIUS OF 2540 FT, AN ARC DIST OF 66.30 FT; TH N 48°41'32" E 563.85 FT TO A PNT IN THE S WLY LN OF N 10 ACS OF SD BLK 83, SD LAST MENT PNT BEING THE TRUE POB; TH CONTIN N 48°41'32" E 620.16 FT TO A PNT DIST S 48°41'32" W 10 FT FROM THE N ELY LN OF SD BLK 83; TH N 3X 3°41'23" E 14.14 FT TO A PNT IN SD E N ELY LN, SD LAST MENT PNT BEING DIST A 741.66 FT N WLY FROM THE MOST ELY COR OF SD BLK 83; TH S 41°18'45" E ALG SD N ELY LN 100 FT; TH N 86°18'37" W 14.14 FT TO A PNT IN A LN PAR WITH & DIST 80 FT S ELY, MEAS AT RT ANGLES, FROM THAT CERT COURSE HRIN DESC AS HAV A BEARING OF N 48°41'32" E; TH S 48°41'32" W 620.16 FT TO THE S WLY LN OF E 10 ACS OF SD BLK 83; TH N WLY ALG THE S WLY LN OF SD E 10 ACS & ALG THE S WLY LN OF SD N 10 ACS 80 FT TO TRUE POB.

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CONT- MAY 9-39 870

PAR 10-A: THAT POR LT 43 TR 1510 18-197 MPB N/A.
DAF:
BEGNG AT THE PNT OF INTERSEC OF THE S WLY LN OF REMGEN AVE, [illegible] WITH THE S ELY LN OF SD LT 43; TH N WLY ALG

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CONT- MAY 9-39 870

PAR 10-A: THAT POR LT 43 TR 1510 18-197 MPS N/A.
DAF:
BEGNG AT THE PNT OF INTERSEC OF THE S WLY LN OF RENSEN AVE, 50 FT/N IN WIDTH, WITH THE S ELY LN OF SD LT 43; TH N WLY ALG SD S WLY LN 691.21 FT TO THE N WLY LN OF SD LT 43; TH S WLY ALG SD N WLY LN 10.35 FT TO A PNT IN A LN PAR WITH & DIST 10.35 FT S WLY MEAS AT RT ANGLES FROM SD S WLY LN OF RENSEN AVE; TH S WLY ALG SD PAR LN 691.21 FT TO A PNT DIST ON SD PAR LN 10 FT N WLY FROM SD S ELY LN OF LT 43; TH SLY IN A DIRECT LN 14.14 FT TO SD S ELY LN, DIST THRON 20.35 FT S WLY FROM SD POB; TH N ELY ALG SD S ELY LN TO POB.

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KU
CONT- MAY 9-39 870

N/A.

PAR 11-A: THAT POR OF SIXTH ST VACATED BY ORDER OF BD OF SUPV OF LA CO 7-8-1909 AS REC IN ROAD BK 11 PG 47 ON FILE IN OFFICE OF SD BD, DAF:
BEGNG AT THE PNT OF INTERSEC OF THE S ELY LN OF OSBORNE ST, 60 FT IN WIDTH, WITH THE CENTER LN OF SD VACATED POR OF SIXTH ST, SD LAST MENT PNT BEING Ø 30 FT N ELY FROM THE MOST NLY COR OF LT 169, THE MACLAY RO, EX MISSION OF SAN FERNANDO
TH S ELY ALG SD CENTER LN 10 FT; 37-5 MR.
TH WLY IN A DIRECT LN 14.14 FT TO A PNT IN SD S ELY LN OF OSBORNE ST DIST THRON 10 FT S WLY FROM SD POB;
TH N ELY ALG SD S ELY LN TO POB.

To Vac St adj art to Bk 169 Maclay Ro

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CONT- MAY 9-39 870

N/A.

PAR 13-A: To Vac St adj art to Bk 169 Maclay Ro
THAT POR OF SIXTH ST VACATED BY ØOOD OF BD OF SUPV OF LA CO 7-8-1909, AS REC IN ROAD BK 11 PG 47 ON FILE IN OFFICE OF SD BD, DAF:
[illegible] VACATED POR OF SIXTH

FT, AN ARC DIST OF 123.53 FT TO THE N ELY PROLONG OF THE
S ELY LN OF THAT CERT PAR OF LD DESC IN DD TO NELLIE G SALMOND
REC IN 13457- R; TH N ELY ALG SD PROLONG 5.26 FT SD
CENTER LN; TH N WLY ALG SD CENTER LN 123.38 FT TO POB.

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CONT MAY 9/39 870

PARCEL 14-A: Harbor 16 + Pt Vac Sta Adj N/ACTION

THAT PTN OF SIXTH STREET VACATED BY ORDER OF THE
BOARD OF SUPERVISORS OF L A CO, 7-8-09, REC IN 11/47 RD BK
IN OFFICE OF SD BOARD; THAT PTN OF GRANT AVE VACATED BY
SD BOARD, AS REC IN 7/45 RD BK, ON FILE IN OFFICE OF SD BOARD;
& THAT PTN OF LT 169, THE MACLAY RO, EX MISSION OF SAN FERNANDO,
37/5 MR

DAF: BEG AT A PT IN THE CNTR LN OF SD VACATED PTN OF
SIXTH ST DIST THEREON 926.14 FT SELY FRM THE SELY LN OF
OSBORNE ST, 60 FT IN WIDTH; TH SELY ~~ALNG~~ ALNG A CURVE C/C
TO THE SW TANGENT TO SD CNTR LN & HAVING A RADIUS OF 1450 FT,
AN ARC DIST OF 123.53 FT TO THE NELY PROLONGA OF THE NWLY LN
OF THAT CTN PARCEL OF LD DESC IN DD TO ROBERT LEDGER & WF,
REC IN 15473/182, OR OF SD CO, SD LAST MENTD PT BEING THE
TRUE POB; TH CONTINUING SELY ALNG SD CURVE, HAVING A RADIUS OF
1450 FT, AN ARC DIST OF 351.29 FT TO THE NWLY LN OF MONTAGUE ST;
TH NELY, ALNG SD NWLY LN ~~TTO~~ 77.05 FT TO SD CNTR LN, TH NWLY ALNG
SD CNTR LN 343 FT TO SD NELY PROLONGA OF THE NWLY LN OF SD PARCEL

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~~XON~~ CONT

CONT MAY 9/39 870

N/ACTION

OF LD DESC IN DD TO ROBERT LEDGER & WF; TH SWLY
ALNG SD NELY PROLONGA 5.26 FT TO THE TURE POB.

CONT 2

CONT- MAY 9-39 870

PAR 13-A: N/A.
THAT POR OF SIXTH ST VACATED BY ORD OF BD OF SUPV OF L A CO 7-8-1909, AS REC IN ROAD BK 11 PG 47 OF FILE IN OFFICE OF SD BD, DAF:
BEG AT PNT IN CENTER LN OF SD VACATED POR OF SIXTH ST DIST THRON 926.14 FT S ELY FROM THE S ELY LN OF OSBORNE ST, 60 FT IN WIDTH, TH S ELY ALG A CURVE CONCAVE TO THE SW TANGENT TO SD CENTER LN & HAV A RADIUS OF ~~440~~ 1450 FT, AN ARC DIST OF 123.53 FT TO THE N ELY PROLONG OF THE S ELY LN OF THAT CERT PAR OF LD DESC IN DD TO NELLIE G BALMONG REC IN 13457-260 OR; TH N ELY ALG SD N PROLONG 5.26 FT TO SD CENTER LN; TH N WLY ALG SD CENTER LN 123.38 FT TO POB.

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CONT MAY 3/39 870

PARCEL 14-A: N/ACTION

THAT PTN OF SIXTH STREET VACATED BY ORDER OF THE BOARD OF SUPERVISORS OF L A CO, 7-8-09, REC IN 11/27 RD BK IN OFFICE OF SD BOARD; THAT PTN OF GRANT AVE VACATED BY SD BOARD, AS REC IN 7/45 RD BK, ON FILE IN OFFICE OF SD BOARD; & THAT PTN OF LT 169, THE MACLAY RO, EX MISSION OF SAN FERNANDO, 31/5 MR

DAF: BEG AT A PT IN THE CNTR LN OF SD VACATED PTN OF SIXTH ST DIST THEREON 926.14 FT SELY FRM THE SELY LN OF OSBORNE ST, 60 FT IN WIDTH; TH SELY ~~ELNG~~ ALNG A CURVE C/C TO THE SW TANGENT TO SD CNTR LN & HAVING A RADIUS OF 1450 FT, AN ARC DIST OF 123.53 FT TO THE NELY PROLONGA OF THE NWLY LN OF THAT CTN PARCEL OF LD DESC IN DD TO ROBERT LEDGER & WF, REC IN 15473/182, OR OF SD CO, SD LAST MENTD PT BEING THE TRUE POB; TH CONTINUING SELY ALNG SD CURVE, HAVING A RADIUS OF 1450 FT, AN ARC DIST OF 351.29 FT TO THE NWLY LN OF MONTAGUE ST; TH NELY, ALNG SD NWLY LN ~~440~~ 77.05 FT TO SD CNTR LN, TH NWLY ALNG SD CNTR LN 343 FT TO SD NELY PROLONGA OF THE NWLY LN OF SD PARCEL

2

-~~XEN~~ CONT

CONT MAY 9/39 870

N/ACTION

OF LD DESC IN DD TO ROBERT LEDGER & WF; TH SWLY ALNG SD NELY PROLONGA 5.26 FT TO THE TURE POB.

CONT 2

CONT MAY 9/39 870

PARCEL 15-A: Vac St adj arbs 10-12-14-16 & 18 N/ACTION

THAT PTN OF SIXTH ST VACATED BY ORDER OF THE BOARD OF SUPERVISORS OF L A CO, 7-8-09, AS REC IN 11/47 RD BK DAF: BEG AT A PT OF INTERSEC OF THE SELY LN OF OSBORNE ST, 60 FT IN WIDTH, WITH THE SWLY LN OF REMSEN AVE 50 FT IN WIDTH; TH SE Y ALNG SD SWLY LN OF REMSEN AVE 1392.52 FT TO THE NWLY LN OF MONTAGUE ST; TH SWLY ALNG SD NWLY LN 10.13 FT 60 TO THE CNTR LN OF THE VACATED PTN OF SIXTH ST; TH NWLY ALNG SD CNTR LN 1392.52 FT TO SD SELY LN OF OSBORNE ST; TH NELY ALNG SD SELY LN 10.13 FT TO THE POB.

Bk 169 Maclay R.

Pt Vac St adj arbs 1

Bk 139 Maclay R.

CONT 2

CONT MAY 9/39 870

Pt arb

PARCEL 16-A: THAT PTN OF BLK 139, THE MACALAY RANCHO, EX MISSION OF SAN FERNANDO, 37/5 MR N/ACTION

DAF: BEG AT THE PT OF INTERSEC OF THE NELY LN OF REMSEN AVE, 50 FT IN WIDTH, WITH THE SELY LN OF OSBORNE ST, 60 FT IN WIDTH; TH NELY ALNG SD SELY LN OF OSBORNE ST 49.87 FT; TH SLY IN A DIRECT LN TO A PT IN A LN PARALLEL WITH & DIST 39.87 FT NELY, MEAS AT R/A, FRM SD NELY LN OF REMSEN AVE DIST ON SD PARALLEL LN 10 FT SELY FRM SD SELY LN OF OSBORNE ST; TH SELY ALNG SD PARALLEL LN 916.14 FT; TH SELY ALNG A CURVE C/C TO THE SW TANGENT TO SD PARALLEL LN & HAVING A RADIUS OF 1550 FT, AN ARC DIST OF 353.32 FT TO A PT IN THE NELY LN OF SD REMSEN AVE; TH NWLY ALNG SD NELY LN OF REMSEN AVE TO THE POB.

CONT 2

[illegible] REMSEN AVE; TH NWLY ALNG SD NELY LN OF REMSEN AVE TO THE POB.

CONT 2

CONT MAY 9/39 870

PARCEL 17-A: N/ACTION

THAT PTN OF LT 1, BLK 2, LOS ANGELES LAND AND WATER COMPANY'S SUBDIVI OF A PART OF MACLAY RO, 3/17MPS DAF: BEG AT A THE PT OF INTERSEC OF THE SELY LN OF MONTAGUE ST, 40 FT IN WIDTH AS SD SELY LN IS DESC IN DD TO CY OF L A, REC IN 7470/41 OR, WITH THE WLY LN OF REMSEN AVE, 100 FT IN WIDTH, AS DESC IN DD TO THE CY OF L A, REC IN 7848/139 OR OF SD CO; TH SLY ALNG SD WLY LN OF REMSEN AVE, THE SAME BEING A CURVE HAVING A RADIUS OF 350 FT, AN ARC DIST OF 82.59 FT; TH S 1°11'15" W ALNG SD WLY LN 93.13 FT; TH N 19°41'06" W 115.90 FT; TH NWLY ALNG A CURVE C/C TO THE SW TANGENT AT ITS POB TO SD LAST MENTD COURSE & HAVING A RADIUS OF 1450 FT, AN ARC DIST OF 29.81 FT TO SD SELY LN OF MONTAGUE ST; TH NELY ALNG SD SELY LN 57.63 FT TO THE POB.

CONT 2

CONT MAY 9/39 870

PARCEL 18-A: N/ACTION

THAT PTN OF LT 1, BLK 2, LOS ANGELES LAND AND WATER COMPANY'S SUBDIVI OF A PART OF MACLAY RO, 3/17 MPS DAF: BEG AT A PT IN THE NELY LN OF REMSEN AVE, 100 FT IN WIDTH, DIST THEREON N 41°20'15" W 580.16 FT FROM THE NWLY LN OF BRANFORD ST, 40 FT IN WIDTH; TH NWLY, ALNG A CURVE C/C TO THE NE TANGENT TO SD NELY LN & HAVING A RADIUS OF 1450 FT, AN ARC DIST OF 406.60 FT, TO A PT IN THE NWLY LN OF THE SELY 200 FT OF SD LT 1, SD LAST MENTD PT BEING THE TRUE POB; TH NLY CONTINUING ALNG SD CURVE HAVING A RADIUS OF 1450 FT, AN ARC DIST OF 141.37 FT; TH N 19°41'06" W & TANGENT TO SD LAST MENTD CURVE 99.20 FT TO THE ELY LN OF SD REMSEN AVE; TH S 1°11'15" W ALNG SD ELY LN 69.33 FT TO THE SLY TERMINUS OF THAT CTN COURSE DESC IN DD REC IN 7848/139, OR OF SD CO, AS HAVING A BEARING OF S 1°11'15" W; TH SELY ALNG A CURVE IN THE NELY LN OF REMSEN AVE, THE SAME HAVING A RADIUS OF 350 FT, AN ARC DIST OF 197.79 FT TO SD NWLY LN OF THE SELY 200 FT OF LT 1; TH NELY ALNG SD LAST MENTD NWLY LN 51.20 FT TO THE TRUE POB.

CONT 2

ARC DIST OF 191.19 FT TO SD NWLY LN OF THE SELY 250 FT OF LT 1; TH NELY ALNG SD LAST MENTD NWLY LN 51.20 FT TO THE TRUE POB.

CONT 2

CONT MAY 9/39 870

PARCEL 19-A: THAT PTN OF LT 1 BLK 2, LOS ANGELES LAND AND WATER COMPANY'S SUBDIVI OF A PART OF MACLAY RO, N/ACTION 3/17 MPS
DAF: BEG AT A PT IN THE NELY LN OF REMSEN AVE, 100 FT IN WIDTH, DIST THEREON N 41°20'15" W 580.16 FT FRM NE THE NWLY LN OF BRANFORD ST, 40 FT IN WIDTH; TH NWLY ALNG A CURVE C/C TO THE NE TANGENT TO SD NELY LN & HAVING A RADIUS OF 1450 FT, AN ARC DIST OF 121.38 FT TO A PT IN THE SELY LN OF SD LT 1, SD LAST MENTD PT BEING THE TRUE POB; TH CONTINUING NWLY ALNG SD CURVE HAVING A RADIUS OF 1450 FT, AN ARC DIST OF 285.22 FT TO A PT IN THE NWLY LN OF THE SELY 250 FT OF SD LT 1; TH SWLY ALNG SD NWLY LN 51.20 FT TO THE NELY LN OF REMSEN AVE, 100 FT IN WIDTH; TH SELY ALNG SD NELY LN OF REMSEN AVE TO THE SELY LN OF SD LT 1; TH NELY ALNG SD SELY LN 5.08 FT TO THE TRUE POD.

CONT 2

CONT MAY 9/39 870

PARCEL 20-A: N/ACTION
THAT PTN OF LT 10, BLK 2, LOS ANGELES LAND AND WATER COMPANY'S SUBDIVI OF A PART OF MACLAY RO, 3/17 MPS
DAF: BEG AT A PT IN THE NELY LN OF REMSEN AVE, 100 FT, IN WIDTH, DIST THEREON 580.16 FT NWLY FRM THE NWLY LN OF BRANFORD ST, 40 FT IN WIDTH; TH NWLY ALNG A CURVE C/C TO THE NE TANGENT TO SD NELY LN OF REMSEN AVE & HAVING A RADIUS OF 1450 FT, AN ARC DIST OF 121.38 FT TO THE NWLY LN OF SD LT 10; TH SWLY ALNG SD NWLY LN 5.08 FT TO THE NELY LN OF REMSEN AVE; TH SELY ALNG SD NELY LN 121.24 FT TO THE POB.

CONT 2

CONT MAY 9/39 870

PARCEL 21-A: N/ACTION

CONT 2

CONT MAY 9/39 870

PARCEL 21-A: N/ACTION

THE SWLY 30 FT OF LT 1, BLK 5, LOS ANGELES LAND AND WATER COMPNAY'S SUBDIVI OF A PART OF MACLAY RO, 3/17 MPS

CONT 2

LRS MAY
CONT 28 9/39 870

PARCEL 22-A: THE SWLY 30 FT OF LT 15, BLK 5 LOS ANGELES LAND AND WATER COMPANY'S SUBDIV OF PA A PART OF MACLAY RO, N/ACTION 3/17 MPS

CONT 2

CONT 2

LRS
CONT MAY 9/39 870

PARCEL 23-A: THE NELY 30 FT OF THAT PTN OF N/ACTION
LT 12, BLK 4, LOS ANGELES LAND AND WATER WATER
COMPANY'S SUBDIVI OF A PART OF MACLAY RO, 3/17 MPS
CONVEYED TO MARY E BURRELL BY DD REC IN 6284/278 OR

CONT 2

LRS
CONT MAY 9/39 870

PARCEL 24-A: N/ACTION

THE NWLY 30 FT OF THAT PTN OF LT 12, BLK 4
LOS ANGELES LAND AND WATER COMPANY'S SUBDIVI OF A PART OF
MACLAY RO, 9/17 MPS
DESC IN DD TO THE LOS ANGELES LAND AND WATER COMPANY,
REC IN 5889/190 ODS, RECORDS OF SD CO, ALSO THE NELY 30 FT
OF LT 24, SD BLK 4.

CONT 2

CONT 2

MAY 9/39 870

PARCEL 25 A N/ACTION

THE SWLY 30 FT OF LT 1 BLK 8 , LOS ANGELES LAND AND WATER CO'S SUBD, OF A PART OF MACLAY RD, 3/17 MPS

PARCEL 25A
XR

CONT 2

MAY 9/39 870

N/ACTION

PARCEL 26-A
THE SWLY 30 FT OFLT 15 BLK 8 LOS ANGELES LAND AND WATER CO'S SUBD OF A PART OF MACLAY RD, 3/17 MPS

CONT

2

MAY 9/39

870
N/ACTION

PARCEL 27-A
THE NELY 30 FT OF THAT POR OF LT 12 BLK 7 LOS ANGELES ... AND WATER CO'S SUBD OF A PART OF MACLAY RD, 3/17 MPS
DESCD IN DD TO LOS ANGELES LAND AND WATER CO REC BK 6443 PG 189 OOS

CONT

2

CONTD MAY 9/39

870
N/ACTION

PARCEL 28-A
THE NELY 30 FT OF LT 24, AND THE NELY 30 FT OF THAT POR OF LT 12, BLK 7 LOS ANGELES LAND AND WATER CO'S SUBD OF A PART OF MACLAY RD 3/17 MPS
DESCD IN DD TO RUTH ANDERSON, REC IN BK 11793 PG 332 OF OR

CONT

2

CONTD MAY 9/39

870
N/ACTION

PCL 29-A
THE SWLY 30 FT OF LT 1 BLK 11 LOS ANGELES LAND AND WATER CO'S SUBD OF A PART OF MACLAY RD 3/17 MPS

CONTD MAY 9/39 870
N/ACTION

PCL 29-A
THE SWLY 30 FT OF LT 1 BLK 11 LOS ANGELES LAND AND WATER CO'S
SUBD OF A PART OF MACLAY RO 3/17 MPS

CONT

2

CONTD MAY 9/39 870
N/ACTION

PCL 30-A

THE SWLY 30 FT OF LT 15 BLK 11 LOS ANGELES LAND AND WATER CO'S
SUBD OF A PART OF MACLAY RO, 3/17 MPS
EXC THE SELY 280 FT OF SD LT 15.

CONT

2

CONTD MAY 9/39 870
N/ACTION

PCL 31 A

THE SWLY 30 FT OF THE SELY 280 FT OF LT 15 BLK 11
LOS ANGELES LAND AND WATER CO'S SUBD OF A PART OF MACLAY RO
REC

CONT

2

CONTD MAY 9/39 870
N/ACTION

POL 31 A

THE SWLY 30 FT OF THE SELY 280 FT OF LT 15 BLK 11
LOS ANGELES LAND AND WATER CO'S SUBD OF A PART OF MACLAY RO
REC

3/17 MPS

CONT

2

CONTD MAY 9/39 870
N /ACTION

POL 32-A

THE NELY 30 FT OF LT 12 BLK 10 LOSANGELES LAND AND WATER CO'S
SUB OF A PART OF MACLAY RO. 3/17 MPS

CONT

2

CNTD MAY 9/39 870
N/ACTION

CONT

2

CNTD MAY 9/39 870
N/ACTION

PCL 33-A

THE NELY 30 FT OF LT 24, BLK 10 LOS ANGELES LAND AND WATER CO'S SUBD OF A PART OF MACLAY RO 3/17 MRS

CONT

2

CONTD MAY 9/39 870
N/ACTION

PCL 34-A
THE SWLY 30 FT OF LT 1 BLK 14 LOS ANGELES LAND AND WATER CO'S SUBD OF A PART OF MACLAY RO 3/17 MRS
EXCEPTING ANY POR THRF LYING WITHIN THE LINES OF TR NO 10627 170/24 MRS

CONT

2

CONT

2

CONTD MAY 9/39 870
N/ACTION

PCL 35-A

THE NELY 30 FT OF LT 12 BLK 13 LOS ANGELES LAND AND WATER CO'S SUBD OF A PART OF MACLAY RD, REC 3/17 MPS
EXCEPTING ANY POR THEREOF LYING WITHIN THE LINES OF TR NO 10729 R C 174/36 MPS

ANDXSUCHXACTIONXISXALSOXBROUGHTX

CONT

2

CONTD MAY 9/39 870
N/ACTION

AND SUCH ACTION IS ALSO BROUGHT FOR THE CONDEMNATION FOR PUBLIC ST PURPS OF RIGHT TO IMPROVE, CONST & MAINT THE PORTS OF PUBLIC STS AND/OR PROPOSED PUBLIC STREET TO WIT: SD PROPOSED PUBLIC ST AS HEREIN PROPOSED TO BE OPENED AND LAYED OUT EXTENDING NELY FR OSBORNE ST AT NORRIS AV, TO FOOTHILL BLVD, AT A PT APPROX 700 FT SELY OF TERRA BELLA ST; REMSEN AVE AND REMSEN AVE AS HEREIN PROPOSED TO BE OPENED, WIDENED, EXTENDED AND LAYED OUT BET WICKS PL AND A PT APPROX 750 FT NWLY FR THE NWLY TERMINUS OF THAT POR OF SD REMSEN AV,, EXTENDING NWLY FR OSBORNE ST; FOOTHILL BLVD AND FOOTHILL BLVD AS BEING CONDEMNED IN CASE NO 413,262 OF SC CO OF LA, BET A PT APPROX 200 FT NWLY OF AND A PT APPROX 205 FT SELY OF SD PROPOSED STREET AS HEREIN PROPOSED TO BE OPENED AND LAYED OUT; BRONFIELD AVE, BET A PT APPROX 20 FT NWLY OF AND A PT APPROX 20 FT SELY OF SD PROPOSED PUBLIC ST; OSBORNE ST BET A PT APPROX 95 FT NWLY OF AND A PT APPROX 495 FT SELY OF NORRIS AV AND BET A PT APPROX 75 FT NELY OF AND A PT APPROX 55 FT SWLY OF SD REMSEN AV; MONTAGUE ST BET SD REMSEN AVE AND A PT APPROX 170 FT SWLY THEREFROM; ULANFORD

CONT

2

CONTD MAY 9/39 870
N/ACTION

STREET BET A PT APPROX 30 FT NELY OF AND A PT APPROX
140 FT SWLY OF SD REMSEN AV; SHELDON ST, BET A PT APPROX
35 FT NELY OF AND A PT APPROX 15 FT SWLY OF SD REMSEN
AVE; ALL TO THE GRADES AND ALL IN ACC WITH AND IN THE MANNER
SHOWN ONSPECIAL PLNS AND PROFILES NUMBERED P-7675, P-7676, P-7710
AND P -7711 ON FILE IN OFF OF CITY ENGINEER OF SD CITY; AND TO
ASCERTAIN FIX AND ASSESS THE DAMAGES IF ANY TO CERT REAL
PROPERTIES OR ANY OF THEM CONTINGUOUS TO AND ABUTTING ON THE SD
PORSOF PUBLIC STREET AND/ OR PROPOSED PUBLIC ST IN THE MANNER
PROPOSED; AND THE REAL PROPERTIES WH ARE CONTIGUOUS TO AND ABUT
UPON THOSE PORS OF SD PUBLIC ~~XXXX~~ STRS AND/OR PROPOSED PUBLIC
ST WH ARE TO BE IMPROVED FOR THE PUBLIC USES AND PURPOSES
ABOVE SET FORTH, ARE LOC IN CY AND CO OF LA AND ARE MORE PTCLY
DAF, TO WIT:

CONT 2

CONTD MAY 9/39 870
N/ACTION

PCL 1-B 13/101 MPS
THAT POR OF PETER HAACK'S RANCH REC
DESCD IN DD TO CO OF LA REC IN BK 3725 PF 296 ODS, EXCEPTING
THEREFROM THAT POR DESCD IN PCL 1 A HEREOF.

CONT

2

CONTD MAY 9/39 870
N/ACTION

PCL 2-B 18/197 MPS

LTS A, 23, 24, AND 25 IN TR 1510
EXCEPTING THAT POR OF SD LT 24, DAF:
BEG AT THE MOST WLY COR OF LT 47 OF SD TR NO 1510; TH N
41°18' 50" W ALG THE PROLON OF THE SWLY LN OF SD LT 47,
A DIST OF 50 FT; TH N 48°41' 50" E 417 FT; TH S 41°18' 50"
E TO THE MOST NLY COR OF SD LT 47; TH S 48°41' 10" W ALG

CONT

2

CONTD MAY 9/39 870
N /ACTION

POL 2-B

LTS A, 23, 24, AND 25 IN TR 1510 18/197 MPS
EXCEPTING THAT POR OF SD LT 24, DAF;
BEG AT THE MOST WLY COR OF LT 47 OF SD TR NO 1510; TH N 41°18' 5[illegible]" W ALG THE PROLGN OF THE SWLY LN OF SD LT 47, A DIST OF 150 FT; TH N 48°41' 50" E 417 FT; TH S 41°18'55" E 150 FT, TO THE MOST NLY COR OF SD LT 47; TH S 48°41'50" W ALG THE NWLY LN OF SD LT 47, TO POB;

ALSO EXCEPTING THOSE PORS OF SD LTS A, 24, AND 25, DESCD IN POL 2 -A HEREOF.

CONT

2

CONTD MAY 9/39 870
N/ACTION

POL 3-B
LT 47 AND THE SELY 150 FT OF THE NE 417 FT OF THE SW 457 FT OF LT 24, IN TR 1510 18/197 MPS
EXC THAT POR OF SD LT 47 DESCD IN POL 3-A HEREOF.

CONT

2

CONTD MAY 9/39 870

PCL 4-B N/ACTION

LTS 45 AND 46 IN TR 1510
EXC THAT POR OF SD LTS DESCD IN PCL 4-A HEREOF. 18/197 MPS

CONT

2

CONT. MAY 9/39 870

PCL 5-B N/ACTION

LTS 34, 39, 40, 41 AND 42 IN TR 1510
EXC THAT POR OFSD LTS 34 AND 42 DESCD IN PCL 5 A -HEREOF. 16/197 MPS

CONT

2

CONTD 54 MAY 9/39 870

PCL 6 B. N/ACTION

CONTD 54 MAY 9/39 870
N/ACTION

PCL 6 P.

LTS 19, 20, 21, 22, 26, 27, 28 AND 29 IN TR 1510, 18/197 MRS
EXCEPT THOSE PORTIONS OF SD LTS 19, 20, 26, 27, 28, AND
29 DESCD IN PCL 6-A HEREOF.

CONT 54

2

CONTD MAY 9/39 870
N/ACTION

PCL 7-B
THE NW 5 ACRES OF THE S 10 ACRES OF BLK 83, THE MACLAY
RO EX MISSION OF SAN FERNANDO 37/5 MR
EXC XXTHAT POR DESCD IN PCL 7-A HEREOF.

Lot 83

CONT

2

CONTD MAY 9/39 870
N/ACTION

PCL 8-B

CONT

2

CONT MAY 9/39 870

N/ACTION

PCL 8-B

THE W 10 ACS OF BLK 83 THE MACLAY RO EX MISSION OF SAN FERNANDO 37/5 MR

EXC THAT POR DESCD IN PCL 8A - HEREOF.

CONT

2

CONTD MAY 9/39 870

N/ACTION

PCL 9-B

THE N 10 ACS AND THE E 10 ACRES OF BLK 83 THE MACLAY RO EX-MISSION OF SAN FERNANDO 37/5 MR

EXC THAT POR DESCD IN PCL 9 A HEREOF.

CONT

2

CNT MAY 9/39 870

N/ACTION

PCL 10 B

18/197 MPB

CONT

2

CNT MAY 9/33 870
N/ACTION

PCL 10-B
LT 43 IN TR 1510 18/197 MPS
EXC THAT POR OF SD LT DESCD IN PCL 10-A HEREOF;
ALSOEXCEPTING ANY POR OF SD LT INCL WITHIN THE LINES OF
ANY PUBLIC ST.

CONT

2

CONTD MAY 9/33 870
N/ACTION

PCL 11-B
THAT POR OF BLK 169 THE MACLAY RO EX MISSION OF SAN
FERNANDO 37/5 MPR
AND THAT POR OF SIXTH ST VAC BY ORD OF BD OF SUPERVISORS
OF LA CO 7-8-1909 AS REC IN RD BK 11 PG 47 ON FILE
IN OFF OF SD BD DAF;
BEG AT A PT IN THE SELY LN OF OSBORNE ST, 60 FT IN WIDTH,
DIST NELY THEREON 1086 FT FR THE MOST WLY COR OF SD BLK 169;
TH SELY AND PAR WITH THE NELY LN OF SD BLK 169, A DIST OF 330 FT;
TH NELY AND PAR WITH THE NWLY LN OF SD BLK 169, 204.63 FT TO THE
CENTER LN OF SD SIXTH ST, AS VAC; TH NWLY ALG SD CENTER LN
330 FT; TH WLY IN A DIRECT LN 14.14 FT TO SD SELY LN OF SD
OSBORNE ST, DIST 10 FT SWLY FR SD CENTER LN; TH SWLY ALG SD
SELY LN OF OSBORNE ST, 194.63 FT TO POB

CONT

2

CONT

2

CONTD

MAY 9/39

870
N/ACTION

PCL 12-8
THAT PCL OF LAND CONVD TO JOHN A LOGAN BYDD REC IN BOOK 13439 PG 164 OF OR.

CONT

2

CONT

MAY 9-39

870

PRCL 13-B

NTIS OF ACTION

THAT PORTN OF BLK 169 THE MACLAY RO EX MISSION OF SAN FERNANDO AS PER MP REC 37/5- MR RECS OF L A CO, AND THOSE PORTNS OF THE SWLY HALF OF SIXTH ST AND THE NELY HALF OF FIFTH ST VAC BY ORD OF THE BD OF SUPERVS OF L A CO 7-8-1909 AS REC 11/47 ON FILE IN OFFC OF SD BD DESC:
COMMENCING S 48° 37' 45" W 10.13' AND N 41° 18' 55" W 343' FR THE PNT OF INTERSEC OF THE SWLY LN OF REISER AV 50' W IN WIDTH WITH THE NWLY LN OF MONTAGUE ST 40' IN WIDTH TH N 41° 18' 55" W 343' TH S 48° 41' 50" W 1320.63' TH S 41° 18' 55" E 343' TH N 48° 41' 50" E 1320.53' TO THE PNT OF COMMENCING EXCPTG ANY PORTN THOF DESCD IN PRCL 13-A HRF

CONT 61

2

CONT

MAY 9-39

870

CONT MAY 9-39 870

NTC OF ACTION

PRCL 14-B

THAT PORTN OF BLK 169 THE MACLAY RO EX MISSION OF SAN FERNANDO AS PER MP REC 37/5- MR AND THOSE PORTNS OF THE SWLY HALF OF SIXTH ST AND THE NELY HALF OF FIFTH ST VAC BY ORD OF THE BD OF SUPERVS OF L A CO 7-8-1909 AS REC IN RD BK 11 PG 47 ON FILE IN THE OFFC OF SD BD AND THE NWLY 10 FT OF GRANT AV VAC BY SD BD AS REC IN RD BK 7 PG 45 ON FILE IN OFFC OF SD BD DSCRBD IN DD TO ROBERT LEDGER AND WF REC 15473/182 O R OF SD CO EXCPTG ANY PORTN THOF DSCRD IN PRCL 14-A HRF

Van as adj
arbs 1-10-11 to 18
Blk 169

CONT

2

CONT MAY 9-39 870

NTC OF ACTION

PRCL 16-B

BLK 139 EXCPT THE NELY 315' THOF THE MACLAY RO EX MISSION OF SAN FERNANDO AS PER MP REC 37/5- MR AND THE NWLY 10 FT OF GRANT AV VAC BY ORD OF THE BD OF SUPERVISORS OF L A CO AS REC IN RD BK 7 PG 45 ON FILE IN OFFC OF SD BD ADJNG SD PORTN OF BLK 139 ON THE SE EXCPTG ANY PORTN THOF LYING WITHIN THE LNS OF REMSEN AV ALSO EXCPTG THAT PORTN DSCRBD IN PRCL 16-A HRF

Carb 1 for
Van as adj

CONT

2

CONT MAY 9-39 870

NTC OF ACTION

PRCL 17-B

CONT

2

CONT MAY 9-39 870

NTC OF ACTION

PRCL 17-B

THAT PORTN OF LT 1 BLK 2 LOS ANGELES LAND AND WATER COMPANY'S SUBDIV OF A PRT OF MACLAY RO AS PER MP REC 3/17- MPS LYING WLY OF THE WLY LN OF REMSEN AV, 100' IN WIDTH EXCPTG THFR THAT PORTN DSCRBD IN PRCL 17-A HRF ALSO EXCPTG ANY PORTN LYING WITHIN THE LNS OF ANY PUB STREET

CONT

2

CONT MAY 9-39 870

NTC OF ACTION

PRCL 18-B-

THAT PORTN OF LT 1 BLK 2 LOS ANGELES LAND AND WATER COMPANY'S SUBDV OF A PRT OF MACLAY RANCHO AS PER MP REC 3/17- MPS LYING ELY OF THE ELY LN OF REMSEN AV 100' IN WIDTH EXCPT THE SELY 280' OF SD LT 1, ALSO EXCPTG THFR THAT PORTN DSCRBD IN PRCL 18-A HRF, ALSO EXCPTG ANY PORTN LYING WITHIN MONTAGUE ST

CONT

2

CONT

2

CONT MAY 9-39 870

NTC OF ACTION

PRCL 19-B THAT PORTN OF THE SELY 280' OF LT 1 BLK 2 LOS ANGELES LAND AND WATER COMPANY'S SUBDIV OF A PRT OF MACLAY RANCHO AS PER MP REC 3/17- MPS LYING NELY OF THE NELY LN OF PEMSEN AV 100' IN WIDTH EXCPTG THER THAT PORTN DSCRBD IN PRCL 19-A HRF

CONT

2

CONT MAY 9-39 870

NTC OF ACTION

PRCL 20-B THAT PORTN OF LT 10 BLK 2 LOS ANGELES LAND AND WATER COMPANY'S SUBDIV OF A PRT OF MACLAY RANCHO AS PER MP REC 9/17 - MPS LYING NELY OF THE NELY LN OF RIEMSEN AV 100' IN WIDTH EXCPTG THER THAT PORTN DSCRBD IN PRCL 20-A HRF

CONT

2

CONT MAY 9-39 870

[illegible] IN WIDTH EXCPTG THEN THAT PORTN
[illegible] SD IN PRCL 20-A HRF

CONT

2

CONT MAY 9-39 870

PRCL 20-1 B: NTC OF ACTION

LT 12 BLK 1 LOS ANGELES LAND AND
WATER COMPANY'S SUBDIV OF A PRT OF MACLAY RO
AS PER MP REC 3/17- MPS
EXCPT THE SELY 421.4' OF SD LT 12
ALSO EXCPTG ANY PORTN LYING WITHIN THE LNS OF ANY PUB
STREET

CONT

2

CONT MAY 9-39 870

PRCL 20-2-B NTC OF ACTION

THE NWLY 140' OF THE SELY 421.4' OF
LT 12 BLK 1 LOS ANGELES LAND AND WATER
COMPANY'S SUBDIV OF A PRT OF MACLAY RO AS PER MP REC
3/17- MPS
EXCPT THAT PORTN WH LIES WITHIN THE LNS OF REMSEN AV
100' WIDE

CONT

2

CONT MAY 9-39 870

NTC OF ACTION

PRCL 20-3 B:
THE SELY 281.4' OF LT 12 BLK 1
LOS ANGELES LAND AND WATER COMPANY'S
SUBDIV OF A PRT OF MACLAY RO AS PER MP
REC 3/17- MPS
EXCPT THAT PORTN WH LIES WITHIN THE LNS OF REMSEN AV 100'
WIDE

CONT

2

CONT MAY 9-39 870

B

NTC OF ACTION

PRCL 20-4 B:
LTS 14 TO 23 INCL AND THAT PORTN OF LT 24
ALL IN BLK 1 LOS ANGELES LAND AND WATER
COMPANYS SUBDIV OF A PRT OF MACLAY RANCHO AS PER MP
REC 3/17- MPS
LYING SWLY OF THE SWLY LN OF REMSEN AV 100' WIDE

CONT

2

CONT MAY 9-39 870

NTC OF ACTION

PRCL 21-B
LTS 1 AND 2 BLK 5 LOS ANGELES LAND AND
WATER COMPANY'S SUBDIV OF A PRT OF MACLAY
RANCHO AS PER MP REC 3/17- MPS

CONT

2

CONT MAY 9-39 870

PRCL 21-B NTC OF ACTION

LTS 1 AND 2 BLK 5 LOS ANGELES LAND AND WATER COMPANY'S SUBDIV OF A PRT OF MACLAY RANCHO AS PER MP REC 3/17- MPS
EXCPTG THE SWLY 30 FT OF SD LT 1

CONT

2

CONT MAY 9-39 870

PRCL 22-B NTC OF ACTION

LT 15 BLK 5 LOS ANGELES LAND AND WATER COMPANY'S SUBDIV OF A PRT OF MACLAY RANCHO AS PER MP REC 3/17- MPS
EXCPTG THE SWLY 30 FT OF SD LT 15

CONT

2

CONT

2

CONT MAY 9-39 870

NTC OF ACTION

PRCL 23-B -
THAT PORTN OF LT 12 BLK 4 LOS ANGELES LAND AND WATER COMPANY'S SUBDIV OF A PRT OF MACLAY RACHO AS PER MP REC 3/17- MPS
CONVYD TO MARY E BURRELL BY DD REC 6284/278 OR
EXCPT THE EN NELY 30 FT THOF

CONT

2

CONT MAY 9-39 870

NTC OF ACTION

PRCL 24-B
THAT PORTN OF LTS 12 AND 24 BLK 4 LOS ANGELES LAND AND WATER COMPANY'S SUBDIV OF A PRT OF MACLAY RANCHO AS PER MP REC 3/17- MPS
DSCRBD IN DD TO THE LOS ANGELES LD AND WATER CO
REC 5889/190 DDS EXCPT THE NELY 30 FT THOF
ALSO EXCPTG THE SWLY 160.5' OF SD LT 12
ALSO EXCPTG THAT PORTN OF SD LT 12 CONVYD TO
MARY E BURRELL BY DD REC 6284/278 OR OF SD CO

CONT

2

CONT

2

CONT MAY 9/39 870

N/ACTION

PCL 25-B:

LT 1 BLK 8 LA LD & WTR CO'S SUBDIV OF A PT OF MACLAY RO
EXC SWLY 30 FT OF SD LT 1

3/17 MPS

(CONT)

2

CONT MAY 9/39 870

N/ACTION

PCL 26-B:

LT 15 BLK 8 LA LD & WTR CO'S SUBDIV OF A PT OF MACLAY RO
EXC SWLY 30 FT OF/LT 15.
SD

3/17 MPS

(CONT)

2

(CONT)

2

CONT MAY 9/39 870

N/ACTION

PCL 27-B:

THAT PTN OF LT 12 BLK 7 LA LD & WTR CO'S SUBDIV OF A PT OF MACLAY RO
DESC IN DD TO LA LD & WTR CO REC IN BK 6443/189 DOS 3/17 MPS
EXC NELY 30 FT THF

(CONT 7)

2

CONT MAY 9/39 870

N/ACTION

PCL 28-B:

THAT PTN OF LTS 12 & 24 BLK 7 LA LD & WTR CO'S SUBDIV OF A PT OF MACLAY RO
DESC IN DD TO RUTH ANDERSON REC IN BK 11793/93 OR 3/17 MPS
EXC NELY 30 FT THF.

(CONT)

2

CONT MAY 9/39 870

N/ACTION

PCL 29-B:

LT 1 BLK 11 LA LD & WTR CO'S SUBDIV OF A PT OF MACLAY RO
EXC SWLY 30 FT OF SD LT 1

3/17 MPS

(CONT)

870

2

CONT MAY 9/39 870

N/ACTION

PCL 30-B:

LT 15 BLK 11 LA LD & WTR CO'S SUBDIV OF A PT OF MACLAY RO

3/17 MPS

EXC SWLY 30 FT OF SD LT 15; ALSO EXC SELY 280 FT OF SD LT 15.

(CONT 87)

2

CONT MAY 9/39 870

N/ACTION

PCL 31-B:

NELY 135.5 FT OF SWLY 168.50 FT OF SELY 280 FT OF LT 15 BLK 11 LA LD & WTR CO'S SUBDIV OF A PT OF MACLAY RD

3/17 MPS

(CONT 82)

2

CONT MAY 9/39 870

N/ACTION

PCL 32-B:

LTS 11 & 12, BLK 10 LA LD & WTR CO'S SUBDIV OF A PT OF MACLAY RD

3/17 MPS

EXC NELY 30 FT OF SD LT 12.

83

(CONT)

2

CONT MAY 9/39 870

N/ACTION

PCL 33-B:

LT 24 BLK 10 LA LD & WTR CO'S B'IBDIV OF A PT OF MACLAY RD 3/17 MPS

EXC NELY 30 FT OF SD LT 24.

S.1

(CONT)

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CONT MAY 9/39 870

N/ACTION

& SUCH ACT IS ALSO BROGHT FOR CONDEMN FOR PUB ST PURPS OF ESMTS & RTS/W IN & UPON CERT REAL PROPS FOR EXTN OF SLOPES OF FILLS &/OR CUTS NEC TO IMPROV CONSTR MAINT & LATERALLY & VERTIC SUPPORT AFORSD PUB STS &/OR PROP PUB ST, TO GRADES & IN MANNER & AS SHN ON SPEC PLANS &PROFILES NUMBERED P-7675, P-7676, P-7710, & P-7711, ON FILE IN OFC OF CY ENG OF SD CY, RESVD TO OWNRS OF SD REAL PROPS HOWEV, THE RT AT ANY TIME TO REMOVE SUCH SLOPES,OR PTNS THF, UPON REMOVING NEC FOR MAINT SUCH SLOPES, OR PTNS THF, OR UPON PROV IN EL THF OTH ADEQ LAT SUPPORT, THE BE DESGN & CONSTR OF WH SHALL BE IST APPROVD BY CY OF LA, FOR PROT & SUPPORT OF SD PUB STS &/OR PROP PUB ST, OR PTNS THF;
THE REAL PROPS IN & TO SD SD ESMTS & RTS/W ARE SOUGHT TO BE CONDEMN ARE SIT IN CY-CO LA, & ARE MOR MORE PT DAF: (CONT 1) 2

CONT MAY 9/39 870

N/ACTION

PUB STS &/OR PROP PUB ST, TO GRADES & IN MANNER & MANNER & AS SHN ON SPEC PLANS & PROFILES NUMBERED P-7675, P-7676, 7710, & P-7711, ON FILE IN OFC OF CY ENG OF SD , RESVD TO OWNRS OF SD REAL PROPS HOWEV, THE RT AT ANY TIME TO REMOVE SUCH SLOPES, OR PTNS THF, UPON REMOVING NEC FOR MAINT SUCH SLOPES, OR PTNS THF, OR UPON PROV IN EL THF OTH ADEQ LAT SUPPORT, THE SE DESGN & CONSTR OF WH SHALL BE 1ST APPROVD BY CY OF LA, FOR PROT & SUPPORT OF SD PUB STS &/OR PROP PUB ST, OR PTNS THF;
THE REAL PROPS IN & TO SD SD ESMTS & RTS/W ARE SOUGHT TO BE CONDEMN ARE SIT IN CY-CO LA, & ARE MAR MORE PT DAF: (CONT 1) 2

CONT MAY 9/39 870
N/ACTION

PCL 2-C:

18/197 MPS

THAT PTN OF LT 25 TR 1540
DAF: BEG AT MOST NLY COR OF THAT CERT PCL OF LD 3RD DESC IN PCL 2-A HROF, SD POB BEING IN NELY LN OF SD LT 25; TH NWLY ALG SD NELY LN 31.95 FT; TH SWLY & PLL WITH NWLY LN OF SD PCL 3RD DESC IN PCL 2-A HROF 266.38 FT; TH SELY AT RT ANGS TO SD LAST MENT COURSE 31 FT TO SD NWLY LN; TH NELY ALG SD NWLY LN 258.66 FT TO POB; ALSO THAT PTN OF SD LT 25 INCLD WITHN A STRIP OF LD 20 FT IN WID EXT FM SWLY TERM OF LAST CRV DESC PCL OF LD TO SELY LN OF SD LT 25 & LYING NWLY OF & CONTIG TO NWLY LN OF SD CERT PCL OF LD 3RD DESC IN SPCL 2-A HROF; ALSO THAT PTN OF SD LT 25 INCLDG WITHN A STRIP OF LD 33 FT WIDE LYING SELY OF & CONTIG TO SELY LN OF THAT CERT PCL OF LD 3RD DESC IN PCL 2-A HROF & EXT FM SELY LN OF SD LT 25 TO A RAD LN PASS THRU NELY TERM OF CURV DESC IN SD CERT PCL OF (CONT) 2

87

CONT MAY 9/39 870
N/ACTION

LD AS HAV A RAD OF 1460 FT & A LENG OF 561.96 FT; ALSO THAT PTN OF SD LT 25 INCL WITHN A STRIP OF LD 40 FT WIDE LYING SELY OF & CONTIG TO SELY LN OF THAT CERT PCL OF LD 3RD DESC IN PCL 2-A HROF & EXT 234.70 FT NELY FM SD LAST MENT RAD LN; ALSO THAT PTN OF SD LT 25 INCL WITHN A STRIP OF LD 12 FT WIDE LYING SELY OF & CONTIG TO SELY LN OF THAT CERT PCL OF LD 3RD DESC IN PCL 2-A HROF & EXT FM SD 40 FT STRIP OF LD TO NELY LN OF SD LT 25. 87
(CONT)

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CONT MAY 9/39 870
N/ACTION

2

CONT MAY 9/39 870

N/ACTION

PCL 5-C:

THAT PTN OF LT 34 TR 1510 18/197 MPS
DAF: BEG AT A PT IN NELY LN OF THAT CERT PCL OF LD DESC IN PCL 5-A HROF DIST THRN 86.09 FT NWLY FM SELY LN OF SD LT 34; TH NELY AT RT ANGS TO SD NELY LN 7 FT; TH NWLY & PLL WITH SD NELY LN 530.44 FT; TH NLY & PLL WITH ELY LN OF SD CERT PCL OF LD DESC IN PCL 5-A HROF 103.53 FT; TH ELY AT RT ANGS TO SD LAST MERT COURSE 10 FT; TH NLY & CONCENT WITH CERT CURV IN ELY LN OF SD CERT PCL OF LD DESC IN PCL 5-A HROF AS MAV A RAD OF 1460 FT; TH NLY ALG SD CONCENT CURV THE SAME MAV A RAD OF 1440 FT, AN ARC DIST OF 120.54 FT TO NWLY LN OF SD LT 34; TH SWLY ALG SD NWLY LN 34.47 FT TO MOST NLY COR OF SD CERT PCL OF LD DESC IN PCL 5-A HTOF; TH SLY ALG ELY LN OF SD CERT PCL OF LD & CONT ALG LN OF SD CERT PCL OF LD TO POB; ALSO THAT PTN OF SD LT 34 DAF: 2

(CONT)

CONT MAY 9/39 8870

N/ACTION

BEG AT A PT IN SWLY LN OF SD CERT PCL OF LD DESC IN PCL 5-A HROF DIST THRN 86.07 FT NWLY FM SELY LN OF SD LT 34; TH SWLY AT RT ANGS TO SD LWLY 5 FT; TH NWLY & PLL WITH SD SWLY LN 431.50 FT TO THAT CERT COURSE IN BDY OF SD CERT PCL OF LD DESC IN PCL 5-A THROF, AS MAV A BEAR OF N 73°50'16"E; TH N 73°50'16"E TO SD SWLY LN; TH SELY ALG SD SWLY LN 429.69 FT TO POB.

(CONT)

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CONT-____ MAY 9-39 870

PARCEL 12-C1 N/A

THAT PTN OF SIXTH ST VACATED BY ORDER [illegible] 11/17

(CONT)

2

CONT-____ MAY 9-39 870

PARCEL 12-C: N/A

THAT PTN OF SIXTH ST VACATED BY ORDER OF BD OF SUPVRS AS SHOWN IN RD BK 11/47 ON FILE IN OFFICE OF SD BD, DAF:
BEG AT A PT IN CENTER LN OF 6TH ST AS VACATED DIST THRON 362.71 FT SELY FR SELY LN OF OSBORNE ST 60 FT IN WIDTH; TH SELY ALG SD CENTER LN 200 FT; TH SWLY AT RT ANGLES TO SD CENTER LN 5 FT; TH NWLY & PARAL WITH SD CENTER LN 200 FT; TH NELY IN A DIRECT LN 5 FT TO THE POB.

Vac st adj arbs 10 + 12 Blk 169

CONT-

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CONT-2 MAY 9-39 870

PARCEL 14-C: N/A

THAT PTN OF BLK 169, THE MACLAY RD, EX MISSION OF SAN FERNANDO 37/5 M R
THAT PTN OF 6TH ST VACATED BY ORD OF BD OF SUPVRS OF L A CO, AS SHOWN IN RD BK 11/47 ON FILE IN THE OFFICE OF SD BD; & THAT PTN OF GRANT AV AS VACATED BY SD BD AS SHWN IN RD BK 7/45 ON FILE IN OFFICE OF SD BD INCLUDED WITHIN A STRIP OF LD OF A UNIFORM WIDTH OF 22 FT LYING SWLY OF & CONTIGUOUS TO THE SWLY LN OF THE LD DESC IN PARCEL 14-A HRF, & EXTD FR THE MONTAGUE ST TO A LN RADIAL TO SD SWLY LN & PASSING THRUK SD SWLY LN 216 FT NWLY FR THE NWLY LN OF MONTAGUE ST.

pt vac st adj pt 16

CONT-

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CONT- MAY 9-39 870

N/A

CONT-

2

CONT- MAY 9-39 870

N/A

PARCEL 22-C: NELY 10 FT OF SWLY 40 FT OF SELY 590 FT OF NW LT 15, BLK 5, LOS ANGELES LD & WATER CO'S SUBDIV OF A PT OF MACLAY RO, 3/17 MPS

CONT-

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CONT- MAY 9-39 870

N/A

PARCEL 24-C: SWLY 10 FT OF NELY 40 FT OF SELY 590 FT OF LT 24, BLK 4, LOS ANGELES LD & WATER CO'S SUBDIV OF A PT OF MACLAY RO 3/17 MPS

CONT-

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CONT- MAY 9-39 870

N/A

PARCEL 25-C: NELY 10 FT OF SWLY 40 FT OF NWLY

CONT- MAY 9-39 870

N/A

PARCEL 25-C: NELY 10 FT OF SWLY 40 FT OF NWLY 370 FT OF LT 1, BLK 8 LOS ANGELES LAND AND WATER CO'S SUBDIV OF A PT OF MACLAY RANCHO 3/17 MPS

CONT-

2

CONT- MAY 9-39 870

N/A

PARCEL 27-C:

THE SWLY 10 FT OF NELY 40 FT OF THAT PTN OF LT 12 BLK 7 LOS ANGELES LAND AND WATER CO'S SUBDIV OF A PT OF MACLAY RO 3/17 MPS

CONVEYED TO L A LD & WATER CO BY DD REC IN BK 443/189 DOS, RECS OF SD CO.

CONT-

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CONT- MAY 9-39 870

& SUCH ACTION IS ALSO BROUGHT FOR THE CONDEMN FOR PUBL ST PURPS FOR THE CONSTRUC OF A STORM DRAINS IN CONNECTION THRWITH OF CERT EASMTS & RT/WAYS IN THE MANNER DESIGNATED & SHOWN ON SPECIAL PLANS & PROFILES #P-7675, P-7676, P-7710 & P-7711 ON FILE IN OFFICE OF CY ENGR OF CY OF L A; & THE REAL [illegible] UPON & ACROSS WHICH PLF SEEKS N/A

CONT- MAY 9-39 870

N/A

& SUCH ACTION IS ALSO BROUGHT FOR THE CONDEMN FOR PUBL ST PURPS FOR THE CONSTRUC OF A STORM DRAINS IN CONNECTION THRWITH OF CERT EASMTS & RT/WAYS IN THE MANNER DESIGNATED & SHOWN ON SPECIAL PLANS & PROFILES #P-7675, P-7676, P-7710 & P-7711 ON FILE IN OFFICE OF CY ENGR OF CY OF L A; & THE REAL PPTIES, IN, UND, ALG UPON & ACROSS WHICH PLF SEEKS TO CONDEMN FOR SD PUBL USES & PURPS ABV SET FORTH, ARE LOC IN CY & CO OF L A & DAF:

PARCEL 2-D: THOSE PTNS OF LT 25 TR 1510 INCLUDED WITHIN A STRIP OF LD 10 FT WIDE LYING 5 FT ON EA SIDE OF FOLG DESC CENTER LN: BEG AT A PT IN THAT 1540 FT RADIUS CURVE IN NWLY BNDY OF THAT PARCEL OF LD THIRD DESC IN PARCEL 2-A HROF, DIST THRON 477.71 FT SWLY FR THE NELY TERMINUS OF SD CURVE; TH NWLY & RADIALLY TO SD CURVE 20 FT; TH SELY & RADIALLY TO SD CURVE 133 FT, EXCPTG THRFR ANY PTN INCLUDED WITHIN THE PARCEL OF LD THIRD DESC IN PARCEL 2-A HROF. 18/197 MPS 96

CONT-2

CONT- MAY 9-39 870

N/A

SGND: RAY L CHESEBRO, CY ATTY
BY CHARLES F REICHE, DPTY CY ATTY
ATTYS FOR PLF

5-8-39
EXEC O K

CY OF LA
R L CHESEBRO, CY ATTY, 400 CY HALL ABS:BB ET AL

2

MAY 9/39 871

OWNER IN FEE N/COMPL

20556-93 cert

R-1241

DEC 28/43 1368

CITY OF LOS ANGELES, VS HENRY C JENSEN ET AL, DFTS 1/9/29 DECREE OF CONDEMN.

RUN CORP, PLFF

FINAL ORDER OF CONDEMN
CASE NO 440 457 SC CO LA

20556
93

IT IS OAD THAT REAL PROP SET FORTH IN COMPLAINT ON FILE HRIN REQ FOR OPENING &LAYING OUT OF A PROPOSED PUB ST, EXTENDING NELY FR OSBORNE ST AT NORRIS AV TO FOOTHILL BLVD AT A PT APPROX 700 FT SELY OF TERRA BELLA ST; &FOR WIDENING OF REMSEN AV, A PUB ST OF CY OF LA BET WICKS PLACE&BRANFORD ST, & FOR THE WIDENING &LAYING OUT OF REMSEN AV, A PUB ST OF CY OF LA BET A PT APPROX 580 FT NWLY OF BRANFORD ST &NWLY TERM OF THAT PTN OF SD REMSEN AV EXT NWLY FR OSBORNE ST, & FOR OPENING EXTENDING &LAYING OUT OF REMSEN AV, A PUB ST OF CY OF LA, BET NWLY TERM OF THAT PTN OF SD REMSEN AV

(CONT 1)

CONT 2 DEC 28/43 1368 3

DEC OF CONDEMN.

EXT NWLY FR OSBORNE ST &A PT APPROX 750 FT NWLY THREM, & DESIG AS PCLS 1-A, 2-A, 4-A, 8-A, 11-A, 13-A, 15-A, 23-A, 25-A, 26-A, 28-A, 29-A, 30-A, 31-A, 32-A, 33-A &35-A, &R TO IMPROV CONSTR MAINT PTNS OF PUB STS & PROPOSED PUB ST AS HRIN PROPOSD TO BE OPENED &LAYED OUT EXT NELY FR OSBORNE ST AT NORRIS AV TO FOOTHILL BLVD AT A PT APPROX 700 SELY OF TERRA BELLA ST; REMSEN AV &REMSEN AV AS HRIN PROPSD TO BE OPENED WIDENED EXTENDED &LAYED OUT BET WICKS PLACE & A PT APPROX 750 FT NWLY FR NWLY TERM OF THAT PTN OF SD REMSEN AV EXT NWLY FR OSBORNE ST; FOOTHILL BLVD &FOOTHILL BLVD AS BEING CONDEMNED IN CASE NO 413 262 OF SC CO LA BET A PT APPROX 200 FT NWLY OF & A PT APPROX 205 FT SELY OF SD PROPOSED ST AS HRIN PROPOSED TO BEOPENED &LAYED OUT; DRONFIELD AV BET A PT APPROX 20 FT NWLY OF &A PT APPROX 20 FT SELY OF SD PROPOSD PUB ST; OSBORNE ST BET A PT APPROX 95 FT NWLY OF & A PT APPROX 495 FT SELY OF NORRIS AV&BET A PT APPROX 75 FT NELY OF & A PT APPROX 55 FT SWLY OF SD REMSEN AV; MONTAGUE ST BET SD REMSEN AV & A PT APPROX 170 FT SWLY THREM; BRANFORD

(CONT 2)

CONT 3 DEC 28/43 1368

DEC/CONDEMN.

S BET A PT APPROX 30 FT NELY OF & A PT APPROX 140 FT SWLY OF SD REMSEN AV; SHELDON ST BET A PT APPROX 35 FT NELY OF & A PT APPROX 15 FT SWLY OF SD REMSEN AV; ALL TO GRADES &ALL IN ACCORD WITH & IN MANNER SHN ON SPEC PLANS & PROFILES P-7675 P-7678-P-7710 &P-7711 ON FILE IN OFC OF CY ENG OF SD CY, CONTIG TO PCLS 1-B,2-B,4-B,8-B,11-B,12-B,13-B,23-B,25-B,26-B,~~27-B~~ 28-B,29-B,30-B,31-B,32-B&33-B,TOG WITH ESMTS FOR SLOPES FOR EXTN OF SLOPES OF FILLS &CUTS AS DESC IN THE COMPALINT IN &UPON PCLS DESIG AS PCLS 2-C,12-C&25-C &ALSO TOG WITH ESMT &R/W FOR CONSTR OF STORM DRAINS IN OV ALG UPON & ACR PCL DESIG AS 2-D BE&SAME ARE HRBY CONDEMNED TO USE OF PLFF,CY OF LA, A MUN CORP & TO THE USE OF PUB FOR PUB ST PURPS OF CY LA CO LA &THAT CY OF LA SHLL BE FOREV DISCHARGD &REL FR ANY&ALL LIABI FOR ANY DAMAGES WHICH MAY HRAFT ACCRUE TO REAL PROP HRINAFT DESC BY REASON OF CONSTR &MAINT OF AFORSD IMPROV DESC IN PLFFS COMPLAINT ON FILE HRIN(CONT 2 3)

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CONT 4 DEC 28/43 1368

DEC/CONDEMN.

THAT REAL PROP SOUGHT TO BE CONDEMNED FOR AFORSD USE IS LOC IN CY-CO LA, DAF:

PCL 1-A: THAT PTN OF PETER HAACK'S RANCH,13/101 MPS DAF:BEG AT A PT IN NWLY LN OF OSBORNE ST(60 FT IN WIDTH) DIST THRN S 48°41'50"E, 33.23 FT FR NWLY PROL OF CENTER LN OF THAT PTN OF NORRIS AV(60 FT IN WID) EXT SELY FR OSBORNE ST; TH N 41°18'10"W, 10 FT, TH NELY ALG A CURV CONC TO NW TANG AT ITS POB TO A LN BEAR N 48°41'50"E &HAVING A RADIUS OF 1160 FT, AN ARC DIST OF 365.14 FT TO A PT IN SWLY LN OF LT"A" TR 1510 18/197 MPS
TH SELY ALG SD SWLY LN 67 FT TO SD NWLY LN OF OSBORNE ST;TH S 48°41'50"W ALG SD NWLY LN 359.15 FT TO POB.

PCL 2-A: THAT PTN OF LT"A" TR 1510 18/197 MPS
DAF: (CONT 4)

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CONT 5 DEC 28/43 1368

DEC/CONDEMN

BEG AT A PT IN NWLY LN OF OSBORNE ST, 60 FT IN WIDTH, DIST THRN S 48°41'50"W, 33.23 FT FR NWLY PROL OF CENTER LN OF THAT PTN OF NORRIS AV, 60 FT IN WID, EXT SELY FR OSBORNE ST; TH N 41°18'10"W, 10 FT; TH NELY ALG A CURV CONC TO NW TANG AT ITS PT OF BEG TO A LN BEAR N 48°41'50"E, &HAVING A RADIUS OF 1160 FT, AN ARC DIST OF 365.14 FT TO A PT IN SWLY LN OF SDLT"A" SD LST MENT PT BEING TRUE POB; TH CONTIN NELY ALG SD CURV HAVING A RADIUS OF 1160 FT, AN ARC DIST OF 42.32 FT TO NELY LN OF SD LT"A"; TH SELY ALG SD NELY LN 80.82 FT TO MOST ELY COR OF SD LT"A"; TH SWLY ALG SELY LN OF SD LT"A", A DIST OF 40 FT TO MOST SLY COR OF SD LT "A"; TH NWLY ALG SD SWLY LN 67 FT TO TRUE POB; ALSO THATPTN OF LT 24, SD TR 1510 DAF:

BEG AT A PT IN NWLY LN OF OSBORNE ST, 60 FT IN WID, TH DIST THRN S 48°41'50" W, 33.23 FT FR NWLY PROL OF CENTER LN OF THAT PTN OF NORRIS AV, 60 FT IN WID, EXT SELY FR OSBORNE ST;

(CONT 5)

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CONT 6 DEC 28/43 1368

DEC/DONDEMN

TH N 41°18'10"W, 10 FT; TH NELY ALG A CURV CONC TO NW TANG AT ITS PT OF BEG TO A LN BEAR N 48°41'50"E &HAVING A RADIUS OF 1160 FT, AN ARC DIST OF 803.68 FT; TH N 8°59'28"E &TANG TO SD CURV 647.45 FT TO A PT IN SELY LN OFSD LT 24, SD LST MENT PT BEING TRUE POB. TH CONTIN N 8°59'28"E 970.66 FT TO NELY LN OF SD LT 24; TH SELY ALG SD NELY LN OF LT 24, 103.97 FT TO A LN PLL WITH&DIST 80 FT ELY, MEAS AT RT ANGS, FR THAT CERT COURSE HRIN DESC AS HAVING A BEAR OF N 8°59'28"E, TH S 8°59'28"W ALG SD PLL LN 807.90 FT TO SD SELY LN OF LT 24; TH SWLY ALG SD SELY LN 125.23 FT TO TRUE POB; ALSO THAT PTN OF LT 25, SD TR 1510, DAF:

BEG AT A PT IN SNWLY LN OF OSBORNE ST, 60 FT IN WIDTH, DIST THRN S 48°41'50"W, 33.23 FT FR NWLY PROL OF CENTER LN OF THAT PTN OF NORRIS AV, 60 FT IN WID, EXT SELY FR OSBORNE ST; TH N 41°18'10"W, 10 FT; TH NELY ALG A CURV CONC TO NW

(CONT 6)

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TANG AT ITS PCB TO A LN BEARR N 48°41'50"E &HAVING A RADIUS OF 1160 FT, AN ARC DIST OF 803.88 FT; TH N 8°59'28"E &TANG TO SD CURV 1883.35 FT TO SELY LN OF SD LT 25,SD LST MENT PT BEING TRUE POB;TH CONTIN N 8°59'28"E, 6.10 FT; TH NELY ALG A CURV CONC TO SE TANG AT ITS PCB TO SD LST MENT COURSE& HAVINGA RAD OF 1540 FT, AN ARC DIST OF 691.10 FT; TH N 34° 42'13"E &TANG TO SD LST MENT CURV 593.36 FT TO NELY LN OF SD LT 25,SD LST MENT PT BEING DIST THRN 456.22 FT NWLY FR SWLY PROL OF SELY LN OF LT 26, SD TR 1510; TH SELY ALG SD NELY LN OF LT 25, A DIST OF 82.44 FT TO A LN PLL WITH &DIST 80 FT SELY,MEAS AT RT ANGS,FR THAT CERT COURSE HRIN DESC AS HAVING A BEAR OF N 34°42'13"E; TH S 34°42'13"W, ALG SD PLL LN 573.44 FT TO PT OF TANG IN A CURV CONCENTRIC WITH &DIST 80 FT SELY MEAS RADIALLY,FR CURV HRIN DESC, AS HAVING A RADIUS OF 1540 FT; TH SWLY ALG SD CONCENTRIC CURV,SAME HAVING A RADIUS OF 1460 FT, AN ARC DIST OF 561.26 FT TO SD SELY LN OF LT 25; TH SWLY ALG SD SELY LN 129.95 FT TO TRUE POB

(CONT 7)

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PCL 4-A:

THAT PTN OF LTS 45 &46 TR 1510 18/197 MPS

DAF: BEG AT A PT IN NWLY LN OF OSBORNE ST, 60 FT IN WIDTH, DIST THRN S 48°41'50"W 33.23 FT FR NWLY PROL OF CENTER LN OF THAT PTN OF NORRIS AV, 60 FT IN WID, EXT SELY FR OSBORNE ST; TH N 41°18'10"W 100 FT; TH NELY ALG A CURV CONC TO NW TANG TO ITS POB TO A CN BEAR N 48°41'50"E &HAVING A RADIUS OF 1160 FT, AN ARC DIST OF 803.88 FT; TH N 8°59'28"E &TANG TO SD CURV 97.50 FT TO A PT IN SWLY LN OF SD LT 46,SD LST MENT PT BEING TRUE POB; TH CONTIN N 8°59'28"E 549.95 FT TO NWLY LN OF SD LT 45;TH NELY ALG SD NWLY 125.23 FT TO A LN PLL WITH &DIST 80 FT ELY MEAS AT RR ANGS FR NLY PROL OF THAT CERT COURSE HRIN DESC AS HAVING A BEAR OF N 8°59'28"E; TH S 8°59'28"W 712.70 FT ALG SD PLL LN TO SD SWLY LN OF LT 46;TH NWLY ALG SD SWLY LN 103.97 FT TO TRUE POB. 7/12/70

(CONT 8)

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(CONT 8)

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CONT 9 DEC 28/43 1368

DEC/CONDEMN.

PCL 30A: THAT PTN OF BLK 83 THE MACLAY RO EX MISSION OF SAN FERNANDO 37/5 MR
DAF:BEG AT A PT IN SWLY LN OF SD BLK 83 DIST THRN N 41°18' 35"W 730.72 FT FR MOST SLY COR OF SD BLK 83; TH NELY ALG A CURV CONC TO SE TANG AT ITS POB TO A LN BEAR N 47°11'48"E & HAVIG A RADIUS OF 2540 FT,AN ARC DIST OF 66.30 FT; TH N 42° 41'32"E 563.85 FT TO NELY LN OF W 10 ACS OF SD BLK 83,TH SELY ALG SD NELY LN 40 FT TO MOST ELY COR OF SD W 10 ACS;TH SWLY ALG SELY LN OF SD W 10 ACS 630.16 FT TO MOST SLY COR OF W 10 ACS; TH N 41°18'35"W ALG SDSWLY LN OF BLK 83,A DIST OF 39.14 FT TO POB.

PCL 11-A: THAT PTN OF 6TH ST VAC BY ORDER OF BD OF SUPVS OF LA CO 7/8/09 AS REC IN 11/47 RD BK
DAF:BEG AT PT OF INTERSEC OF SELY LN OF OSBORNE ST,60 FT IN WID,WITH CENTER LN OF SD VAC PTN OF 6TH ST,SD LST MENT PT BEING 30 FT NELY FR MOST NLY COR (CONT 9)

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CONT 10 DEC 28/43 1368

DEC/CONDEMN.

OF LT 169 THE MACLAY RO EX MISSION OF SAN FERNANDO,37/5MR
TH SELY ALG SD CENTER LN 10 FT; TH WLY IN A DIR LN 14.14 FT TO A PT IN SD SELY LN OF OSBORNE ST DIST 10 FT SWLY FR SD POB; TH NELY ALG SD SELY LN TO POB.

PCL 13-A: THAT PTN OF 6TH ST VAC BY ORDER OF BD OF SUPVS OF LA CO 7/8/09 REC IN 11/47 RD BK
DAF:

BEG AT PT IN CENTER LN OF SD VAC PTN OF 6TH ST DIST THRN 926.14 FT SELY FR SELY LN OF OSBORNE ST,60 FT IN WID, TH SELY ALG A CURV CONC TO SW TANG TO SD CENTERLN &HAVING A RADIUS OF 1450 FT, AN ARC DIST OF 123.53 FT TO NELY PROL OF SELY LN OF THATCERT PCL OF LD DESCIN DD TO NELLIE G SALMON REC IN 13457/260 OR; TH NELY ALG SD PROL 5.26 FT TO SD CENTER LN; TH NWLY ALG SD CENTER LN 123.38 FT TO POB.
(CONT 10)

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CONT 11 DEC 28/43 1358

vac St adj arbs 10,12,14,16,18 Sec 169 - maclay Rd.
DEC/CONDEMN.

PCL 15-A: THAT PTN OF 6TH ST VAC BY ORDER OF BD OF SUPVS OF LA CO 7/8/09 REC IN 11/47 RD BK DA a pt vac St adj arb 1 Sec 139 maclay Rd

BEG AT A THE PT OF INTERSEC OF SELY LN OF OSBORNE ST, 60 FT IN WID WITH SWLY LN OF RENSEN AV, 80 FT IN WID; TH SELY ALG SD SWLY LN OF RENSEN AV 1392.52 FT TO NWLY LN OF MONTAGUE ST; TH SWLY ALG SD NWLY LN 10.13 FT TO CENTER LN OF VAC PTN OF 6TH ST; TH NWLY ALG SD CENTER LN 1392.52 FT TO SD SELY LN OF OSBORNE ST; TH NELY ALG SD SELY LN 10.13 FT TO POB.

PCL 23-A: NELY 30 FT OF THAT PTN OF LT 12 BLK 4 LOS ANGELES LD &WTR CO'S SUBDIV OF APT OF MACLAY RO 3/17 MPS
CONV TO MARY E BURRELL BY DL RECIN 6284/278 OR

PCL 25-A: SWLY 30 FTOF LT 1 BLK 8 LOS ANGELES LD &WTR CO'S SUBDIV OF A PT OF MACLAY RO, A 3/17 MPS
(CONT 11)

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CONT 12 DEC 28/43 1368

DEC/CONDEMN.

PCL 26-A: SWLY 30 FT OF LT 15 BLK 8 LOS ANGELES LD &WTR CO'S SUBDIV OF A PT OF MACLAY RO 3/17 MPS

PCL 28-A: NELY 30 FT OF LT 24 & NELY 30 FT OF THAT PTN OF LT 12 BLK 7 LOS ANGELES LD &WTR CO'S SUBDIV OF A PT OF MACLAY RO, 3/17 MPS
DESC IN DD TO RUTH ANDERSON REC IN 11793/332 OR

PCL 29-A: SWLY 30 FT OF LT 1 BLK 11 LOS ANGELES LD&WTR CO'S SUBDIV OF A PT OF MACLAY RO 3/17 MPS

PCL 30A: SWLY 30 FT OF LT 15 BLK 11 LOS ANGELES LD &WTR CO'S SUBDIV OF A PT OF MACLAY RO 3/17 MPS
EXC SELY 280 FT OF SD LT 15.

PCL 31-A: SWLY 30 FT OF SELY 280 FT OF LT 15 BLK 11 LOS ANGELES LD &WTR CO'S SUBDIV OF A PT OF MACLAY RO 3/17 MPS
(CONT 12)

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CONT 13 DEC 28/43 1366

DEC/CONDEMN.

PCL 32-A: NELY 30 FT OF LT 12 BLK 10 LOS ANGELES LD & WTR CO'S SUBDIV OF A PT OF MACLAY RD 3/17 MPS

PCL 33-A: NELY 30 FT OF LT 24 BLK 10 LOS ANGELES LD & TR CO'S SUBDIV OF A PT OF MACLAY RD 3/17 MPS

PCL 35-A: NELY 30 FT OF LT 12 BLK 10 LOS ANGELES LD & WTR CO'S SUBDIV OF A PT OF MACLAY RD 3/17 MPS
EXC ANY PTN THF LYING WTHN LNS OF TR 10729, 174/36MPS

THE RT &ESMT SOUGHT TO BE CONDEMNED HRIN IS AS FOLS:
RT TO IMPROVE CONSTR MAINT PTNS OF PUB STS & PROPOSED PUB ST HRINBEF REF TO &AS SET FORTH IN PARA XI OF COMPLAINT ON FILE HRIN, ALL TO GRADES &ALL IN ACCORD WITH &IN MANNER SHN ONSPEC PLANS &PROFILES P-7675, P-7676, &P-7710&P-7711, HRINBEF REF TO &ALL AS CONTEMP BY ORDIN 80,548 OF CY OF LA CONTIG TO THAT CERT REA PROP ABUTTING ON SD PUB IMPROV &DAF
(CONT 13)

2

CONT 14 DEC 28/43 1368

DEC/CONDEMN.

PCL 1-B: THAT PTN OF PETER HANCK'S RANCH 13/101 MPS
DESCIN DD TO CO OF LA REC IN 3725/296

EXC THEREIN THAT PTN &/A DESC IN PCL 1-A HRF

PCL 2-B: LTS A, 23, 24, &25 TR 1510 18/197 MPS
EXC THAT PTN OF SD LT 24, DAF:
BEG AT MOST WLY COR OF LT 47, SD TR 1510; TH N 41°18'55"W ALG PROL OF SWLY LN OF SD LT 47, A DIST OF 150 FT; TH N 48° 41'50"E 417 FT; TH S 41°18'55"E 150 FT, TO MOST NLY COR OF SD LT 47; TH S 48°41'50"W ALG NWLY LN OF SD LT 47 TO POB;
ALSO EXC THOSE PTNS OF SD LTS A, 24&25 DESC IN PCL 2-A HRF

PCL 4-B: LTS 45&46 TR 1510 18/197 MPS
EXC THAT PTN OF SD LTS DESC IN PCL 4-A HRF

(CONT 14)

2

CONT 15 DEC 28/43 1368

DEC/DCONDEMN.

POL 8-B: W 10 ACS OF BLK 83 THE MACLAY RO EX MISSION OF SN FERNANDO 37/5 MR

EXC THAT PTN DESC IN POL 8-A HRF

pt of sub 4 & 10 & pt of st adj

POL 11-B: THAT PTN OF BLK 169 THE MACLAY RO EX MISSION OF SAN FERNANDO 37/5 MR
&THAT PTN OF 6TH ST VAC BY ORDER OF BD OF SUPVS OF LA CO 7/8/09 REC IN 11/47 RD BK
DAF:
BEG AT A PT IN SELY LN OF OSBORNE ST, 60 FT IN WID, DIST NELY THRN 1086 FT FR MOST WLY COR OF SD BLK 169; TH SELY & PLL WITH NELY LN OF SD BLK 169, A DIST OF 330 FT; TH NELY & PLL WITH NWLY LN OF SD BLK 169 204.63 FT TO CENTER LN OF SD 6TH ST AS VAC; TH NELY NWLY ALG SD CENTER LN 320 FT; TH WLY IN A DIR LN 14.14 FT TO SD SELY LN OF SD OSBORNE ST DIST THRN 10 FT SWLY FR SD CENTER LN; TH SWLY ALG SD SELY LN OF OSBORNE ST, 194.63 FT TO POB. (CONT 15)

2

CONT 16 DEC 28/43 1368

DEC/DCONDEMN.

subs 1, 12, 6, 7, 13, 14, 18 & pt 17 Blk 169

POL 12-B: THAT POL OF LD CONV TO JOHN A LOGAN BY DD REC IN 13439/164 OR & pt vac st adj sub 12 Blk 169

POL 13-B: THAT PTN OF BLK 169 THE MACLAY RO EX MISSION OF SAN FERNANDO 37/5 MR
&THOSE PTS OF SWLY 1/2 OF 6TH ST &NELY 1/2 OF FIFTH ST VAC BY ORDER OF RD OF SUPVS OF LA CO 7/8/09 AS REC IN 11/47 RD BK
& subs 13, 14, 18 & pt sub 17 Blk 169 & pt vac st adj subs 13, 14 & 18 Blk 169
DAF: BCOM S 48°37'45" W 10.13 FT & N 41°18'55" W 343 FT FR PT OF INTERSEC OF SWLY LN OF REMSEN AV, 50 FT IN WID WITH NWLY LN OF MONTAGUE ST, 40 FT IN WID; TH N 41°18'55" W 343 FT; TH S 48°41'50" W 1320.63 FT; TH S 41°18'55" E 343 FT; TH N 48°41'50" E 1320.63 FT TO POB COMMENCING

EXC ANY PTN THF DESC IN PCL 13-A HRF.
(CONT 16)

2

CONT 17 DEC 28/43 1368

DEC/CONDEMN.

PCL 23-B:THAT PTN OF LT 12 BLK 4 LOS ANGELES LD &WTR CO'S SUBDIV OF A PT OF MACLAY RO 3/17 MPS
CONV TO MARY E BURRELL BY DD REC IN 6284/278 OR,
EXC NELY 30 FTTHF

PCL 25-B:LT 1 BLK 8 LOS ANGELES LD &WTR CO'S SUBDIV OF PT OF MACLAY RO 3/17 MPS
EXC SWLY 30 FT OF SD LT 1.

PCL 26-B: LT 15 BLK 8 LOS ANGELES LD &WTR CO'S SUBDIV OF A PT OF MACLAY RO 3/17 MPS
EXC SWLY 30 FT OF SD LT 15.

PCL 28-B: THAT PTN OF LTS 12&24 BLK 7 LOS ANGELES LD &WTR CO'S SUBDIV OF PT OF MACLAY RO 3/17 MPS
DESC IN DD TO RUTH ANDERSON RECIN 11793/332 OR,
EXC NELY 30 FT THF.

(CONT 17)

2

CONT 18 DEC 28/43 1368

DEC/CONDEMN

PCL 29-B: LT 1 BLK 11 LOS ANGELES LD &WTR CO'S SUBDIV OF APT OF MACLAY RO 3/17 MPS

EXC SWLY 30 FT OF SDLT 1.

PCL 30-B: LT 15 BLK 11 LOS ANGELES LD &WTR CO'S SUBDIV OF A PT OF MACLAY RO 3/17 MPS
EXC SWLY 30 FT OF SD LT 15;
ALSO EXC SELY 280 FT OFSD LT 15.

PCL 31-B:NELY 135.5 FT OF SWLY 165.50 FT OF SELY 280 FT OF LT 15 BLK 11 LOS ANGELES LD &WTR CO'S SUBDIV OF A PT OF MACLAY RO 3/17 MPS

PCL 32-B:LTS 11&12 BLK 10 LOS ANGELES LD &WTR CO'S SUBDIV OF A PT OF MACLAY RO 3/17 MPS
EXC NELY 30 FT OF SD LT 12(CONT 18)

2

CONT 19 DEC 28/43 1368

DEC/CONDEMN

PCL 33-B: LT 24 BLK 10 LOS ANGELES LD &WTR CO'S SUBDIV ✓
OF A PT OF MACLAY RO 3/17 MPS
EXC NELY 30 FT OF SD LT 24.

THE RESPTS CRTS/W FOR EXTN OF SLOPES &FILLS &CUTS NEC TO IMPROV CONSTR MAINT & LATERALLY&VERTICALLY SUPPORT PTNS OF PUB STS &PROPOSD PUB ST AS SET FORTH IN COMPLAINT ON FILE HRIN, ALL TO GRADES&ALL IN ACCORD WITH &IN MANNER SHN ON SPEC PLANS &PROFILES P-7675, ~~XXXXXX~~ P-7676, P-7710~~X~~ P-7711, REFRD TO IN PARA XII OF SD COMPLAINT, &IN &UPON THAT CERTLD DAF:

PCL 2-C: THAT PTN OF LT 25 TR 1510 16/197 MPS ✓

DAF: BEG AT MOST NLY COR OF THAT CERT PCL OF LD 3RD DESC IN PCL 2-A HRF, SD POB BEING IN NELY LN OF SD LT 25: TH NWLY ALG SD NELY LN 31.95 FT; TH SWLY &PLL WITH NWLY LN OF SD PCL 3RD DESCIN PCL2-A HRF 266.38 FT; TH SELY AT RT ANGS TO SD LST MENT COURSE 31 FT TO SD NWLY LN; TH NELY ALG SD NWLY(CONT19) 2

CONT 20 DEC 28/43 1368

DEC/CONDEMN.

LN; TH NELY ALG SD NWLY LN 256.66 FT TO POB; ALSO THAT PTN OF SD LT 25 INCL WTHN A STRIP OF LD 2[illegible] FT IN WID EXT FR SWLY TERM OF LST ABV DESCPCL OF LD TO SELY LINE SD LT 25 LYING NWLY OF & CONTIN TO NWLY LN OF SD CERT PCL OF LD 3RD DESC IN PCL 2-A HRF; ALSO THAT PTN OF SD LT 25 INCL WTHN A STRIP OF LD 33 FT WIDE LYING SELY OF &CONTIG TO SELY LN OF THAT CERT PCL OF LD 3RD DESC IN PCL 2-A HRF &EXT FR SELY LN OF SD LT 25 TO A RADIAL LN PASSING THRU SELY TERM OF CURV DESC IN SD CERT PCL OF LD AS HAVING A RADIUS OF 1460 FT &A LENGTH OF 561.26 FT: ALSO THAT PTN OF SD LT 25 INCL WTHN A STRIP OF LD 40 FT WIDE LYING SELY OF & CONTIG TO SELY LN OF THAT CERT PCL OF LD 3RD DESC IN PCL 2-A HRF &EXTN 234.70 FT NELY FR SD LST MENT RADIAL LN; ALSO THAT PTN OF SD LT 25 INCL WTHN A STRIP OF LD 12 FT WIDE LYING SELY OF &CONTIG TO SELY LN OF THAT CERT PCL OF LD 3RD DESC IN PCL 2-A HRF&EXT FR SD 40 FT STRIP OF LD TO NELY LN OF SD LT 25.

(CONT 20) 2

CONT 21 DEC 28/43 1368

vac st adj arbs 10 + 12 Blk 169 - Maclay Pro

DEC/CONDEMN

PCL 12-C: THAT PTN OF 6TH ST VAC BY ORDER OF BD OF SUPVS AS SHN IN RD BK 11/47

DAF:

BEG AT A PT IN CENTERLN OF SD 6TH ST AS VAC DIST THRN 2362.7 FT SELY FR SELY LN OF OSBORNE ST 60 FT IN WID; TH SELY ALG SD CENTER LN 200 FT; TH SWLY AT RT ANGS TO SD CENTER LN 5 FT; TH NWLY &PLL WITH SD CENTER LN 200 FT; TH NELY IN A DIR LN 5 FT TO POB.

PCL 25-C: NELY 10 FT OF SWLY 40 FT OF NWLY 370 FT OF LT 1, BLK 8, LOS ANGELES LD &WTR CO'S SUBDIV OF A PT OF MACLAY RO 3/17 MPS

RES TO OWNRS OF SD REAL PROPS, HOWEV RT AT ANY TME TO REMOVE SUCH SLOPES, OR PTNS THF, UPON REMOVING THE NEC FOR MAINT SUCH SLOPES, OR PTNS THF, OR UPON PROVIDING IN PLACE THF OTHR ADEQ LATERAL SUPPORT, THE DESIGN &CONSTR OF WHICH SHLL BE IST APPROVD BY CY OF LA FOR PROTECTION & SUPPORT OF SD PUB STS& PROPOSED PUB ST, OR PTNS THF (CONT 21)

2

CONT 22 DEC 28/43 1368

DEC/CONDEMN.

THE ESMT R/W FOR CONSTR OF STORM DRAINS MENTIN PARA XIII OF COMPLAINT IS IN UND ALG UPON &ACR THAT CERTLD DAF:

XXXXX PCL 2-D:

THOSE PTNS OF LT 25 TR 1510 18/197 MPS

INCL WTHN A STRIP OF LD 10 FT WIDE LYING 5 FT ON EACH SIDE OF FOL DESC CENTER LN; BEG AT A PT IN THAT 1540 FT RADIUS CURV IN NWLY BDY OF THAT PCL OF LD 3RD DESC IN PCL 2-A HRF, DIST THRN 477.71 FT SWLY FR NELY TERM OF SD CURV; TH NWLY&RADIALLY TO SD CURV 20 FT; TH SELY &RADIALLY TO SD CURV 133 FT,

EXC THRFM ANY PTN INCL WTHN PCL OF LD 3RD DESCIN PCL 2-A HRF

WILSON PRES JDGE OF SC

11/29/43 EXEC OK

(CONT 22)

2

WILSON PRES JUDG OF SC

11/29/43 EXEC OK

(CONT 22)

2

CONT 23 DEC 28/43 1368

DECREE ETC

ZZIZE CTBD TO BY CLK (SEAL) ON 12/6/43

13439/164 590 5/22/35
SEE SLIP

XXXX CY CLKS MAIL BX

ABS/CJ

2

DEC 28-43 1369 TO
1373 NG 1374

STATE BOARD OF EQUALIZATION REL OF JDGMT

SAM BRAVER

REL OF ABST OF JDGT REC 1-4-39 16322/104 OR
ENT : PEOPLE OF THE STATE OF CALIFORNIA PLNTF
VS. SAM BRAVER, DFENT
CASE 7738 SC CO OF FACTO
RETAILER'S PERMIT #A76241
DTD _ ACK 1-29-43 EXEC OK

INSTALL: [illegible]/46 6 [illegible]

NTC REQ BY T[illegible] TORS AT 624 SO OLD RIVER SCHOOL [illegible] DOWNEY,CAL

BNFCY: 3236 ORR AND DAY ROAD NORWALK,CAL

2

WK 11/13/46 2318891 1865

DEC QUIETING TITLE

NELLIE G SALMON JEANETTE TRATHEN

12/2/37 Arb 13, 14, 18, 23 Bl 169

PAR 1: 10.40 ACRES,COMM S 48°37'45" W 10.13 FT AND N 41°18'55" W 343 FT FRM INTERSECTION OF SW LN OF REMSEN ST WTH THE NW LN OF MONTAGUE AVE; TH N 41°18'55" W 343 FT,WTH A UNIFORM DEPTH OF 1320.63 FT, S 48°41'50" W,PT VAC STS;

PAR 2: THE NE 132 FT OF THE SW 822 FT OF NW 330 FT Ø AND

PAR 3: BEG AT NWLY COR OF SD BLK 169; TH FOLLOWING ALG THE NWLY LN OF SD BLK N 48°41'50" E,102 FT TO A PNT ON SWLY LN OF SD BLK; TH FOLLOWING ALG THE SWLY LN OF SD BLK N 41°18'55" W 330 FT TO POB; PAR #4:THAT POR OF 5TH ST AS VAC BY BOARD OF SUPERVISORS OF SD LA CO,BEING A STRIP OF LD 30 FT IN WIDTH// AND ADJ TO SWLY LN OF PAR 3 ABOVE DES. #421476 SC CO LA

Arb 6

Arb 1 & 20

SEC 1ST NAT BK 200 S BRAND BLVD SAN FERNANDO,CAL

HEGHES

2

WK 11/13/46 2318891 1866

DEED

JOHN A LOGAN NELLIE G SALMON

ALINE LOGAN WF Now Arb 23 + Arbs 13-14 & 18

IRS: NIL Also pt [illegible]

THAT POR OF BLK 169 OF THE MACLAY RANCHO EX-MISSION OF SAN FERNANDO 37/5 MRS

DAF: BEG AT A PNT IN SWLY LN OF SD BLK,DIST 701.02 FT SELY FRM THE MOST WLY COR OF SD BLK; TH NELY // WTH THE NWLY LN OF SD BLK, 1260.63 FT,MOL, TO NELY LN OF SD BLK,169; TH SELY ALG SD NELY LN 343 FT TO NWLY LN OF LD DES IN (X) TO ROBERT LEDGER AND WF,REC 15473/[illegible]182 O/R;TH SWLY ALG SD NELY LN, 1260.63 FT,MOL, TO SWLY LN OF SD LT; TH NWLY ALG SD SWLY LN,343 FT TO POB;ALSO THAT POR OF [illegible]

1260.63 FT, S 40°41'50" W, PT VA, STS;
PAR 2: THE NE 132 FT OF THE SW 822 FT OF NW 330 FT ∅ AND
PAR 3: BEG AT [illegible]LY COR OF SD BLK 169; TH FOLLOWING ALG THE NWLY LN OF SD BLK N 40°41'50" E, 102 FT TO A PNT ON SWL. LN OF SD BLK; TH FOLLOWING ALG THE SWLY LN OF SD BLK N 41°18'55" W 330 FT TO POB; PAR #4: THAT POR OF 5TH ST AS VAC BY BOARD OF SUPERVISORS OF SD LA CO, BEING A STRIP OF LD 30 FT IN WIDTH// AND ADJ TO SWLY LN OF PAR 3 ABOVE DES. #421476 SC CO LA

SEC 1ST NAT BK 200 S BRAND BLVD SAN FERNANDO, CAL

HUGHES

2

WK 11/13/46 2318891 1866

DEED

JOHN A LOGAN NELLIE G SALMON
ALINE LOGAN WF Now Arb 23 + Arbs 13-14+18
IRS: NIL Also Pt. Vac. St. adj

THAT POR OF BLK 169 OF THE MACLAY RANCHO EX-MISSION OF SAN FERNANDO 37/5 MR∅
DAF: BEG AT A PNT IN SWLY LN OF SD BLK, DIST 701.02 FT SELY FRM THE MOST WLY COR OF SD BLK; TH NELY // WITH THE NWLY LN OF SD BLK, 1260.63 FT, MOL, TO NELY LN OF SD BLK, 169; TH SELY ALG SD NELY LN 343 FT TO NWLY LN OF LD DES IN DD TO ROBERT LEDGER AND WF, REC 15473/182 O/R; TH SWLY ALG SD NELY LN, 1260.63 FT, MOL, TO SWLY LN OF SD LT; TH NWLY ALG SD SWLY LN, 343 FT TO POB; ALSO THAT POR OF NELY ½ OF 5TH ST ADJ ABOVE DES LD ON SW, AND THAT POR OF SWLY ½ OF 6TH ST ADJ THE ABOVE DES LD ON THE NE, AS VAC AND ABAND BY A RES-LN OF BOARD OF SUPERVISORS OF SD CO PASSES 7/8/1909, AND ENTERED IN ROAD BOOK 11/47 OFFICE OF BOARD OF SUPERVISORS

NO CCRR 10/18/46

GTEE: 2334 EL MOLINO ALTADENA, CAL

HUGHES

2

RJ 11/13/46 2318891 1867

NELLIE G SALMON, WID MANUEL MARTINEZ DEED
CONCHA MARTINEZ, WF, JTTNS
IRS 5.50

Arbs 13-14-18 & 23 [illegible]

THAT POR OF BLK 169 OF MACLAY RO EX MISSION OF SAN FERNANDO 37/5 MR
DAF: BEG AT A PNT IN THE SWLY LN OF SD BLK, DISTANT 701.02 FT SELY FR THE MOST WLY COR OF SD BLK; TH NELY // WITH THE NWLY LN OF SD BLK, 1260.63 FT, MOL TO THE NELY LN OF SD BLK 169; TH SELY ALG SD NELY LN [illegible] TO ROBERT LEDGER AND WF,

15473/[illegible]182 O/R; TH SWLY ALG SD NELY LN, 1260.63 FT, MOL, [illegible] LN OF SD LT; TH NWLY ALG SD SWLY LN, 343 FT TO POB; ALSO THAT PO[illegible] NELY ½ OF 5TH [illegible] ADJ ABOVE DES LD ON SW, AND THAT [illegible]R OF SWLY ½ OF 6TH ST ADJ THE ABOVE DES LD ON THE NE, AS VAC AND ABAND BY A RES- LN OF BOARD OF SUPERVISORS OF SD CO PASSES 7/6/1909, AND ENTERED IN ROAD BOOK 11/47 OFFICE OF BOARD OF SUPERVISORS

NO CCRR 10/16/46

GTEE: 2334 EL MOLINO ALTADENA, CAL

HUGHES

2

RJ [illegible] 1867

NELLIE G SALMON, WID — MANUEL MARTINEZ — DEED
CONCHA MARTINEZ, WF, JTTNS
IRS 5.50

Arbs 13-14-18 & 23 [illegible]

THAT POR OF BLK 169 OF MACLAY RO EX MISSION OF SAN FERNANDO 37/5 MR DAF: BEG AT A PNT IN THE SWLY LN OF SD BLK, DISTANT 701.02 FT SELY FR THE MOST WLY COR OF SD BLK; TH NELY // WITH THE NWLY LN OF SD BLK, 1260.63 FT, MOL TO THE NELY LN OF SD BLK 169; TH SELY ALG SD NELY LN 343 FT TOE THE NWLY LN OF THE LND DESC IN THE DD TO ROBERT LEDGER AND WF, REC IN 15473/182 OR; TH SWLY ALG SD NELY LN 1260.63 FT, MOL TO THE SWLY LN OF SD LT; ~~H~~TH NWLY ALG SD SWLY LN 343 FT TO THE POB

ALSO THAT POR OF THE NELY ½ OF 5TH ST ADJNG THE ABOVE DESC ~~L~~LND ON THE SW, AND THAT POR OF THE SWLY ½ OF 6TH ST ADJNG THE ABOVE DESC LN ON THE NE AS VACATED AND AGANDONED BY A RESOL OF THE BOARD OF SUPERVISOR~~S~~S OF SD CO PASSES 7/8/1909 AND ENTERED IN ROAD BOOK 11/47

NO CCRR 3/1/46

HUGHES

GTEE 722 MOTT ST, SAN FERNANDO

2

RJ [illegible] 1868

MANUEL MARTINEZ — [illegible] A HOWELL — DEED
CONCHA MARTINEZ, WF — [illegible] I HOWELL, WF, JTTNS
IRS 18.10

Arbs 13-14-18 & 23 [illegible]

THAT POR OF BLK 169 OF MACLAY RO EX MISSION OF SAN FERNANDO 37/5 MR DAF: BEG AT A PNT IN THE SWLY LN OF SD BLK, DISTANT 701.00 FT SELY FR THE MOST WLY COR OF SD BLK; TH NELY // WITH THE NWLY LN OF SD BLK, [illegible] TH SELY ALG SD NELY LN

[illegible]

ALSO THAT POR OF THE [illegible] ½ [illegible] ON THE SW, AND THAT POR OF THE SWLY ½ OF 6TH ST ADJNG THE ABOVE [illegible] ON THE NE AS VACATED AND ABANDONED BY A RESOL OF THE BOARD OF SUPERVISORS OF SD CO PASSES 7/8/1909 AND ENTERED IN ROAD BOOK 11/47

NO CCRR 3/[illegible]/46

GTEE 722 MOTT ST, SAN FERNANDO

HUGHES

2

RJ 10/[illegible]/46 [illegible] 1868

MANUEL MARTINEZ
CONCHA MARTINEZ, WF

LESLIE A HOWELL
GLADYS I HOWELL, WF, JTTNS
IRS 12.10

DEED

Arbs 13-14-18+23 Also vac st adj

THAT POR OF BLK 169 OF MACLAY RO EX MISSION OF SAN FERNANDO 37/5 MR DAF: BEG AT A PNT IN THE SWLY LN OF SD BLK, DISTANT 701.02 FT SELY FR THE MOST WLY COR OF SD BLK; TH NELY // WITH THE NWLY LN OF SD BLK, 1260.63 FT; MOL TO THE NELY LN OF SD BLK, 169; TH SELY ALG SD NELY LN 343 FT TO THE NWLY LN OF THE LND DESC IN DD TO ROBERT LEDGER AND WF, REC IN 15473/182 OR; TH SWLY ALG SD NELY LN 1260.63 FT MOL TO THE SWLY LN OF SD LT; TH NWLY ALG SD SWLY LN 343 FT TO [illegible] POB

ALSO THAT POR OF THE NELY ½ OF 5TH ST ADJNG THE ABOVE DESC LND ON THE SW, AND THAT POR OF THE SWLY ½ OF 6TH ST ADJNG THE ABOVE DESC LND ON THE NE AS VACATED AND ABANDONED BY A RESOL OF THE BOARD OF SUPERVISORS OF SD CO PASSES 7/8/1909 & ENTERED IN ROAD BOOK 11/47

NO CCRR 10/18/46

HUGHES

GTEES 5745 SUNLAND, ROSCOE

2

RJ 11/[illegible]/46 [illegible] 1869

LESLIE A HOWELL
GLADYS I HOWELL, WF

REC 1ST NATL BK LA
TR FOR
MANUEL MARTINEZ, MRD
11/1/46

TR DD
ASGT RNS

Arbs 13-14-18+23 Also [illegible]

THAT POR OF BLK 169 OF MACLAY RO EX MISSION OF SAN FERNANDO 37/5 MR DAF: BEG AT A PNT IN THE SWLY LN OF SD BLK DISTANT 701.02 FT SELY FR THE MOST WLY COR OF SD BLK; TH NELY // WITH THE NWLY LN OF SD BLK 1260.63 FT; [illegible] TH SELY ALG SD NELY LN 343 FT TO THE

1 6/11/52 36273 1337

DEED

LILLIE A HOWELL JOHN L GROARK, UNMRD
GLADYS I HOWELL, WF

IRS 12 10

T AT POR OF BLK 169 OF THE MACLAY RANCHO EX" MISSION OF SAN FERNANDO CY OF LA 37/5 MR

DAF:

BEG AT A PNT IN THE WLY LN OF SD BLK DIS 701.02 FT SELY FRM THE MOST WLY COR OF SD BLK TH NELY // WI THE NWLY LN OF SD BLK 1260.63 FT MOL TO THE NELY LN OF SD BLK 169 TH SELY ALG SD NELY LN 343 FT TO THE NWLY LN OF THE LD DESC INTHE DD TO ROBERT LEDGER AND WF REC 15473/182 OR SD CO TH SWLY ALG SD NWLY LN 1260.63 FT MOL TO THE SWLY LN OF SD LT TH NWLY ALG SD SWLY LN 343 FT TO THE POB

ALSO THAT POR OF THE SWLY ½ OF 6TH ST ADJOINING THE ABOVE DESC LD ON THE NE AS VACATED AND ABANDONED BY A RESOLUTION

CON'T

2

1 (CON'T 2) 6/11/52 36273 1337
DEED

OF THE BOARD OF SUPERVISORS OF SD CO PASSES 7/8/1909 AND ENTERED IN RED BOOK 11/47 OFFICE OF SD BOARD OF SUPERVISORS

EXC THEROUT AND THEREFRM THAT POR OF BLK 169 OF THE MACLAY RANCHO EX MISSION SAN FERNANDO CY OF LA 37/5 MR

DAF:

BEG AT A PNT IN THE ½ SWLY LN OF SD BLK DIS 701.02 FT SELY FRM THE MOST WLY COR OF SD BLK TH NELY // WI THE NWLY LN OF SD BLK 370 FT TH ½ SELY // WI THE SWLY LN OF SD ½ BLK 343 FT MOL TO THE NWLY LN OF THE LD DESC IN THE DD TO ROBERT LEDGER ET/ AND WF REC 15473/182 OR OF SD CO TH SWLY ALG THE NWLY LN OF THE LD DESC IN SD DD 370 FT TO THE SWLY LN OF SD LT TH NWLY ALG SD SWLY LN 343 FT TO THE POB

NO CC R&R 4/12/52
2ND PTY 306 W 3RD ST ROOM 411 LA 13

2

[illegible] AND ENTERED IN [illegible]
OF SUPERVISORS

EXC THROUT ANC THEREFRM THAT PON OF BLK 169 OF THE MACLAY
RANCHO EX MISSION SAN FERNANDO CY OF LA 37/5 PR
DAF
BEG AT A PNT IN THE W SWLY LN OF SD BLK DIS 701.02 FT
BELY FRM THE MOST WLY COR OF SD BLK TH NELY // WI THE
NW'Y LN OF SD BLK 370 FT TH W SELY // WI THE SWLY LN OF SD W BLK
34, MOL TO THE NWLY LN OF THE LD DESC IN THE DD TO
ROBERT LEDGER /D/ AND WF REC 15473/182 OR OF SD CO TH SWLY ALG
THE NWLY LN OF THE LD DESC IN SD DD 37' FT TO THE SWLY LN OF
SD LT TH NWLY ALG SD SWLY LN 343 FT TO THE POB

NO CR&R 4/12/52
ENC PTY 306 W 3RD ST ROOM 411 LA CA 13

2

1 6/11/52 3627348 1338

DEED

HRB 37

JOHN L GROARK, UNMRD
PHILIP RAPP, HUS OF
MARY RAPP, ONE THE
GRANTEES HEREIN

JOHN L GROARK, UNMRD
MARY RAPP, MRD

IRS NONE

SAME PROP AS # 1338/TODAY/ 1337 TODAY

NO CCR&R 6/9/52

BK OF AM 12175 VENTURA BLVD STUDIO CY

DE PREL

2

1 6/11/58 3624348 1339

TR DD &
ASGT RENTS

HRB 37

JOHN L GROARK, UNMRD

BK OF AM NT & SA

FMB 11/10/55 [illegible] 874

DEED

JOHN [illegible] GROARK, UNMRD MAN AMERICAN MACHINE & FOUNDRY
MARY [illegible], [illegible] WOMAN COMPANY AC

TRS 55.00

THAT POR OF BLK 169 OF THE MACLAY RANCHO EX-MISSION OF SAN FERNANDO CITY OF LA 37/5 M R
DAF:

BEG AT A PNT IN THE SWLY LN OF SD BLK DIST 701.02 FT SELY FROM THE MOST WLY COR OF SD BLK"; TH NELY // WITH THE NWLY LN OF SD BLK A DIST OF 370.00 FT TO THE TRUE POB; TH CONTINUING NELY ALG SD // LN 360.63 FT, MOL TO A PNT DIST THRON SWLY 530.00 FT FROM THE NELY LN OF SD BLK, SD PNT BEING HEREINAFTER REFERRED TO AS PNT "A" TH CONTINUING NELY ALG SD // LN 530.00 FT TO SD NELY LN; TH SELY ALG SD NELY LN 343.00 FT TO THE NWLY LN OF THE LAND DESC IN DD TO ROBERT LEDGER ET UX, REC CO OF LA 15473/182 OR

CONT'D

2

FMB CONT'D #2 11/10/55 [illegible] 874

DEED

TH SWLY ALG THE LAST MENT NWLY LN 530.00 FT MOL TO A LN THAT IS // WITH SWLY LN OF SD BLK AND THAT PASSES THRU SD PNT "A"; TH NWLY ALG THE LAST MENT // LN 313.00 FT, TO THE SELY LN OF THAT CERT STRIP OF LD, 30 FT WIDE DESC IN PAR 2 OF THE DD TO GEORGE P CARVER, REC 6/2/55 AS INS TRU 1720 IN 47950/206 OR; TH SWLY ALG THE LAST MENT SELY LN 360.63 FT, MOL TO A LN THAT IS // WITH THE SWLY LN OF SD BLK 169 AND THAT PASSES THRU THE TRUE POB; TH NWLY ALG THE LAST MENT // LN 30.00 FT TO THE TRUE POB.

TOG WITH THAT POR OF THE SWLY ½ OF SIXTH ST ADJG THE ABV DESC LD ON THE NE AS VACATED AND ABANDONED BY A RESOL OF THE BD OF SUP OF SD CO PASSED 7/8/09 AND ENTERED IN 11/47 OF ROAD BOOK OF SD BD OF SUP

NO CCR&R 10/6/55

GTEE 12270 MONTAGUE ST PACOIMA CAL (ATTN M KAIZER-)

2

FMB 57429 310 9/28/56 4569036 2235

DEED

AMERICAN MACHINE & FOUNDRY COMPANY A/C

AETNA LIFE INSURANCE COMPANY A/C

same legal descrip as deed to client

IRS 550.00

arb 39

THT POR OF BLK 169 OF THE MACLAY RANCHO EX MISSION RK OF SAN FERNANDO CITY OFLA 37/5 M R

DAF:

BEG AT A PNT IN THE SWLY LN OF SD BLOCK DIST 701.02 FT SELY FROM THE MOST WLY COR OF SD BLK ; TH NELY // WITH THE NWLY LN OF SD BLK A DIST OF 370.00 FT TO THE TRUE POB; TH CONTINUING NELY ALG SD // LN 360.63 FT MOL TO A PNT DIST THRON SWLY 530.00 FT FROM THE NELY LN OF SD BLOCK, SD PNT BEING HEREINAFTER REFERRED TO AS PNT "A" TH CONTINUING NELY ALG SD // LN 530.00 FT TO SD NELY LN; TH SELYALG SD NELYLN 343.00 FT TO THE NWLY LN OF THE LAND DESC IN DD TO ROBERT LEDGER ET UX, REC 15473/182 OR

CONT'D

FMB CONT'D #2

9/28/56 4569036 2235

DEED

TH SWLY ALGTHE X LAST MENT NWLY LN 530.00 FT MOL TO A LN THAT IS // WITH THE SWLY LN OF SD BLK AND X THAT PASSES THRU SD PNT "A"; TH NWLY ALG THE LAST MENT// LN 313.00 FT, TO THE SELY LN OF THAT CERT STRIP OF LAND, 30 FT WIDE DESC IN PRCL 2 OF THE DD TO GEORGE P CARVER, REC 6/2/55 INSTRU 1720, IN 47950/206 O R; TH SWLYALG THE LAST MENT SELY LN 360.63 FT MOL TO AX LN X THAT IS // WITH THE SWLY LN OF SD BLK 169 AND THAT PASSES THRU THE TRUE POB; TH NWLY ALG THE X LAST MENT // LN 30.00 FT TO THE TRUE POB.

& pt St adj

TOG WITH THAT POR OF THE SWLY ½ OF 6TH ST ADJG THE ABV DESC LAND ON THE NE AS VACATED AND ABANDONED BY A RESOL OF THE BD OF SUP OF SD CO PASSED 7/8/09, AND ENTERED IN ROAD BOOK 11/47 OF SD BD OF SUP

EXC THAT POR INCLUDED WITHIN THE MOST SELY 30 FT OF THE ABV DESC LAND

CONT'D

IWLY ALG THE A LAST MEAT // LN 30.00 FT TO THE TRUE POB.

TOG WI THAT POR OF THE SWLY ½ OF 6TH ST ADJG THE ABV D DESC LAND ON THE NE AS VACATED AND ABANDONED BY A RESOL OF THE BD OF SUP OF SD CO PASSED 7/8/09, AND ENTERED IN ROAD BOOK 11/~~4~~/ 47 OF SD BD OF SUP

EXC THAT POR INCLUDED WITHIN THE MOST SELY 30 FT OF THE ABV DESC LAND
CONT'D

FX B CONT'D #3

9/28/56 4569036 2235

DEED

NO CR R 7/26/56

GTEES 151 ~~XXX~~ FARMINGTON AV HARTFORD 15 CONN

RFC 9/28/56 4006333 2236

DEED

DONALD G TOLLEFSON
ZORA M TOLLEFSON, WF

MOORE-WHITE MEDICAL CLINIC,
A PTNRSHP

4/15/58 3479

DEED

AMERICAN MACHINE & FOUNDRY COMPANY, A/C

SUNDSTRAND MACHINE TOOL CO., A/C (AS OF 1/31/58)

VAL CONS
NO IRS
GRANT

C-630.

THAT PORTION OF BLK 169 OF THE MACLAY RANCHO EX-MISSION OF SAN FERNANDO CY & CO OF LA 37/5 M.R. DAF;

BEG AT A PNT INTHE SWLY LINE OF SD BLK DIST 701.02 FT SELY FROM THE MOST WLY COR OF SD BLK; TH NELY // WITH THE NWLY LINE OF SD BLK 380 FT TO THE TRUE POB; TH CONT NELY ALG SD // LINE, A DIST OF 360.63 FT, MOL, TO A PNT DIST SWLY THEREON 530 FT FROM THE NELY LINE OF SD BLK; TH SELY // WITH THE SWLY LINE OF SD BLK, TH SELY // WITH THE SWLY LINE OF SD BLK, A DIST OF 343 FT, MOL, TO THE NWLY LINE OF THE LAND DESC IN

CONT 1

2

CONT 2 4/15/58 3479

DEED

DD TO ROBERT LEDGER AND WF, REC :NBK 15473/182 OR, TH SWLY ALG SD NWLY LINE A DIST OF 360.63 FT, MOL, TO A LINE // WITH THE SD SWLY LINE OF SD BLK AND WHICH PASSES THROUGH THE TRUE POB; TH NWLY ALG SD LAST MENTIONED // LINE, A DIST OF 343 FT, MOL, TO THE POB.

EXC THEREFROMTHAT PORTION THEREOF INCLUDED WITHIN THE FOLL DESC LINES:

BEG AT A PNT INTHE SWLY LINE OF SD BLK DIST 701.02 FT SELY FROM THE MOST WLY COR THEREOF; TH NELY // WITH THE NWLY LINE OF SD BLK, A DIST OF 370 FT TO THE TRUE POB; TH CONT NELY ALG SD // LINE TO THE NELY LINE OF THE SWLY 1/2 OF SIXTH STREET ADJOINING SD BLK 169 ONTHE NE AS VACATED AND ABANDONED BY A RESOL OF THE BOARD OF SUPERVISORS OF SD CO, PASSED 7/8/1909 IN ROAD BK 11/47 IN THE OFFICE OF THE BOARD OF SUPERVISORS; TH SELY ALG SD NELY LINE, A DIST OF 30 FT; TH SWLY // WITH THE SD NWLY LINE OF SD BLK, TO

CONT 2

2

OF 30 FT; TH SWLY // WITH THE SD NWLY LINE OF SD BLK, TO
CONT 2

2

CONT 3 4/15/58 3479

DEED

A LINE // WITH THE SWLY LINE OF SD BLK AND WHICH PASSES THROUGH THE TRUE POI; TH NWLY ALG SD LAST MENTIONED // LINE, A DIST OF 30 FT TO THE TRUE POB.

ALSO EXC THAT PORTION THEREOF DAF:
BEG AT A PNT IN THE SWLY LINE OF SD BLK DIST SELY THEREON 909.02 FT FROM THE MOST WLY COR OF SD BLK; TH NELY // WITH THE NWLY LINE OF SD BLK 169, A DIST OF 370 FT TO THE TRUE POB; TH CONTINUING NELY ALG SD // LINE A DIST OF 60 FT; TH SELY // WITH SD SWLY LINE, A DIST OF 135 FT, MOL, TO THE NWLY LINE OF THE LAND DESC INDD TO ROBERT LEDGER AND WF, REC INBK 15473/182 OR; TH SWLY ALG THE NWLY LINE OF THE LAND DESC INSD DEED 60 FT; TH NWLY // WITH THE SWLY LINE OF SD BLK TO THE POB.

NO C C R &R
SUBJ TO C C R & R ESMTS RTS & R/W OF REC
CONT 3

2

CONT 4 4/15/58 3479

DEED

SD CORP SGND & ACK BY G. S. HASTINGS, V.P & BY C. J. JOHNSON, SECY, UND CORP SEAL, BEF MILDRED E KINGHORN NP CO OF[illegible], [illegible]
NEW YORK STATE OF NEW YORK
ACK FORM FOLL SEC 1190.1 CC

3/26/58
EXEC OK

KAPLAN, LIVINGSTON, GOODWIN & BERKOWITZ, 270 N CANON DR, BEV HILLS, CALIF

ABS/BK

2

7780671 DICK FILAS

79- 431062

RECORDING REQUESTED BY AND
WHEN RECORDED MAIL TO:

Heller, Ehrman, White
& McAuliffe
44 Montgomery Street, Suite 3100
San Francisco, California 94106

Attn: Dianne G. Estrin, Esq.

RECORDED IN OFFICIAL RECORDS
OF LOS ANGELES COUNTY, CA
APR 23 1979 AT 8 A.M.
Recorder's Office

MAIL TAX STATEMENTS TO:

Gary O'Brien
120 Greenbank Drive
Lafayette, California 94549

FEE
$5
3L

The undersigned Grantor declares:

44

Documentary Transfer Tax is $137.50
Computed on full value of property conveyed
in the City of Los Angeles, County of Los Angeles, California

Earl L. Hall Jas. D. Filas

CORPORATION GRANT DEED

SURVEY MONUMENT FEE $10. CODE 99

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, AETNA LIFE INSURANCE COMPANY, a Connecticut corporation, hereby grants to WILLIAM TOLSON and JEAN TOLSON as joint tenants as to an undivided one-half (1/2) interest and GARY O'BRIEN and JOAN O'BRIEN as joint tenants as to an undivided one-half (1/2) interest the following described real property in the City of Los Angeles, County of Los Angeles, State of California:

That portion of Block 169 of the Maclay Rancho Ex-Mission of San Fernando, in the City of Los Angeles, County of Los Angeles, State of California, as per Map recorded in Book 37 Page 5 of Miscellaneous Records, in the Office of the County Recorder of said County, described as follows:

Beginning at a point in the southwesterly line of said block distant 701.02 feet southeasterly from the most westerly corner of said block; thence northeasterly parallel with the northwesterly line of said block, a distance of 370.00 feet to the true point of beginning; thence continuing northeasterly along said parallel line 360.63 feet, more or less, to a point distant thereon

MAIL TAX STATEMENT AS DIRECTED ABOVE

350160

southwesterly 530.00 feet from the northeasterly line of said block, said point being hereinafter referred to as Point "A", thence continuing northeasterly along said parallel line 530.00 feet to said northeasterly line; thence southeasterly along said northeasterly line 343.00 feet to the northwesterly line of the land described in the Deed to Robert Ledger and Wife, recorded in Book 15473 Page 182 of Official Records, in the Office of said recorder; thence southwesterly along the last mentioned northwesterly line 530.00 feet, more or less, to a line parallel with the southwesterly line of said block and that passes through said Point "A"; thence northwesterly along the last mentioned parallel line 313.00 feet, to the southeasterly line of that certain strip of land, 30 feet wide, described in Parcel 2 of the Deed to George P. Carver, recorded on June 2, 1955, as Instrument No. 1720 in Book 47950 Page 206 of said Official Records; thence northwesterly along the last mentioned southeasterly line 360.63 feet, more or less, to a line that is parallel with the southwesterly line of said Block 169 and that passes through the true point of beginning; thence northwesterly along the last mentioned parallel line 30.00 feet to the true point of beginning.

Together with that portion of the southwesterly half of Sixth Street adjoining the above described land on the northeast, as vacated and abandoned by a Resolution of the Board of Supervisors of said County passed July 8, 1909 and entered in Road Book II Page 47, in the Office of said Board of Supervisors.

EXCEPT that portion included within the most southeasterly 30 feet of the above described land.

SUBJECT TO: All non-delinquent real property taxes and assessments and all matters of record.

DATED: April 13, 1979

AETNA LIFE INSURANCE COMPANY

ACH
By _____
ASSISTANT VICE PRESIDENT

By _____
Assistant Secretary

79- 431062

STATE OF CONNECTICUT)
)
COUNTY OF HARTFORD) SS.

On this 11th day of April, 1979 before me, the undersigned, a Notary Public in and for said State, personally appeared James J. Furlong, known to me to be the Asst. Vice President, and Edward C. Bannon, known to me to be Assistant Secretary of the Corporation that executed the within Instrument, known to me to be the persons who executed the within Instrument on behalf of the Corporation therein named, and acknowledged to me that such Corporation executed the within Instrument pursuant to its by-laws or a resolution of its board of directors.

WITNESS my hand and official seal.

(SEAL)

Jane A. Brown

[redacted], Notary Public
Within and for the State of Connecticut
My Commission expires March 31, 1983.

79- 431062

[redacted] RECORDED [redacted]

RECORDING REQUESTED BY

TICOR TITLE INS. - 71

Elaine Ledesma SEP 20 1983

Elaine Recording

AND WHEN RECORDED MAIL TO

Name GARY L. O'BRIEN
Street Address 1839 Country Place
City & State Ojai, CA 93023

MAIL TAX STATEMENTS TO

Name
Street Address SAME AS ABOVE
City & State

83 1110406

RECORDED IN OFFICIAL RECORDS OF LOS ANGELES COUNTY, CA

SEP 21 1983 AT 8 A.M.

Recorder's Office

FEE $6 35

SPACE ABOVE THIS LINE FOR RECORDER'S USE

CAT. NO. NN00080 TO 1022 CA (2-83)

Individual Quitclaim Deed

THIS FORM FURNISHED BY TICOR TITLE INSURERS

The undersigned grantor(s) declare(s):
Documentary transfer tax is $ **
( ) computed on full value of property conveyed, or
( ) computed on full value less value of liens and encumbrances remaining at time of sale.
( ) Unincorporated area: ( ) City of _____, and

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,
WILLIAM TOLSON AND JEAN TOLSON, HUSBAND AND WIFE, AND GARY O'BRIEN AND JOAN O'BRIEN, HUSBAND AND WIFE,

hereby REMISES, RELEASES AND QUITCLAIMS to
WILLIAM TOLSON AND JEAN TOLSON, HUSBAND AND WIFE, AS AN UNDIVIDED 50% INTEREST, JOAN O'BRIEN, A SINGLE WOMAN, AS AN UNDIVIDED 25% INTEREST AND GARY O'BRIEN AND SUSAN O'BRIEN, HUSBAND AND WIFE, AS AN UNDIVIDED 25% INTEREST
the following described real property in the City of PACOIMA
County of LOS ANGELES, State of California:

AS PER EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF.

This instrument filed for record by Ticor Title Insurance Company of California as an accommodation only. It has not been examined as to its execution or as to its effect upon the title.

** Conveyance to change the manner in which the interest of the parties is held, "The Grantors and Grantees are the same parties, and their proportionate interests in the real property have not changed and is exempt pursuant to ordinance 9443."

Dated: July 29, 1983

Gary L. O'Brien

Joan O'Brien

William Tolson

Jean W. Tolson

STATE OF CALIFORNIA
COUNTY OF VENTURA } ss.

On September 9, 1983 before me, the undersigned, a Notary Public in and for said State, personally appeared Gary O'Brien

personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same.
WITNESS my hand and official seal.

Signature

OFFICIAL SEAL
SHIRLEY L. GRAY
NOTARY PUBLIC - CALIFORNIA
VENTURA COUNTY
My Comm. Expires Sept. 6, 1985

(This area for official notarial seal)

Title Order No _____ Escrow or Loan No _____

MAIL TAX STATEMENTS AS DIRECTED ABOVE

350161

2

STATE OF CALIFORNIA
COUNTY OF SAN FRANCISCO } ss.

83 1110406

On SEPTEMBER 06, 1983 before me, the undersigned, a Notary Public in and for said State, personally appeared JOAN O'BRIEN

personally known to me or proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is subscribed to the within instrument and acknowledged that she executed the same.

WITNESS my hand and official seal.

(Seal)

OFFICIAL SEAL
MARIANNE OCHOA
NOTARY PUBLIC CALIFORNIA
PRINCIPAL OFFICE IN
SAN FRANCISCO COUNTY
My Commission Expires Sept 18, 1984

(Notary Public's Signature)

Individual Notarial Acknowledgment

STATE OF CALIFORNIA
COUNTY OF San Francisco } ss.

83 1110406

On August 24, 1983 before me, the undersigned, a Notary Public in and for said State, personally appeared WILLIAM TOLSON AND JEAN W. TOLSON

personally known to me or proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged that they executed the same.

WITNESS my hand and official seal.

(Seal)

OFFICIAL SEAL
SYLVIA PRESUTION
NOTARY PUBLIC-CALIFORNIA
SAN FRANCISCO COUNTY
My Commission Expires Oct. 7, 1985

(Notary Public's Signature)

Individual Notarial Acknowledgment

3

EXHIBIT "A"

DESCRIPTION:

THAT PORTION OF BLOCK 169 OF THE MACLAY RANCHO EX-MISSION OF SAN FERNANDO, IN THE CITY OF LOS ANGELES, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 37, PAGE 5 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT IN THE SOUTHWESTERLY LINE OF SAID BLOCK DISTANT 101.02 FEET SOUTHEASTERLY FROM THE MOST WESTERLY CORNER OF SAID BLOCK; THENCE NORTHEASTERLY PARALLEL WITH THE NORTHWESTERLY LINE OF SAID BLOCK, A DISTANCE OF 370.00 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING NORTHEASTERLY ALONG SAID PARALLEL LINE 360.63 FEET, MORE OR LESS, TO A POINT DISTANT THEREON SOUTHWESTERLY 530.00 FEET FROM THE NORTHEASTERLY LINE OF SAID BLOCK, SAID POINT BEING HEREINAFTER REFERRED TO AS POINT "A"; THENCE CONTINUING NORTHEASTERLY ALONG SAID PARALLEL LINE 530.00 FEET TO SAID NORTHEASTERLY LINE; THENCE SOUTHEASTERLY ALONG SAID NORTHEASTERLY LINE 343.00 FEET TO THE NORTHWESTERLY LINE OF THE LAND DESCRIBED IN THE DEED TO ROBERT LEDGER AND WIFE, RECORDED IN BOOK 15473 PAGE 182, OFFICIAL RECORDS IN THE OFFICE OF SAID RECORDER; THENCE SOUTHWESTERLY ALONG THE LAST MENTIONED NORTHWESTERLY LINE 530.00 FEET, MORE OR LESS, TO A LINE PARALLEL WITH THE SOUTHWESTERLY LINE OF SAID BLOCK AND THAT PASSES THROUGH SAID POINT "A"; THENCE NORTHWESTERLY ALONG THE LAST MENTIONED PARALLEL LINE 313.00 FEET, TO THE SOUTHEASTERLY LINE OF THAT CERTAIN STRIP OF LAND, 30 FEET WIDE, DESCRIBED IN PARCEL 2 OF THE DEED TO GEORGE P. CARVER, RECORDED ON JUNE 2, 1955 AS INSTRUMENT NO. 1720 IN BOOK 47950 PAGE 206 OF SAID OFFICIAL RECORDS; THENCE NORTHWESTERLY ALONG THE LAST MENTIONED SOUTHEASTERLY LINE 360.63 FEET, MORE OR LESS, TO A LINE THAT IS PARALLEL WITH THE SOUTHWESTERLY LINE OF SAID BLOCK 169 AND THAT PASSES THROUGH THE TRUE POINT OF BEGINNING; THENCE NORTHWESTERLY ALONG THE LAST MENTIONED PARALLEL LINE 30.00 FEET TO THE TRUE POINT OF BEGINNING.

TOGETHER WITH THAT PORTION OF THE SOUTHWESTERLY HALF OF SIXTH STREET ADJOINING THE ABOVE DESCRIBED LAND ON THE NORTHEAST, AS VACATED AND ABANDONED BY A RESOLUTION OF THE BOARD OF SUPERVISORS OF SAID COUNTY PASSED JULY 8, 1909 AND ENTERED IN ROAD BOOK 11 PAGE 47, IN THE OFFICE OF SAID BOARD OF SUPERVISORS.

EXCEPT THAT PORTION INCLUDED WITHIN THE MOST SOUTHEASTERLY 30 FEET OF THE ABOVE DESCRIBED LAND.

83 1110406

CAT. NO. NN00810
TO 77 CA (12-84)

TICOR
TITLE INSURANCE

Title

June 29, 1988

Lisa Finkelstein
Pillsbury, Madison & Sutro
P.O. Box 7880
San Francisco, California 94120

Our No.

Your No.

Date June 29, 1988

We are sending you the items checked below:

- ☐ Copy of covenants, conditions and restrictions ordered by you.
- ☐ Escrow Instructions dated
- ☐ Preliminary Title Report dated as of
- ☐ Plat to be used with the order number shown above.
- ☐ Policy of Title Insurance per your instructions.
- ☒ Copy of Tax Map
- ☐

Ticor Title Insurance Company of California

Barbara Stoltze
Escrow or Title Officer

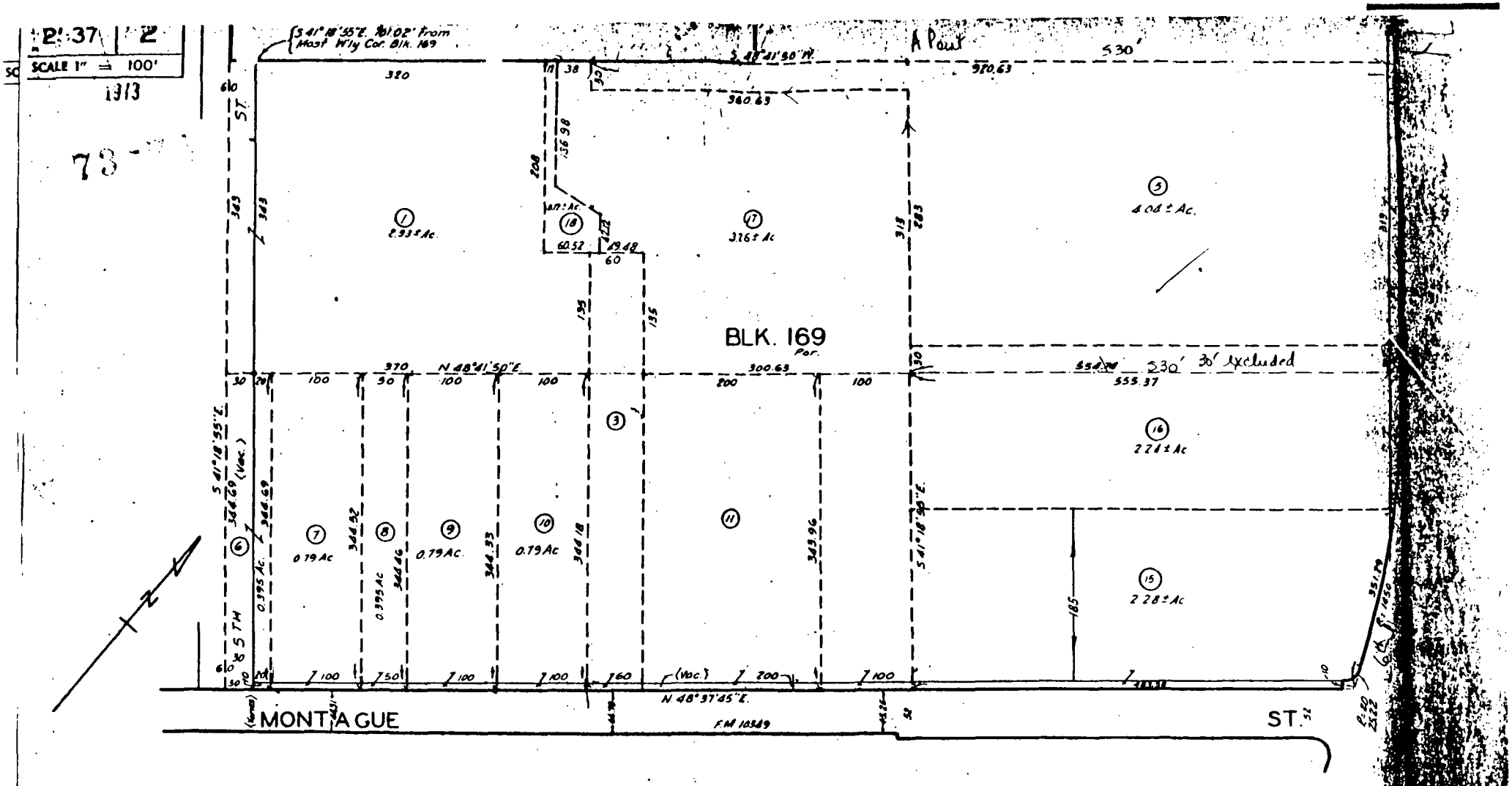
350162

THE MACLAY RANCHO
EX MISSION OF SAN FERNANDO
M. R. 37-5-16

DOC 3479

TICOR TITLE INSURANCE ASSUMES NO LIABILITY AS TO THE VALIDITY, LOCATION OR OWNERSHIP OF EASEMENTS PLOTTED AND SHOWN ON THIS MAP.

This is not a survey of the land, but is compiled for information only, nor is it a part of the report or policy to which it may be attached.



THE MACLAY RANCHO
EX MISSION OF SAN FERNANDO
M, R J 37-5-16

CODE
13

FOR PREV. ASSM'T. SEE: 881 - 307

TITLE INSURANCE AND TRUST

A TICOR COMPANY

Policy of Title Insurance

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE EXCEPTIONS CONTAINED IN SCHEDULE B AND THE PROVISIONS OF THE CONDITIONS AND STIPULATIONS HEREOF, TITLE INSURANCE AND TRUST COMPANY, a California corporation, herein called the Company, insures, as of Date of Policy shown in Schedule A, against loss or damage, not exceeding the amount of insurance stated in Schedule A, and costs, attorneys' fees and expenses which the Company may become obligated to pay hereunder, sustained or incurred by the insured by reason of:

1. Title to the estate or interest described in Schedule A being vested otherwise than as stated therein;
2. Any defect in or lien or encumbrance on such title;
3. Lack of a right of access to and from the land;
4. Unmarketability of such title;
5. The invalidity or unenforceability of the lien of the insured mortgage upon said estate or interest except to the extent that such invalidity or unenforceability, or claim thereof, arises out of the transaction evidenced by the insured mortgage, and is based upon
   a. usury, or
   b. any consumer credit protection or truth in lending law;
6. The priority of any lien or encumbrance over the lien of the insured mortgage;
7. Any statutory lien for labor or material which now has gained or herafter may gain priority over the lien of the insured mortgage, except any such lien arising from an improvement on the land contracted for and commenced subsequent to Date of Policy not financed in whole or in part by proceeds of the indebtedness secured by the insured mortgage which at Date of Policy the insured has advanced or is obligated to advance;
8. Any assessments for street improvements under construction or completed at Date of Policy which now have gained or hereafter may gain priority over the insured mortgage; or
9. The invalidity or unenforceability of any assignment, shown in Schedule A, of the insured mortgage or the failure of said assignment to vest title to the insured mortgage in the named insured assignee free and clear of all liens.

Title Insurance and Trust Company

by John E Flood, Jr.
President

Attest
Secretary

350163

TITLE INSURANCE AND TRUST COMPANY

SCHEDULE A

PREMIUM : $408.50
AMOUNT OF INSURANCE: $94,000.00
DATE OF POLICY : AUGUST 31, 1979 AT 8:00 A.M.
POLICY NO. : 7801499

1. NAME OF INSURED:

SECURITY PACIFIC NATIONAL BANK, A NATIONAL BANKING ASSOCIATION.

2. THE ESTATE OR INTEREST REFERRED TO HEREIN IS AT DATE OF POLICY VESTED IN:

WILLIAM TOLSON AND JEAN TOLSON, AS JOINT TENANTS AS TO AN UNDIVIDED ONE-HALF INTEREST AND GARY O'BRIEN AND JOAN O'BRIEN AS JOINT TENANTS AS TO AN UNDIVIDED ONE-HALF INTEREST.

3. THE ESTATE OR INTEREST IN THE LAND DESCRIBED IN SCHEDULE C AND WHICH IS COVERED BY THIS POLICY IS A FEE.

4. THE MORTGAGE HEREIN REFERRED TO AS THE INSURED MORTGAGE, AND THE ASSIGNMENTS THEREOF, IF ANY, ARE DESCRIBED AS FOLLOWS:

A DEED OF TRUST TO SECURE AN INDEBTEDNESS OF THE AMOUNT STATED HEREIN
DATED : JUNE 29, 1979
AMOUNT : $94,000.00
TRUSTOR : WILLIAM TOLSON AND JEAN TOLSON, HUSBAND AND WIFE AND GARY O'BRIEN AND JOAN O'BRIEN, HUSBAND AND WIFE
TRUSTEE : EQUITABLE DEED COMPANY, A CALIFORNIA CORPORATION
BENEFICIARY : SECURITY PACIFIC NATIONAL BANK, A NATIONAL BANKING ASSOCIATIO
RECORDED : AUGUST 31, 1979
INSTRUMENT NO.: 79-973225

SCHEDULE B

PART I

THIS POLICY DOES NOT INSURE AGAINST LOSS OR DAMAGE BY REASON OF THE FOLLOWING:

TITLE INSURANCE AND TRUST COMPANY

1. GENERAL AND SPECIAL COUNTY AND CITY TAXES FOR THE FISCAL YEAR 1979-1980, A LIEN NOT YET PAYABLE.

ASSESSED TAXES FOR THE FISCAL YEAR 1978-1979 HAVE BEEN PAID IN THE AMOUNT OF: $10,888.27

THE FOREGOING MAY BE CHANGED BY AMOUNTS ASSESSED BY REASON OF:

(A) IMPROVEMENTS ADDED SUBSEQUENT TO MARCH 1, 1975;

(B) CHANGES OF OWNERSHIP OCCURRING SUBSEQUENT TO MARCH 1, 1975;

(C) ANY FINAL JUDGMENT DETERMINING THAT CONSTITUTIONAL ARTICLE XIII A HAS BEEN APPLIED IMPROPERLY;

(D) REAPPRAISAL OF PROPERTY VALUES AS OF MARCH 1, 1975.

2. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES, CONDEMNED BY FINAL DECREE
FOR : STREET
CASE NO. : 440457
RECORDED : IN BOOK 20556 PAGE 93, OFFICIAL RECORDS
AFFECTS : THAT PORTION OF SAID LAND CONDEMNED FOR THE WIDENING OF REMSEN AVENUE

3. THE RIGHT TO CONSTRUCT, MAINTAIN AND MAKE CERTAIN IMPROVEMENTS AND CHANGES IN THE GRADE OF THE PORTION OF REMSEN AVENUE ADJACENT TO SAID LAND, A CONDEMNED BY THE CITY OF LOS ANGELES, BY A FINAL DECREE OF CONDEMNATION ENTERED IN SAID CASE NO. 440457, SUPERIOR COURT, THEREIN DESIGNATED AS PARCEL 138.

4. ANY OF THE SOUTHERN CALIFORNIA EDISON COMPANY, LTD., TO MAINTAIN AND OPERATE ITS ELECTRIC TRANSMISSION LINES OVER SAID LAND, THAT MAY BE DISCLOSED BY THE INTERLOCUTORY DECREE ENTERED IN THE ABOVE MENTIONED CASE NO. 440457, LOS ANGELES COUNTY SUPERIOR COURT.

5. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,
IN FAVOR OF : LEO I. KAPLAN AND WIFE
FOR : ROAD AND PUBLIC UTILITY
RECORDED : IN BOOK 37466 PAGE 33, OFFICIAL RECORDS
AFFECTS : NORTHWESTERLY 30 FEET OF SAID LAND

TITLE INSURANCE AND TRUST COMPANY

6. AN UNRECORDED LEASE, UPON THE TERMS, COVENANTS AND CONDITIONS THEREIN PROVIDED, DISCLOSED BY INSPECTION AND INVESTIGATION.

DATED : JUNE 3, 1976
LESSOR : AETNA LIFE INSURANCE COMPANY, A CONNECTICUT CORPORATION
LESSEE : HYDRAULIC RESEACH DIVISION OF TEXTRON INC., A DELAWARE CORPORATION
TERM : 10 YEARS COMMENCING ON OCTOBER 1, 1976 AND EXPIRING ON SEPTEMBER 30, 1986
PREMISES : SAID LAND

SCHEDULE B

PART II

IN ADDITION TO THE MATTERS SET FORTH IN PART 1 OF THIS SCHEDULE, THE TITLE TO THE ESTATE OR INTEREST IN THE LAND DESCRIBED OR REFERRED TO IN SCHEDULE C IS SUBJECT TO THE FOLLOWING MATTERS, IF ANY BE SHOWN, BUT THE COMPANY INSURES THAT SUCH MATTERS ARE SUBORDINATE TO THE LIEN OR CHARGE OF THE INSURED MORTGAGE UPON SAID ESTATE OR INTEREST: NONE.

SCHEDULE C

THE LAND REFERRED TO IN THIS POLICY IS SITUATED IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THAT PORTION OF BLOCK 169 OF THE MACLAY RANCHO EX-MISSION OF SAN FERNANDO, IN THE CITY OF LOS ANGELES, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 37 PAGE 5 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE SOUTHWESTERLY LINE OF SAID BLOCK DISTANT 701.02 FEET SOUTHEASTERLY FROM THE MOST WESTERLY CORNER OF SAID BLOCK; THENCE NORTHEASTERLY PARALLEL WITH THE NORTHWESTERLY LINE OF SAID BLOCK, A DISTANCE OF 370.00 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING NORTHEASTERLY ALONG SAID PARALLEL LINE 350.63 FEET, MORE OR LESS, TO A POINT DISTANT THEREON SOUTHWESTERLY 530.00 FEET FROM THE NORTHEASTERLY LINE OF SAID BLOCK, SAID POINT BEING HEREINAFTER REFERRED TO AS POINT "A"; THENCE CONTINUING NORTHEASTERLY ALONG SAID PARALLEL LINE 530.00 FEET TO SAID NORTHEASTERLY LINE; THENCE SOUTHEASTERLY ALONG SAID NORTHEASTERLY LINE 343.00 FEET TO THE NORTHWESTERLY LINE OF THE LAND DESCRIBED IN THE DEED TO ROBERT LEDGER AND WIFE, RECORDED IN BOOK 15473 PAGE 182, OFFICIAL RECORDS, IN THE OFFICE OF SAID RECORDER; THENCE SOUTHWESTERLY ALONG THE LAST MENTIONED NORTHWESTERLY LINE 530.00 FEET, MORE OR LESS, TO A LINE PARALLEL WITH THE SOUTHWESTERLY LINE OF SAID BLOCK AND THAT PASSES THROUGH SAID POINT "A"; THENCE NORTHWESTERLY ALONG THE LAST MENTIONED PARALLEL LINE 313.00 FEET, TO THE SOUTHEASTERLY LINE OF THAT CERTAIN STRIP OF LAND, 30 FEET WIDE, DESCRIBED IN PARCEL 2 OF THE DEED TO GEORGE P. CARVER, RECORDED ON JUNE 2, 1955 AS INSTRUMENT NO. 1720 IN BOOK 47950 PAGE 206 OF SAID OFFICIAL RECORDS; THENCE NORTHWESTERLY ALONG THE LAST MENTIONED SOUTHEASTERLY LINE 360.63 FEET, MORE OR LESS, TO A LINE THAT IS PARALLEL WITH THE SOUTHWESTERLY LINE OF SAID BLOCK 169 AND THAT PASSES THROUGH THE TRUE POINT OF BEGINNING; THENCE NORTHWESTERLY ALONG THE LAST MENTIONED

TITLE INSURANCE AND TRUST COMPANY

PARALLEL LINE 30.00 FEET TO THE TRUE POINT OF BEGINNING.

TOGETHER WITH THAT PORTION OF THE SOUTHWESTERLY HALF OF SIXTH STREET ADJOINING THE ABOVE DESCRIBED LAND ON THE NORTHEAST, AS VACATED AND ABANDONED BY A RESOLUTION OF THE BOARD OF SUPERVISORS OF SAID COUNTY PASSED JULY 8, 1909 AND ENTERED IN ROAD BOOK II PAGE 47, IN THE OFFICE OF SAID BOARD OF SUPERVISORS.

EXCEPT THAT PORTION INCLUDED WITHIN THE MOST SOUTHEASTERLY 30 FEET OF THE ABOVE DESCRIBED LAND.

CAT. NO CC00009
CLTA 100 (Revised 1-17-61)
(8-78)
ALTA Restrictions, etc.

INDORSEMENT

ATTACHED TO POLICY NO. 78 01 499

ISSUED BY

Title Insurance and Trust Company

The Company hereby insures against loss which said Insured shall sustain by reason of any of the following matters:

1. Any incorrectness in the assurance which the Company hereby gives:
   (a) That there are no covenants, conditions, or restrictions under which the lien of the mortgage referred to in Schedule A can be cut off, subordinated, or otherwise impaired;
   (b) That there are no present violations on said land of any enforceable covenants, conditions, or restrictions;
   (c) That, except as shown in Schedule B, there are no encroachments of buildings, structures, or improvements located on said land onto adjoining lands, nor any encroachments onto said land of buildings, structures, or improvements located on adjoining lands.
2. (a) Any future violations on said land of any covenants, conditions, or restrictions occurring prior to acquisition of title to said estate or interest by the Insured, provided such violations result in impairment or loss of the lien of the mortgage referred to in Schedule A, or result in impairment or loss of title to said estate or interest if the Insured shall acquire such title in satisfaction of the indebtedness secured by such mortgage;
   (b) Unmarketability of the title to said estate or interest by reason of any violations on said land, occurring prior to acquisition of title to said estate or interest by the Insured, of any covenants, conditions or restrictions.
3. Damage to existing improvements, including lawns, shrubbery or trees
   (a) which are located or encroach upon that portion of the land subject to any easement shown in Schedule B, which damage results from the exercise of the right to use or maintain such easement for the purposes for which the same was granted or reserved;
   (b) resulting from the exercise of any right to use the surface of said land for the extraction or development of the minerals excepted from the description of said land or shown as a reservation in Schedule B.
4. Any final court order or judgment requiring removal from any land adjoining said land of any encroachment shown in Schedule B.

Wherever in this Indorsement any or all the words "covenants, conditions or restrictions" appear, they shall not be deemed to refer to or include the terms covenants and conditions contained in any lease referred to in Schedule A.

The total liability of the Company under said Policy and any indorsements therein shall not exceed, in the aggregate, the face amount of said Policy and costs which the Company is obligated under the conditions and stipulations thereof to pay.

This Indorsement is made a part of said Policy and is subject to the schedules, conditions and stipulations therein, except as modified by the provisions hereof.

Title Insurance and Trust Company

By

CAT. NO. CC00127
CLTA 116 (Revised 2-20-61)
(7-78)
ALTA – LENDER
Designation of Improvements:
land location

INDORSEMENT

ATTACHED TO POLICY NO. 78 01 499

ISSUED BY

Title Insurance and Trust Company

The Company assures the Insured that at the date of this policy there is located on said land COMMERCIAL

known as 10445 GLENOAKS BOULEVARD, LOS ANGELES, CALIFORNIA

and that the map attached to this policy shows the correct location and dimensions of said land according to those records which under the recording laws impart constructive notice as to said land.

The Company hereby insures the Insured against loss which said Insured shall sustain in the event that the assurance herein shall prove to be incorrect.

The total liability of the Company under said policy and any indorsements therein shall not exceed, in the aggregate, the face amount of said policy and costs which the Company is obligated under the conditions and stipulations thereof to pay.

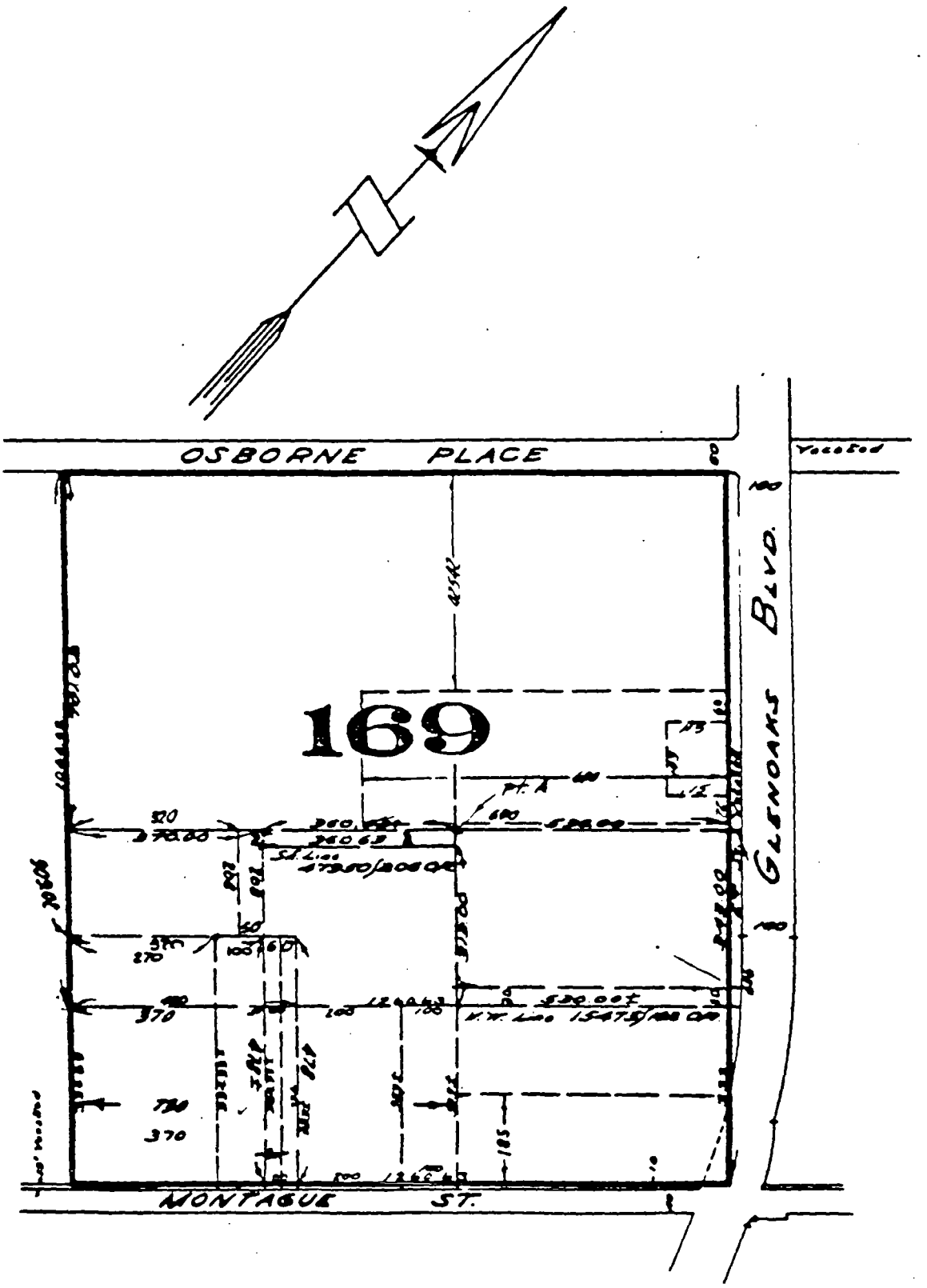
This indorsement is made a part of said policy and is subject to the schedules, conditions and stipulations therein, except as modified by the provisions hereof.

Title Insurance and Trust Company

By

SECRETARY

Portion of Block 169 of the Meeley Rancho Ex-Mission of San Fernando



Conditions and Stipulations (Continued and Concluded From Reverse Side of Policy Face)

(c) The Company shall have the right at its own cost to institute and without undue delay prosecute any action or proceeding or to do any other act which in its opinion may be necessary or desirable to establish the title to the estate or interest or the lien of the insured mortgage, as insured, and the Company may take any appropriate action under the terms of this policy, whether or not it shall be liable thereunder, and shall not thereby concede liability or waive any provision of this policy.
(d) Whenever the Company shall have brought any action or interposed a defense as required or permitted by the provisions of this policy, the Company may pursue any such litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from any adverse judgment or order.
(e) In all cases where this policy permits or requires the Company to prosecute or provide for the defense of any action or proceeding, the insured hereunder shall secure to the Company the right to so prosecute or provide defense in such action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of such insured for such purpose. Whenever requested by the Company, such insured shall give the Company all reasonable aid in any such action or proceeding, in effecting settlement, securing evidence, obtaining witnesses, or prosecuting or defending such action or proceeding, and the Company shall reimburse such insured for any expense so incurred.

4. Notice of Loss – Limitation of Action
In addition to the notices required under paragraph 3(b) of these Conditions and Stipulations, a statement in writing of any loss or damage for which it is claimed the Company is liable under this policy shall be furnished to the Company within 90 days after such loss or damage shall have been determined and no right of action shall accrue to an insured claimant until 30 days after such statement shall have been furnished. Failure to furnish such statement of loss or damage shall terminate any liability of the Company under this policy as to such loss or damage.

5. Options to Pay or Otherwise Settle Claims
The Company shall have the option to pay or otherwise settle for or in the name of an insured claimant any claim insured against or to terminate all liability and obligations of the Company hereunder by paying or tendering payment of the amount of insurance under this policy together with any costs, attorneys' fees and expenses incurred up to the time of such payment or tender of payment by the insured claimant and authorized by the Company. In case loss or damage is claimed under this policy by an insured, the Company shall have the further option to purchase such indebtedness for the amount owing thereon together with all costs, attorneys' fees and expenses which the Company is obligated hereunder to pay. If the Company offers to purchase said indebtedness as herein provided, the owner of such indebtedness shall transfer and assign said indebtedness and the mortgage and any collateral securing the same to the Company upon payment therefor as herein provided.

6. Determination and Payment of Loss
(a) The liability of the Company under this policy shall in no case exceed the least of:
(i) the actual loss of the insured claimant; or
(ii) the amount of insurance stated in Schedule A, or, if applicable, the amount of insurance as defined in paragraph 2(a) hereof; or
(iii) the amount of the indebtedness secured by the insured mortgage as determined under paragraph 8 hereof, at the time the loss or damage insured against hereunder occurs, together with interest thereon.
(b) The Company will pay, in addition to any loss insured against by this policy, all costs imposed upon an insured in litigation carried on by the Company for such insured, and all costs, attorneys' fees and expenses in litigation carried on by such insured with the written authorization of the Company.
(c) When liability has been definitely fixed in accordance with the conditions of this policy, the loss or damage shall be payable within 30 days thereafter.

7. Limitation of Liability
No claim shall arise or be maintainable under this policy (a) if the Company, after having received notice of an alleged defect, lien or encumbrance insured against hereunder, by litigation or otherwise, removes such defect, lien or encumbrance or establishes the title, or the lien of the insured mortgage, as insured, within a reasonable time after receipt of such notice; (b) in the event of litigation until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title or to the lien of the insured mortgage, as insured, as provided in paragraph 3 hereof, or (c) for liability voluntarily assumed by an insured in settling any claim or suit without prior written consent of the Company.

8. Reduction of Liability
(a) All payments under this policy, except payments made for costs, attorneys' fees and expenses, shall reduce the amount of the insurance pro tanto, provided, however, such payments, prior to the acquisition of title to said estate or interest as provided in paragraph 2(a) of these Conditions and Stipulations, shall not reduce pro tanto the amount of the insurance afforded hereunder except to the extent that such payments reduce the amount of the indebtedness secured by the insured mortgage.
Payment in full by any person or voluntary satisfaction or release of the insured mortgage shall terminate all liability of the Company except as provided in paragraph 2(a) hereof.
(b) The liability of the Company shall not be increased by additional principal indebtedness created subsequent to Date of Policy, except as to amounts advanced to protect the lien of the insured mortgage and secured thereby.
No payment shall be made without producing this policy for endorsement of such payment unless the policy be lost or destroyed, in which case proof of loss or destruction shall be furnished to the satisfaction of the Company.

9. Liability Noncumulative
If the insured acquires title to the estate or interest in satisfaction of the indebtedness secured by the insured mortgage, or any part thereof, it is expressly understood that the amount of insurance under this policy shall be reduced by any amount the Company may pay under any policy insuring a mortgage hereafter executed by an insured which is a charge or lien on the estate or interest described or referred to in Schedule A, and the amount so paid shall be deemed a payment under this policy.

10. Subrogation upon Payment or Settlement
Whenever the Company shall have settled a claim under this policy, all right of subrogation shall vest in the Company unaffected by any act of the insured claimant, except that the owner of the indebtedness secured by the insured mortgage may release or substitute the personal liability of any debtor or guarantor, or extend or otherwise modify the terms of payment, or release a portion of the estate or interest from the lien of the insured mortgage, or release any collateral security for the indebtedness, provided such act occurs prior to receipt by the insured of notice of any claim of title or interest adverse to the title to the estate or interest or the priority of the lien of the insured mortgage and does not result in any loss of priority of the lien of the insured mortgage. The Company shall be subrogated to and be entitled to all rights and remedies which such insured claimant would have had against any person or property in respect to such claim had this policy not been issued, and if requested by the Company, such insured claimant shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect such right of subrogation and shall permit the Company to use the name of such insured Claimant in any transaction or litigation involving such rights or remedies. If the payment does not cover the loss of such insured claimant the Company shall be subrogated to such rights and remedies in the proportion which said payment bears to the amount of said loss, but such subrogation shall be in subordination to the insured mortgage. If loss of priority should result from any act of such insured claimant, such act shall not void this policy, but the Company, in that event, shall be required to pay only that part of any losses insured against hereunder which shall exceed the amount, if any, lost to the Company by reason of the impairment of the right of subrogation.

11. Liability Limited to This Policy
This instrument together with all endorsements and other instruments, if any, attached hereto by the Company is the entire policy and contract between the insured and the Company. Any claim of loss or damage, whether or not based on negligence, and which arises out of the status of the lien of the insured mortgage or of the title to the estate or interest covered hereby or any action asserting such claim, shall be restricted to the provisions and conditions and stipulations of this policy. No amendment of or endorsement to this policy can be made except by writing endorsed hereon or attached hereto signed by either the President, a Vice President, the Secretary, an Assistant Secretary, or validating officer or authorized signatory of the Company.

12. Notices, Where Sent
All notices required to be given the Company and any statement in writing required to be furnished the Company shall be addressed to it at the office which issued this policy or to its Home Office, 6300 Wilshire Boulevard, P.O. Box 92792, Los Angeles, California 90009.

13. THE PREMIUM SPECIFIED IN SCHEDULE A IS THE ENTIRE CHARGE FOR TITLE SEARCH, TITLE EXAMINATION AND TITLE INSURANCE.

RECEIVED
JUL 27 1953
By STREET USE INSPECTION DIVISION

Mr. L. MILLER, Dept. of Public Works

Mr. W. M. Tibbett, Director, Sanitary Engineering Division July 13, 1953

General Dump, Located at Montague and Glen Oaks, Owned by Mr. R. Ledger

An inspection of the above dump on July 9, 1953, revealed the following conditions:

1. Dump unattended, 8 small boys playing on tractor. Scattered trash and broken glass around area.
2. Entire dump area littered with papers and other trash.
3. Drainage channel blocked by materials from dump, tires, tree trunk, cans, etc.
4. Stagnant water heavily infested with mosquito larvae standing in channel.
5. Fence in poor repair, many boards broken. Two sides of property unfenced.
6. Heavy infestation of rodents in bank near drainage channel. (Ground squirrels.) However, conditions prevail which would be conducive to rats.

Recommendations:

1. Some person should be in attendance to exclude children from playing in dump area.
2. The drainage channel should be cleaned of all debris and maintained in a clean condition. If it is impossible to eliminate standing water, provision should be made to treat the water to eliminate mosquito breeding.
3. The dump area should be cleaned of all loose papers and debris and maintained in this condition at all times. A six-inch dirt cover should be put on the dumping face after each day's operations.
4. The entire dump property should be fenced so as to prevent dumped material from blowing into street and surrounding properties. It would also aid in excluding children and preventing promiscuous dumping.

EJ/amg

350164

FILE COPY

February 20, 1950

Mr. Ember E. Emmts
Zoning Administrator
Room 361, City Hall
Los Angeles 12, California

Dear Sir:

Re: Z. A. Case No. 8952

On February 20, 1946, a variance was granted by your office to Mr. Robert Ledger, 11141 Kittridge St., North Hollywood, to operate a dump in an old gravel pit located on the northwest corner of Glenoaks and Montague Streets in Pacoima. (See Z. A. Case No. 8952)

During a recent inspection of the Ledger Dump it was observed that manure was among the wastes deposited, that waste water from an industrial plant was being discharged into the pit, and that surface storm water was not adequately diverted and could enter the pit. In reviewing the conditions imposed on the operator in the reference zone variance, it was noted that the provisions therein did not prohibit such acts and that the conditions imposed were not adequate to protect the underground water supply from pollution. It was also noted that the operator had ignored your supplemental order of March 15, 1946, requiring fencing of the property.

It is therefore recommended that the variance be amended or modified by adding the following conditions:

1. That in no event shall there be any dumping, burying, disposal, or acceptance for disposal of any dead animals or fowls, garbage, manure, waste from privies or chemical toilets, or other liquids, solids, substances, or other materials which may be deleterious to a water supply.

2. In view of the detrimental effect that uncontrolled or improper dumping operations might have upon public health, safety, and general welfare, through pollution of a water supply, the breeding of rodents and mosquitoes, and encroachment into indicated channels, the Departments of Water and Power, Health, and Board of Public Works of the City of Los Angeles may make inspections of the premises

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involved, the materials accepted for dumping on the said premises and the methods employed in cutting, dumping, and filling operations, and said Departments and Board may issue orders or restrictions to the operators of the use in question prohibiting or regulating the types of material accepted for dumping, the location of dumping, and any method employed in connection with cutting, dumping, and filling operations or any activities incidental thereto which do or may affect public health, safety or general welfare. Any violation of the orders or restrictions of the above designated public agencies shall constitute a violation of this variance and the zoning regulations and be subject to the same prosecution or rescission of the variance as a violation of any of the other conditions thereof.

3. That in no event shall there be any cutting below the bottom of the present excavation.

4. That in no event shall there be any incineration of rubbish or other materials on the premises, and that adequate fire prevention and quenching equipment be installed and maintained on the property for the quenching of such fires as may inadvertently occur. Further, that proper dust laying procedures be employed to prevent creating a dust nuisance, and that adequate and properly protected toilet facilities shall be made available on the premises.

5. That in no event shall articles or materials of any type be brought to the premises strictly for the purpose of segregation or salvaging thereof, and that any activities on the said premises involving the segregation or salvage of articles or materials of any type be limited to operations which are strictly incidental to the principal use of the said premises for dumping purposes, and to articles or materials which are included within debris or rubbish which is brought to the said premises for dumping. Further, that all articles or materials segregated or salvaged on the premises shall be entirely removed from said premises at least once each week or at more frequent intervals, if such more frequent removal is necessary to prevent the breeding and harboring of rodents, mosquitoes, pollution of the water supply, or other hazards to public health or welfare in the opinion of any of the Departments or Board designated in Condition No. 2 above.

6. That all surface water shall be diverted in such a manner as to prevent penetration into cut sections of the dump.

7. That the entire area used for dumping purposes be adequately fenced in such a manner as to prevent unregulated or unauthorized dumping, and that a competent operator or attendant be provided at all times when materials are accepted for dumping, and that there shall be no unlocked or unguarded gates giving access to the dump areas.

8. That in no event shall the dump hereby authorized be operated as the customary open type of refuse dump where articles or materials are dumped without being regularly covered with a sufficient earth cover to form a satisfactory seal. Further, that any materials dumped on the premises be satisfactorily and regularly compacted and covered with an earth seal in compliance with all requirements of the Board of Public Works and the Health Department of the City of Los Angeles, when the depth of such compacted material reaches the maximum depth permitted by said Board or Department, and also at the end of each day's operation.

9. That any abandoned wells within the disposal areas be properly plugged and that perforations above impervious strata in existing gravel packed wells and in newly drilled wells in this area be cemented off in a manner to comply with all requirements of the Department of Water and Power of the City of Los Angeles and the Los Angeles City Health Department.

10. That a bond in the principal sum of Ten Thousand Dollars ($10,000) approved as to form by the City Attorney, and payable jointly and severally to the City of Los Angeles and the Department of Water and Power of the City of Los Angeles, shall be filed with the City of Los Angeles, said bond to assure compliance with the herein required conditions and methods of operation and indemnifying the said City, and said Department, against any liability for damages or expense in the event of damage to public facilities or rights by any operation conducted pursuant to this variance, or to defray expenses or damages in the event that said public agencies find it necessary to undertake corrective measures as a result of dumping operations to protect public health, safety, or general welfare. Further, that such bond shall be continued in full force and effect for a period extending from the effective date of this variance to a date twelve months subsequent to the expiration of the authority granted

herein, or for a period of twelve months subsequent to the date that said operations are wholly and completely abated.

11. That the Zoning Administrator reserves the right to impose additional conditions or require corrective measures to be taken, if, in his opinion, or in the opinion of the public agencies designated in Condition No. 2 above, the activities conducted on the property prove to be materially detrimental to the occupants of surrounding property or if such measures or conditions are necessary to protect public health, safety, and general welfare.

12. That at the expiration of this grant, the premises shall be left in a neat and orderly condition with no rubbish or waste products above the ground, and that any partially filled or open cuts shall be properly covered, filled, and compacted with earth from the property to the height of the adjacent ground level.

Other dumps are now in the process of being investigated to determine compliance with the conditions imposed by your order, or to determine the adequacy of the conditions imposed. We will keep you informed as to our findings as the survey progresses.

Any conditions heretofore imposed in this particular case that are in conflict with those recited above should be rescinded. Your attention is also called to the fact that the Departments of Health and Public Works are interested in the operation of this dump; therefore it is suggested that they also be contacted for recommendations.

We wish to thank you for your cooperation in this very important matter.

Sincerely,

SAMUEL B. MORRIS
General Manager and Chief Engineer

LOV
M C

cc - Mr. Lloyd Aldrich
Dr. George M. Uhl

10445 Glenoaks

LEASE

This Lease made the 3rd day of June, 1976, by and between ÆTNA LIFE INSURANCE COMPANY, a corporation organized and existing under and by virtue of the laws of the State of Connecticut, having its principal place of business in the City of Hartford, State of Connecticut (hereinafter referred to as the "Lessor"), and HYDRAULIC RESEARCH DIVISION OF TEXTRON INC., a corporation organized and existing under and by virtue of the laws of the State of Delaware having its principal place of business in the City of Valencia, State of California (hereinafter referred to as "Lessee");

W I T N E S E T H :

That LESSOR for and in consideration of the rents, covenants and agreements hereinafter reserved, mentioned and contained on the part of LESSEE, its successors and assigns, to be paid, kept and performed, has demised and leased, and by these presents does demise and lease, unto the LESSEE, and the LESSEE does hereby take and hire, upon and subject to the conditions hereinafter expressed, the said certain real property in the County of Los Angeles, together with the buildings and improvements thereon erected, bounded and described as follows:

DESCRIPTION

That portion of Block 169, of the Maclay Rancho Ex-Mission of San Fernando, in the City of Los Angeles, County of Los Angeles, State of California, as per map recorded in Book 37, Page 5 of the Miscellaneous Records, in the office of the county recorder of said county, described as follows:

Beginning at a point in the southwesterly line of said block distant 701.02 feet southeasterly from the most westerly corner of said block; thence northeasterly parallel with the northwesterly line of said block, a distance of 370.00 feet to the true point of beginning; thence continuing northeasterly along said parallel line 360.63 feet, more or less, to a point distant thereon southwesterly 530.00 feet from the northeasterly line of said block, said point being hereinafter referred to as point "A"', thence continuing northeasterly along said parallel line 530.00 feet to said northeasterly line; thence southeasterly along said northeasterly line 343.00 feet to the northwesterly line of the land described in the deed to Robert Ledger and wife, recorded in Book 15473, Page 182, of Official Records, in the office of said recorder; thence southwesterly along the last mentioned northwesterly line 530.00 feet, more or less, to a line that is parallel with the southwesterly line of said block and that passes through said point "A"' thence northwesterly along the last mentioned parallel line 313.00 feet, to the southeasterly line of that certain strip of land, 30 feet wide,

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described in Parcel 2 of the deed to George P. Carver, recorded on June 2, 1955, as Instrument No. 1720, in Book 47950, Page 206, of said Official Records; thence southwesterly along the last mentioned southeasterly line 360.63 feet, more or less, to a line that is parallel with the southwesterly line of said Block 169 and that passes through the true point of beginning; thence northwesterly along the last mentioned parallel line 30.00 feet to the true point of beginning.

Together with that portion of the southwesterly half of Sixth Street adjoining the above described land on the northeast as vacated and abandoned by a resolution of the Board of Supervisors of said county passed July 8, 1909, and entered in Road Book 11, Page 47, in the office of said Board of Supervisors.

EXCEPT that portion included within the most southeasterly 30 feet of the above described land.

Subject to covenants, conditions, restrictions, rights, rights-of-way and easements of record.

The above described premises are hereinafter referred to as the "demised premises."

TERM

TO HAVE AND TO HOLD the demised premises unto the LESSEE, its successors and assigns, for a term of ten (10) years commencing on the 1st day of October, 1976, and expiring on the 30th day of September, 1986, (unless this Lease shall sooner terminate as hereinafter provided), yielding and paying therefore during such initial term, over and above the other and additional payments to be made by the LESSEES as hereinafter provided, as follows:

RENT

TWELVE THOUSAND FIVE HUNDRED DOLLARS ($12,500) per year for the term beginning on the 1st day of October, 1976, and ending on the 30th day of September, 1986 CKB

Said net annual basic rental shall be paid in equal monthly installments of ONE THOUSAND FORTY-ONE DOLLARS AND SIXTY-SEVEN CENTS ($1,041.67) in advance on the first day of each and every calendar month hereafter in lawful money of the United States of America at the office of the LESSOR, Hartford, Connecticut, or at such other place as may hereafter be designated by the LESSOR. Rental for a period of less than one

month shall be adjusted pro rata. Said net annual basic rental is hereinafter sometimes referred to as the "basic rent" or the "basic rent expressly reserved hereunder."

RENT AGREEMENT

ARTICLE I

The LESSEE covenants to pay the basic rent herein reserved and all other sums which may become due hereunder, or be payable by the LESSEE hereunder at the time and in the manner in this Lease provided.

USE

ARTICLE II

The LESSEE covenants that it shall not use or occupy the demised premises or permit the same to be used or occupied for any dangerous, noxious, offensive or unlawful purpose nor for any purpose constituting a nuisance or prohibited by any prior agreement, covenant or other encumbrance affecting said premises.

TAXES

ARTICLE III

Section 1. The LESSEE covenants and agrees to pay, as additional rent, before any fine, penalty, interest or cost may be added thereto for the nonpayment thereof, all real estate taxes, assessments, sewer taxes and charges, and other governmental charges, general and special, ordinary and extraordinary, unforeseen as well as foreseen, of any kind and nature whatsoever to the extent to which allocable to the term of the Lease, including but not limited to assessments for public improvements or benefits which shall during the term hereby demised be laid, assessed, levied, or imposed upon or become due and payable or become a lien upon the demised premises or any part thereof (all of which taxes, assessments, sewer taxes or charges, levies and other governmental charges are hereinafter referred to as "imposition"); provided, however, that if, by law, any such imposition is payable, or may at the option of the taxpayer be paid, in installments (whether or not interest shall accrue on the unpaid balance of such imposition),

the LESSEE may pay the same together with any accrued interest on the unpaid balance of such imposition in installments as the same respectively become due and before any fine, penalty, interest or cost may be added thereto for the non-payment of any such installment and interest. With respect to any imposition for public improvements or benefits which by law is payable, or at the option of the taxpayer may be paid, in installments, the LESSOR shall pay the installments thereof which become due and payable subsequent to the termination of the term of this Lease, and the LESSEE shall pay those installments which become due and payable during the term of this Lease. If an allocation of any imposition shall be made as aforesaid upon the basis of a particular duration of this Lease and LESSEE shall exercise any right or option granted by this Lease to extend the term hereof or to extend its right of occupancy of the demised premises, such allocation shall be revised at the time of the exercise of such right or option so that the allocation is made upon the basis of the duration of this Lease or LESSEE's right of occupancy of the demised premises after giving effect to such exercise of such right or option. In the event the parties are unable to agree upon any allocation of an imposition provided for in this Article III, such allocation shall be made by such other party or parties as LESSOR and LESSEE shall designate, and any allocation so made by such other party or parties shall be binding and conclusive.

Section 2. If at any time during the term of this Lease, under the laws of the State or any political subdivision thereof in which the demised premises are situated, a tax or excise on rents or other tax, however described, is levied or assessed by said State or political subdivision against the LESSOR or the basic rent expressly reserved hereunder as a substitute in whole or in part for taxes assessed or imposed by said State or political subdivision on land and buildings or on land or buildings, the LESSEE covenants to pay and discharge such tax or excise on rents or other tax but only to the extent of the amount thereof which is lawfully assessed or imposed upon the LESSOR and which was so assessed or imposed as a direct result of the ownership or tenancy by the LESSOR of the demised

premises, or of the Lease or the rentals accruing under this Lease, it being the intention of the parties hereto that the basic rent to be paid hereunder shall be paid to the LESSOR absolutely not without deduction of any nature whatsoever except as in this Lease otherwise expressly provided. The payment to be made by the LESSEE pursuant to this section shall be made before any fine, penalty, interest or cost may be added thereto for the non-payment thereof, and the LESSEE covenants to furnish the LESSOR, within twenty-five (25) days after the date when the same is payable as in this section provided, with evidence satisfactory to the LESSOR that such tax or excise on rents or other tax has, to the extent aforesaid, been paid.

Section 3. Nothing in this Lease contained shall require the LESSEE to pay any franchise, estate, inheritance, succession, capital levy or transfer tax of the LESSOR, or any income, excess profits or revenue tax or any other tax, assessment, charge or levy upon the rent payable by the LESSEE under this Lease except to the extent hereinabove provided.

Section 4. LESSOR agrees to give LESSEE notice of any imposition promptly after LESSOR shall have been advised of such imposition. The LESSEE shall have the right to contest the amount or validity of any such imposition by appropriate legal proceedings but this shall not be deemed or construed in any way as relieving, modifying or extending the LESSEE's covenant to pay any such imposition at the time and in the manner in this Article provided, unless the legal proceedings shall operate to prevent the sale of the demised premises or any part thereof or the placing of any lien thereon to satisfy such imposition prior to the final determination of such proceedings, and the LESSEE shall have deposited with the LESSOR or such person or corporation as the LESSOR may in writing direct, as security for the payment of such imposition, money in amount sufficient to pay said imposition, together with all interest and penalties in connection therewith, and all charges that may or might be assessed against or become a charge on the demised premises, or any part thereof, in said legal proceedings. Upon the termination of such legal proceedings, the said moneys so deposited

shall be applied to the payment, removal and discharge of said imposition, if any, then payable and the interest and penalties in connection therewith, and the charges accruing in such legal proceedings, and the balance, if any, shall be paid to the LESSEE, provided the LESSEE is not in default under this Lease. In the event that such moneys shall be insufficient for this purpose, the LESSEE shall forthwith pay over to the LESSOR an amount of money sufficient, together with the moneys so deposited pursuant to this Article, to pay the same. In the event of any default by the LESSEE under this Lease, the LESSOR is authorized to use any money deposited under this Article to apply on account of such default or to pay the said imposition. The LESSEE shall not be entitled to interest on the moneys deposited pursuant to this Section.

Section 5. The LESSOR shall not be required to join in any such proceeding unless it shall be necessary for it to do so in order to properly prosecute such proceedings and the LESSOR shall have been fully indemnified to its satisfaction against all costs and expenses in connection therewith which are related to and apportioned over the term of this Lease, nor shall the LESSOR be subjected to any liability for the payment of any costs or expenses in connection with any proceedings brought by the LESSEE, and the LESSEE covenants to indemnify and save harmless the LESSOR from any such costs or expenses.

INSURANCE

ARTICLE IV

Section 1. The LESSEE, shall, at the LESSEE's sole cost and expense keep all buildings erected upon the demised premises and the fixtures, therein, insured for the benefit of the LESSOR and the LESSEE in an amount which shall be sufficient to prevent the LESSOR and the LESSEE from becoming a co-insurer of any loss (but in no event in an amount less than eighty per cent (80%) of the full insurable value thereof excluding foundation and excavation costs), (a) against loss or damage by fire and (b) against such other risks, of a similar or dissimilar nature, as are

or shall be customarily covered with respect to buildings similar in construction, general location, use and occupancy to the building then on the demised premises, including, but without limiting the generality of the foregoing, windstorm, hail, explosion, riot and civil commotion, damage from aircraft and vehicles and smoke damage, as and when insurance against such other risks is obtainable.

Section 2. The LESSEE shall also, at the LESSEE's sole cost and expense, but for the mutual benefit of the LESSOR, and the LESSEE, maintain (a) general public liability insurance against claims for personal injury, death or property damage occurring upon, in or about the demised premises or any elevators or escalators therein and on, in or about the adjoining streets and passageways, such insurance to afford protection to the limit of not less than $250,000 in respect to injury or death to a single person, and to the limit of not less than $1,000,000 in respect to any one accident, and to the limit of not less than $25,000 in respect to property damage; (b) steam boiler insurance on all steam boilers, pressure boilers or other such apparatus as the LESSOR may deem necessary to be covered by such insurance and in such amount or amounts as the LESSOR may from time to time reasonably require; and (c) war damage insurance (whenever such insurance shall be written and a state of war or public emergency exists) upon all buildings and fixtures to the full insurable value thereof.

Section 3. All policies of insurance shall be written in companies satisfactory to the LESSOR and shall contain such usual provisions and be written in such form and shall be distributed in such companies as shall be acceptable to the LESSOR. Such policies shall be delivered to the LESSOR endorsed "Premium Paid" by the company or agency issuing the same or accompanied by other evidence satisfactory to the LESSOR that the premiums thereon have been paid.

Section 4. Subject to the rights of any mortgagee, the loss, if any, under any such policies shall be adjusted with the insurance company

or companies by the LESSOR and the LESSEE. The loss so adjusted shall be paid to the LESSEE or the LESSOR, as their interests may appear. All such policies shall provide that the loss, if any, thereunder shall be adjusted and paid as hereinabove provided, subject, however, to the rights of any mortgagee whose interest may be covered by any such policy or policies.

Section 5. The premiums on all insurance policies in force at the termination of this Lease, shall be apportioned as between the LESSOR and LESSEE in such manner that the LESSOR shall reimburse the LESSEE for that portion of the aggregate premiums unearned on all such policies in force at the expiration of the term of this Lease or the LESSOR, in its sole discretion, may instead surrender such policies to the LESSEE for cancellation at such expiration.

ARTICLE V

The LESSEE covenants and agrees that if it shall at any time fail to pay any imposition pursuant to the provisions of Article III hereof, or to take out, pay for, maintain or deliver any of the insurance policies provided for in Article IV hereof, or shall fail to make any other payment or perform any other act on its part to be made or performed as in this Lease provided, then the LESSOR may, but shall not be obligated so to do, and without notice to or demand upon the LESSEE and without waiving, or releasing the LESSEE from, any obligations of the LESSEE in this Lease contained, pay any such imposition, effect any such insurance coverage and pay premiums therefore, and may make any other payment or perform any other act on the part of the LESSEE to be made and performed as in this Lease provided, in such manner and to such extent as the LESSOR may deem desirable, and in exercising any such rights to pay necessary and incidental costs and expenses, employ counsel and incur and pay reasonable attorneys' fees. All sums so paid by the LESSOR and all necessary and incidental costs and expenses in connection with the performance of any such act by the LESSOR, together with interest thereon at the rate of six per cent (6%)

per annum from the date of the making of such expenditure by the LESSOR, shall be deemed additional rent hereunder and, except as otherwise in this Lease expressly provided, shall be payable to the LESSOR on demand or at the option of the LESSOR may be added to any basic rent then due or thereafter becoming due under this Lease, and the LESSEE covenants to pay any such sum or sums with interest as aforesaid and the LESSOR shall have (in addition to any other right or remedy of the LESSOR) the same rights and remedies in the event of the non-payment thereof by the LESSEE as in the case of default by the LESSEE in the payment of the basic rent.

CBE

ARTICLE VI

The LESSEE covenants throughout the term of this Lease and any renewal term, at the LESSEE's sole cost and expense, to take good care of the demised premises, including the buildings and improvements now or at any time erected thereon, the equipment, fixtures, motors and machinery thereof, sidewalks, curbs, roadways, parking areas and fences, if any, and to keep the same in good order and condition, and shall promptly at the LESSEE's own cost and expense make all necessary repairs, interior and exterior, structural and non-structural, ordinary as well as extraordinary, foreseen as well as unforeseen. When used in this Article, the term "repairs" shall include replacements or renewals when necessary, and all such repairs made by the LESSEE shall be equal in quality and class to the original work. The LESSEE shall keep and maintain all portions of the demised premises, and the sidewalks adjoining same in a clean and orderly condition, free of accumulation of dirt, rubbish, snow and ice.

COMPLY WITH ALL LAWS, ETC

ARTICLE VII

Section 1. The LESSEE covenants throughout the term of this Lease, at the LESSEE's sole cost and expense (subject to reimbursement from the LESSOR for those costs not allocable to the term of this Lease) promptly to comply with all laws and ordinances and the orders, rules, regulations and

requirements of all federal, state and municipal governments and appropriate departments, commissions, boards and officers thereof, and the orders, rules and regulations of the Board of Fire Underwriters where the demised premises are situated, or any other body hereafter constituted exercising similar functions, foreseen or unforeseen, ordinary as well as extraordinary, which may be applicable to the demised premises, the fixtures thereof and the sidewalks and curbs, if any, adjoining the demised premises or the use or manner of use of the demised premises. The LESSEE will likewise observe and comply with the requirements of all policies of public liability, fire and all other policies of insurance at any time in force with respect to the building and improvements on the demised premises and the equipment thereof.

Section 2. The LESSEE shall have the right to contest by appropriate legal proceedings, without cost or expense to the LESSOR, the validity of any law, ordinance, order, rule, regulation or requirement, of the nature herein referred to, and if by the terms of any such law, ordinance, order, rule, regulation or requirement, compliance therewith may legally be held in abeyance without subjecting the LESSEE or the LESSOR to any liability of whatsoever nature for failure so to comply therewith, the LESSEE may postpone compliance therewith until the final determination of any such proceedings, provided that all such proceedings shall be prosecuted with all due diligence and dispatch.

IMPROVEMENTS

ARTICLE VIII

The LESSEE shall have the right at any time and from time to time during the initial term of this Lease or any renewal term to make such changes and alterations, structural or otherwise, to the building, improvements and fixtures now or hereafter on the demised premises as the LESSEE shall deem necessary or desirable in connection with the requirements of its business, which such changes and alterations (other than changes or alterations of the LESSEE's trade fixtures and equipment) shall be made in

all cases subject to the following conditions which the LESSEE covenants to observe and perform:

(a) No change or alteration shall be undertaken until the LESSEE shall have procured and paid for, so far as the same may be required from time to time, all municipal permits and authorizations of the various municipal departments having jurisdiction, and the LESSOR agrees to join in the application for such permits or authorizations whenever such action is necessary.

(b) No changes or alterations involving an estimated cost of more than $50,000 shall be undertaken until the LESSOR shall have approved detailed plans and specifications, which approval shall not unreasonably be withheld, and shall have been furnished by the LESSEE, at the LESSEE's expense with a bond on which the LESSEE shall be principal, and a surety company authorized to do business in the state in which the demised premises are situated and satisfactory to the LESSOR shall be surety, containing usual provisions which shall be satisfactory to the LESSOR, conditioned upon the completion of and payment in full for such changes or alterations within a reasonable time, subject, however, to delays occasioned by strikes, lockouts, acts of God, inability to obtain labor or materials, governmental restrictions, or similar causes beyond the control of the LESSEE, or the LESSEE shall have deposited with the LESSOR a sum sufficient to pay the entire cost of any such change or alteration as estimated by the architect or engineer under whose supervision the work is to be conducted, under an agreement whereby the LESSOR shall

from time to time pay out said sums upon the written request of the LESSEE, which shall be accompanied by a certificate of the architect or engineer in charge of the work, stating (1) that the sum requested is justly due to the contractors, sub-contractors, material men, laborers, engineers, architects or other persons, firms or corporation rendering services or materials for such changes or alterations or is justly required to reimburse the LESSEE for expenditures made by the LESSEE in connection with such changes or alterations, and when added to all sums previously paid out by the LESSOR does not exceed the value of the work done to the date of such certificate; and (2) that the remaining funds so deposited by the LESSEE with the LESSOR will be sufficient upon the completion of such work to pay for the same in full; and, upon submission of proof satisfactory to the LESSOR that the work has been paid for in full, turn over to the LESSEE the balance of the funds so deposited by the LESSEE with the LESSOR. The LESSEE shall also furnish the LESSOR at the time of any such payment with an official search, or other evidence satisfactory to the LESSOR, that there had not been filed with respect to the demised premises any mechanic's or any other lien which has not been discharged of record, in respect of any work, labor, services, or materials performed, furnished or supplied, or claimed to have been performed, furnished or supplied, in connection with any such work. The LESSOR shall not be required to pay out any such sum when the demised premises shall be encumbered with any such lien.

(c) All work done in connection with any change or alteration shall be done promptly and in good and workmanlike manner

and in compliance with the building and zoning laws of the place in which the demised premises are located and with all laws, ordinances, orders, rules, regulations and requirements of all federal, state and municipal governments and the appropriate departments, commissions, boards and officers thereof, and in accordance with the orders, rules and regulations of the Board of Fire Underwriters where the demised premises are situated or any other body exercising similar functions; the cost of any such change or alterations shall be paid in cash so that the demised premises shall at all times be free of liens for labor and materials supplied or claimed to have been supplied to the demised premises; the work of any change of alteration shall be prosecuted with reasonable dispatch, delays due to strikes, lockouts, acts of God, inability to obtain labor, materials, governmental restrictions, or similar causes beyond the control of the LESSEE excepted; workmen's compensation insurance covering all persons employed in connection with the work and with respect to whom death or injury claims could be asserted against the LESSOR, the LESSEE or the demised premises, general liability insurance for the mutual benefit of the LESSEE, the LESSOR, with limits of not less than $250,000 in the event of injury to one person and of not less than $1,000,000 in the event of injury to any number of persons in any one accident, and with limits of not less than $25,000 for property damage shall be maintained by the LESSEE at the LESSEE's sole cost and expense at all times when any work is in process in connection with any change or alteration. All such insurance shall be in a company or companies authorized to do business in the state in which the demised premises are situated and satisfactory to the LESSOR and all such policies shall be delivered to the LESSOR endorsed "Premium Paid" by the company or agency issuing the same or with other evidence of payment of the premiums satisfactory to the LESSOR.

(d) All improvements and alterations (other than the LESSEE's trade fixtures and equipment) made or installed by the LESSEE shall immediately upon completion or installation thereof be and become the property of the LESSOR without payment therefore by the LESSOR and shall be surrendered to the LESSOR upon the expiration or sooner termination of this Lease.

MECHANIC'S LIENS

ARTICLE IX

The LESSEE shall not suffer or permit any mechanic's liens to be filed against the demised premises or any part thereof by reason of work, labor, services or materials supplied or claimed to have been supplied to the LESSEE or anyone holding the demised premises or any part thereof through or under the LESSEE. If any such mechanic's lien shall at any time be filed against the demised premises, the LESSEE shall cause the same to be discharged of record within fifteen (15) days after the date of filing the same. If the LESSEE shall fail to discharge such mechanic's lien within such period, then, in addition to any other right or remedy of the LESSOR, the LESSOR may, but shall not be obligated to, discharge the same either by paying the amount claimed to be due or by procuring the discharge of such lien by deposit in court or by giving security or in such other manner as is, or may be, prescribed by law. Any amount paid by the LESSOR for any of the aforesaid purposes, and all reasonable legal and other expenses of the LESSOR, including reasonable counsel fees, in or about procuring the discharge of such lien, with all necessary disbursements in connection therewith, with interest thereon at the rate of six per cent (6%) per annum from the date of payment shall be repaid by the LESSEE to the LESSOR on demand, and if unpaid may be treated as additional rent. Nothing herein contained shall imply any consent or agreement on the part of the LESSOR to subject the LESSOR's estate to liability under any mechanic's lien law.

WASTE

ARTICLE X

The LESSEE covenants not to do or suffer any waste or damage, disfigurement or injury to any building or improvement now or hereafter on the demised premises, or the fixtures and equipment thereof, or permit or suffer any overloading of the floors thereof.

PREMISES
ACCESS

ARTICLE XI

Section 1. The LESSEE agrees to permit the LESSOR and the authorized representatives of the LESSOR to enter the demised premises at all times during usual business hours subject to United States Government Security Regulations for the purpose of inspecting the same and making any necessary repairs to the demised premises and performing any work therein that may be necessary to comply with any laws, ordinances, rules, regulations or requirements of any public authority or of the Board of Fire Underwriters or any similar body or that the LESSOR may deem necessary to prevent waste or deterioration in connection with the demised premises. Nothing herein shall imply any duty upon the part of the LESSOR to do any such work which, under any provisions of this Lease, the LESSEE may be required to perform and the performance thereof by the LESSOR shall not constitute a waiver of the LESSEE's default in failing to perform the same. The LESSOR may during the progress of any work in the demised premises keep and store upon the demised premises all necessary materials, tools and equipment. The LESSOR shall not in any event be liable for inconvenience, annoyance, disturbance, loss of business or other damage to the LESSEE by reason of making repairs or the performance of any work in the demised premises, or on account of bringing materials, supplies and equipment into or through the demised premises during the course thereof, and the obligations of the LESSEE under this Lease shall not thereby be affected in any manner whatsoever. The LESSOR agrees, however, in connection with the doing of any such work to cause as little inconvenience, annoyance, disturbance, loss of business or other damage to the LESSEE as may reasonably be possible in the circumstances.

Section 2. The LESSOR is hereby given the right during usual business hours to enter the demised premises and to exhibit the same for the purposes of sale or hire, and during the final three (3) months of the initial term or of any renewal term, the LESSOR shall be entitled to display on the demised premises in such manner as not unreasonably to interfere with the LESSEE's business the usual "For Sale" or "To Let" signs, and the LESSEE agrees that such signs may remain unmolested upon the demised premises.

ASSIGNABILITY

ARTICLE XII

At any time when LESSEE is not in default under this Lease, LESSEE may transfer or assign its interest under this Lease to a successor corporation into which or with which the LESSEE, its corporate successors or assigns, is merged or consolidated or is a corporation acquiring all or substantially all of the other property and assets of LESSEE, its successors and assigns, provided that the duties and liabilities of the LESSEE hereunder are assumed by such successor corporation and further, provided that the net worth of such successor corporation is not less than the net worth of the LESSEE, its corporate successors or assigns, immediately prior to such merger, consolidation or acquisition, provided that the consent of LESSOR shall have been obtained to such transfer or assignment. LESSEE may also transfer or assign its interest under this Lease to any person or corporation with the consent of the LESSOR which shall not be unreasonably withheld. LESSEE may also sublet all or any portion of the premises with the consent of LESSOR which shall not be unreasonably withheld, provided that, in the event of such subletting, LESSEE shall not be relieved of any of its obligations hereunder, provided that the consent of LESSOR shall have been obtained to such Sublease.

UTILITIES

ARTICLE XIII

The LESSEE agrees to pay or cause to be paid all charges for water, gas, electricity, light, heat or power, telephone or other

communication service used, rendered or supplied upon or in connection with the demised premises throughout the term of this Lease, and to indemnify the LESSOR and save it harmless against any liability or damages of such account. The LESSEE shall also at its sole cost and expense procure any and all necessary permits, licenses or other authorizations required for the lawful and proper installation and maintenance upon the demised premises of wires, pipes, conduits, tubes and other equipment and appliances for use in supplying any such service to and upon the demised premises.

INDEMNITY

ARTICLE XIV

The LESSEE agrees to indemnify and save harmless the LESSOR against and from any and all claims by or on behalf of any person or persons, firm or firms, corporation or corporations, arising from the conduct or management of or from any work or thing whatsoever done in or about the demised premises, and will further indemnify and save the LESSOR harmless against and from any and all claims arising during the term of this Lease or any renewal term from any condition of the building on the demised premises or any street, curb or sidewalk on or adjoining the demised premises, or of any vaults, passageways or spaces therein or appertenant thereto, or arising from any breach or default on the part of the LESSEE in the performance of any covenant or agreement on the part of the LESSEE to be performed, pursuant to the terms of this Lease, or arising from any act of negligence of the LESSEE, or any of its agents, contractors, servants, employees or licensees, or arising from any accident, injury or damage whatsoever caused to any person, firm or corporation occurring during the initial term of this Lease or any renewal thereof, in or about the demised premises, or upon or under the sidewalks, the land adjacent thereto, and from and against all costs, counsel fees, expenses and liabilities incurred in or about any such claim or action or proceeding brought thereon; and in case any action or proceeding be brought against the LESSOR by reason of any such claim, the LESSEE upon notice from the LESSOR covenants to resist or defend such action or proceeding by counsel reasonably satisfactory to the LESSOR.

CONDEMNATION

ARTICLE XV

Should condemnation either of a part or all the demised premises occur during the initial or any renewal term, the LESSEE shall, within thirty (30) days after such condemnation, either terminate the term or renewal term then in effect, or remain in possession and repair the Leased premises. If the LESSEE elects to terminate the term or the renewal term, such renewal term shall cease and terminate thirty (30) days after the LESSOR received such notice of termination. In such event the LESSEE shall be entitled to receive and retain any award in respect of the loss of, or damage to, the LESSEE's leasehold interest and the LESSOR shall be entitled to receive and retain any award made in respect of the Leased premises. Should the LESSEE, however, elect to remain in possession, the term or renewal term shall continue as to the remaining portion of the Leased premises. In such event, the LESSEE shall be entitled to and shall receive the LESSOR's and the LESSEE's award in said condemantion proceedings and the LESSOR shall assign and hereby assigns to the LESSEE the LESSOR's award in respect of damage to the Leased premises. With the proceeds so received, the LESSEE shall make all repairs or alterations, if any, to the Leased premises made necessary by such condemnation; should the cost of such repairs or alterations be less than the award assigned by the LESSOR to the LESSEE, the LESSEE shall pay to the LESSOR the remaining balance of such award.

RESTORATION

ARTICLE XVI

Section 1. The LESSEE covenants and agrees that in case of damage to or destruction of any building on the demised premises, LESSEE will promptly at its sole cost and expense repair, restore and rebuild the same as nearly as possible to the condition they were in immediately prior to such damage or destruction, or, subject to the approval of the LESSOR which shall not be unreasonably withheld, with such changes or alterations as may be deemed necessary and desirable by LESSEE. Subject to the rights of any mortgagee of said premises having priority over this Lease all insurance money recovered in connection with said damage and/or destruction or an amount equivalent thereto shall be applied by the LESSOR

(or by the LESSEE if the LESSEE received the same) to the payment of the cost of repairing, restoring and rebuilding, and any balance of said insurance money or equivalent amount in excess of the cost of repairing, restoring and rebuilding the damaged portion of any building on the demised premises shall be the property of and paid to the LESSEE or at the request of the LESSOR may be retained by and paid to the LESSOR and thereafter applied against basic rent as provided herein.

Section 2. If at any time after the expiration of the initial term under this Lease the building on the demised premises is destroyed or damaged to such extent that the restoration thereof will cost an amount in excess of Five Thousand Dollars ($5,000) over and above the proceeds of any insurance and the LESSEE shall be unwilling to expend such amount, the LESSEE shall so notify LESSOR who shall have the option to expend such additional amount required for the restoration and/or repair of the building destroyed or damaged. In the event that LESSOR is unwilling to make such additional expenditure it shall so notify LESSEE immediately and in such event the term of this Lease shall expire as soon after the date on which LESSOR gives such notification to LESSEE as the LESSEE vacates said premises using reasonable dispatch.

LIEN

ARTICLE XVII

This Lease shall be prior to and shall not become or be made subordinate to the lien of any mortgage or mortgages which at any time may be placed upon the demised premises except a first mortgage in a principal amount not to exceed 66-2/3% of the fair market value of the property at the time such mortgage is placed. Said mortgage shall provide that the LESSEE shall have the right to cure any default occurring under any such mortgage and to have all amounts so paid by LESSEE applied against basic rent hereunder.

BANKRUPTCY

ARTICLE XVIII

Section 1. If during the term of this Lease or any renewal term (a) the LESSEE shall make an assignment for the benefit of creditors, or

(b) a voluntary or involuntary petition be filed by or against the LESSEE under any law having for its purpose the adjudication of the LESSEE a bankrupt, or the extension of the time of payment, composition, adjustment, modification, settlement or satisfaction of the liabilities of the LESSEE or to which any property of the LESSEE may be subject, or the reorganization or liquidation of the LESSEE, or (c) a receiver be appointed for the property of the LESSEE by reason of the insolvency or alleged insolvency of the LESSEE, or (d) any department of the state or federal government, or any officer thereof duly authorized, shall take possession of the business or property of the LESSEE by reason of the insolvency or alleged insolvency of the LESSEE, the occurrence of any such contingency shall be deemed a breach of the Lease and this Lease shall, ipso facto, upon the happening of any of said contingencies be terminated and the same shall expire as fully and completely as if the day of the happening of such contingency were the date herein specifically fixed for the expiration of the initial term or any renewal term and the LESSEE will then quit and surrender the demised premises to the LESSOR.

Section 2. If, during the initial term of this Lease or any renewal term, (a) the LESSEE shall make default in fulfilling any of the covenants of this Lease (other than the covenants for the payment of basic rent, additional rent or other charges payable by the LESSEE hereunder), or (b) the demised premises shall be left vacant or unoccupied or be deserted for a period of twenty-one (21) days, or (c) this Lease, without the prior written consent of the LESSOR, or except as expressly permitted, shall be assigned or transferred in any manner, or shall by operation of law pass to or devolve upon any third party (except any personal representative or distributee of a deceased individual assignee of this Lease), the LESSOR may give to the LESSEE notice of any default or of the happening of any contingency in this Section referred to, and if at the expiration of twenty-one (21) days after the service of such notice the default or the contingency upon which said notice was based shall continue to exist, or in the case of a default or contingency which cannot with due diligence be cured within a period of twenty-one (21) days, if the LESSEE fails to proceed promptly after the service of such notice and with all due diligence to cure the same and thereafter to prosecute the curing of such default

with all due diligence (it being intended that in connection with a default not susceptible of being cured with due diligence within twenty-one (21) days that the time of the LESSEE within which to cure the same shall be extended for such period as may be necessary to complete the same with all due diligence), the LESSOR, at its option may terminate this Lease and upon such termination the LESSEE will quit and surrender the demised premises to the LESSOR.

Section 3. If the LESSEE shall make default in the payment of the basic rent expressly reserved hereunder, or any part of the same, and such default shall continue for fifteen (15) days after notice thereof by the LESSOR, or shall make default in the payment of any item of additional rent, or any other charge required to be paid by the LESSEE hereunder or any part of the same and such default shall continue for twenty-one (21) days after notice thereof by the LESSOR, or if this Lease shall expire as in Section 1 or Section 2 of this Article provided, the LESSOR or the LESSOR's agents and servants may immediately or at any time thereafter re-enter the demised premises and remove all persons and all or any property therefrom, either by summary dispossess proceedings or by any suitable action or proceeding at law or by force or otherwise, without being liable to indictment, prosecution or damages therefor, and repossess and enjoy said premises together with all additions, alterations and improvements, without such re-entry and repossession working a forfeiture or waiver of the rents to be paid and the covenants to be performed by the LESSEE during the full term hereof. Upon the expiration of the term of this Lease by reason of the happening of any of the events hereinabove described in Section 1 or Section 2, or in the event of the termination of this Lease by summary dispossess proceedings or under any provision of law now or at any time hereafter in force by reason of or based upon or arising out of a default under or breach of this Lease on the part of the LESSEE, or upon the LESSOR recovering possession of the demised premises in the manner or in any of the circumstances hereinbefore mentioned or in any other manner or circumstances whatsoever, whether with or without legal proceedings, by reason of or based upon or arising out of a default under or breach of this Lease on the part of the LESSEE, the LESSOR may, at its option, at

any time and from time to time relet the demised premises, or any part or parts thereof, for the account of the LESSEE or otherwise, and receive and collect the rents therefor, applying the same first to the payment of such expenses as the LESSOR may have incurred in recovering possession of the demised premises, including the legal expenses and attorneys' fees and for putting the same into good order or condition or preparing or altering the same for re-rental and all other expense, commissions and charges paid, assumed or incurred by the LESSOR in or about reletting the premises and then to the fulfillment of the covenants of the LESSEE hereunder. Any such reletting herein provided for may be for the remainder of the initial term or any renewal term of this Lease as originally granted or for a longer or shorter period. In any such case and whether or not the demised premises, or any part thereof, be relet, the LESSEE shall pay to the LESSOR the basic rent and all other charges required to be paid by the LESSEE up to the time of such termination of this Lease, or of such recovery of possession of the demised premises by the LESSOR, as the case may be, and thereafter, except in a case in which the liability of the LESSEE as hereinafter provided arises by reason of the happening of any of the contingencies referred to in Section 1 hereof, the LESSEE covenants and agrees, if required by the LESSOR, to pay to the LESSOR until the end of the initial term of this Lease or any renewal term, as the case may be, the equivalent of the amount of all the basic rent reserved herein and all other charges required to be paid by the LESSEE, less the net avails of reletting, if any, and the same shall be due and payable by the LESSEE to the LESSOR on the several rent days herein specified, that is to say, upon each of such rent days the LESSEE shall pay to the LESSOR the amount of the deficiency then existing. In any of the circumstances hereinbefore mentioned in which the LESSOR shall have the right to hold the LESSEE liable upon the several rent days herein specified to pay to the LESSOR the equivalent of the amount of all the basic rent and all other charges required to be paid by the LESSEE less the net avails of reletting, if any, the LESSOR shall have the election in place and instead of holding the LESSEE so liable, forthwith to recover against the LESSEE as damages for loss of the bargain and not as a penalty an aggregate sum which at the time of such termination of this Lease or of such recovery of possession

of the premises by the LESSOR, as the case may be, represents the then present worth of the excess, if any, of the aggregate of the basic rent and all other charges payable by the LESSEE hereunder that would have accrued for the balance of the initial term or any renewal term, as the case may be, over the aggregate rental value of the demised premises for the balance of such term.

RENEWAL

ARTICLE XIX

Section 1. The LESSEE shall have the right, to be exercised as hereinafter provided, to extend the terms of this lease for two (2) successive periods, the first such period being for ten (10) years from the 1st day of October, 1986, to the 30th day of September, 1996, and the remaining period being for ten (10) years from the 1st day of October, 1996, to the 30th day of September, 2006, upon the following general terms and conditions:

(a) That the LESSEE is not in default in the performance of any of the terms, covenants and conditions herein contained in respect to a matter as to which notice of default has been given hereunder and which has not been remedied within the time limited in this lease, at the time of the exercise of such right or at the time of commencement of the renewal term;

(b) That each renewal term shall be upon the same terms, covenants and conditions as in this Lease.

(c) All other impositions and payments upon the part of the LESSEE to be made as in this Lease provided shall continue to be made during each of such renewal terms, including, but without limiting the generality of the foregoing, payment of taxes, sewer taxes and charges, assessments, fire and other insurance premiums, utility charges, and cost of repairs, additions and alterations.

Section 2. The LESSEE shall have the right to exercise its right to the renewal terms by notifying the LESSOR in writing of its election to exercise the right to renew the term of this Lease at least thirteen (13) months prior to the expiration of the term of the Lease and at least thirteen (13) months prior to the end of any renewal term.

ADDITIONAL REPAIRS

ARTICLE XX

LESSEE covenants and agrees that it shall, at its sole cost and expense:

(a) Perform the required maintenance or repair on the air conditioning pumps as necessary for its occupancy of the demised premises;

(b) That in the event it is now required or becomes required or necessary in the future to connect the demised premises to the existing sewer, LESSEE shall accomplish such connection.

SURRENDER ON TERMINATION

ARTICLE XXI

The LESSEE shall upon termination of this Lease for any reason whatsoever surrender to the LESSOR the building, structures, fixtures and building equipment upon the demised premises, together with all additions, alterations and replacements thereof (except the LESSEE's trade fixtures, machinery and equipment), in good order, condition and repair except for reasonable wear and tear. If changes or alterations shall have been made on the demised premises, the LESSEE shall, if LESSOR so requests, restore the demised premises as nearly as may be to their condition prior to such changes or alterations, with due allowance to reasonable wear and tear.

QUIET ENJOYMENT

ARTICLE XXII

The LESSOR covenants and agrees that the LESSEE upon paying the basic rent and all other charges herein provided for and observing and

keeping the covenants, agreements and conditions of this Lease on its part to be kept, shall lawfully and quietly hold, occupy and enjoy said demised premises during the term of this Lease, without hindrance or molestation of the LESSOR, or any person or persons claiming under the LESSOR, subject, however, to the matters hereinabove set forth immediately following the description of the demised premises and to any mortgage having priority entered into pursuant to ARTICLE XVII.

NOTICES

ARTICLE XXIII

All notices, demands and requests which may or are required to be given by either party to the other shall be in writing. All notices, demands and requests by the LESSOR to the LESSEE shall be sent by United States Registered Mail, postage prepaid, addressed to the LESSEE at the demised premises, or at any such other place as the LESSEE may from time to time designate in a written notice to the LESSOR. All notices, demands and requests by the LESSEE to the LESSOR shall be sent by United States Registered Mail, postage prepaid, addressed to the LESSOR at 151 Farmington Avenue, Hartford, Connecticut 06156, c/o Real Estate Investment Department - Property Management Section, or at such other place as the LESSOR may from time to time designate in a written notice to the LESSEE. Notices, demands and requests which shall be served upon the LESSOR or the LESSEE in the manner aforesaid shall be deemed sufficiently served or given for all purposes hereunder at the time such notice, demand or request shall be mailed by United States Registered Mail as aforesaid in any post office or branch post office regularly maintained by the United States Government.

CA LAW

ARTICLE XXIV

The demised premises are located in the State of California and all terms of this Lease shall be construed and enforced in accordance with the laws of said State of California.

ARTICLE XXV

The covenants and agreements herein contained shall bind and emure to the benefit of the LESSOR, its successors and assigns, and the LESSEE, its successors and assigns.

IN WITNESS WHEREOF, the LESSOR and the LESSEE have respectively caused their corporate seals to be hereunto affixed and these presents to be signed by their respective duly authorized officers, the day and year first above written.

ÆTNA LIFE INSURANCE COMPANY

BY: _____
ASSISTANT VICE PRESIDENT

ATTEST:

_____

HRB
HYDRAULIC RESEARCH DIVISION OF
TEXTRON INC.

BY: D.R. Bird
D. R. Bird, Controller

ATTEST:

_____
J. P. Jones, Assistant Secretary

GUARANTY

In consideration of the LESSOR making of the foregoing Lease and for other good and valuable considerations receipt of which is hereby acknowledged, the undersigned hereby absolutely guarantees the payment by the LESSEE of the rent fixed in the foregoing Lease (and any renewal or extension thereof) at the times therein specified and the performance by LESSEE of all the terms and conditions of the said Lease. The undersigned expressly waives notice of all defaults by the LESSEE.

TEXTRON INCORPORATED

BY: _____
Samuel X. Garcia, President

ATTEST:

_____
J. P. Jones, Assistant Secretary

2166-04748

EXHIBIT C

SETTLED WATER SAMPLE

RESPONSE TO QUESTION #7 PAGE 9

PATCHEM LABORATORIES

2205 First St. #108 • Simi Valley, CA 93065 • (805) 581-9006

Customer: **Martin Industrial Pumping**
P.O. Box 1128
Canyon Country, CA 91351

RECEIVED
JUN 13 1991
FACILITIES ENGINEERING

Attention: Mr. Harry Christensen

Sample Date: 6-7-91

Report Date: 6-12-91

Sample I.D.: 9106-2370

Subject: HR Textron Underground Settling Tank Sample -- TTLC (FRONT OF BLDG 2 10445 GLENOAKS

Method: * Samples were analyzed per of EPA *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (SW-846).

Results:

PARAMETER	EPA METHOD	DETECTION LIMIT	ANALYSIS
pH	150.1	-	6.8 units
Arsenic	7060	0.01 mg/L	7.2 mg/L
Cadmium	7130	0.02 mg/L	0.71 mg/L
Chromium	7190	0.05 mg/L	8.50 mg/L
Copper	7290	0.02 mg/L	83.0 mg/L
Lead	7130	0.02 mg/L	18.6 mg/L
Nickel	7130	0.02 mg/L	1.37 mg/L
Silver	7760	0.02 mg/L	< 0.02 mg/L
Zinc	7950	0.02 mg/L	63.0 mg/L
Total Cyanide	9010	0.02 mg/L	< 0.02 mg/L
Free Cyanide	9010	0.02 mg/L	< 0.02 mg/L
Dissolved Sulfide	376.2	0.05 mg/L	< 0.05 mg/L
Oil & Grease (*)	413.1	5 mg/L	520 mg/L
Chloride	325.2	1.0 mg/L	436 mg/L
Total Toxic Organics (*)	601/602	0.01 mg/L	0.37 mg/L
	1,1,1-Trichloroethane		0.37 mg/L

Comments: Sample was prepared per Method 3050 for metals analysis.

Specific Gravity = 1.068 g/ml

Respectfully Submitted,

Pat Brueckner
Chemist

* GRAB SAMPLE

350167

↳ Woody - Amec -

PATCHEM LABORATORIES

2205 First St. #108 • Simi Valley, CA 93065 • (805) 581-9006

Customer: **Martin Industrial Pumping**
P.O. Box 1128
Canyon Country, CA 91351

Attention: Mr. Harry Christensen

Sample Date: 6-18-91

Report Date: 6-26-91

Sample I.D.: 9106-2527

Subject: HR Texaron Underground Settling Tank Sample -- TCLP

Method: Samples were analyzed per of EPA *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (SW-846).

Results:

PARAMETER	EPA METHOD	DETECTION LIMIT	ANALYSIS
Arsenic	7060	0.05 mg/L	< 0.05 mg/L
Barium	7080	0.1 mg/L	< 0.1 mg/L
Cadmium	7130	0.02 mg/L	0.03 mg/L
Chromium	7190	0.05 mg/L	< 0.05 mg/L
Copper	7290	0.02 mg/L	0.03 mg/L
Lead	7420	0.02 mg/L	< 0.02 mg/L
Mercury	7471	0.05 mg/L	< 0.05 mg/L
Nickel	7520	0.02 mg/L	0.08 mg/L
Selenium	7740	0.1 mg/L	< 0.1 mg/L
Silver	7760	0.02 mg/L	< 0.02 mg/L
Zinc	7950	0.02 mg/L	2.45 mg/L

Comments: Sample was prepared per Method 3010 for metals analysis, after TCLP extraction.

Extraction Time = 18.0 Hours

Respectfully Submitted,

Pat Brueckner
Chemist

RECEIVED
JUN 27 1991
FACILITIES ENGINEERING

350168

HR TEXTRON INC.
INTEROFFICE COMMUNICATION
MDB:91:273

July 2, 1991

To: File
From: Marty Bell
Subject: Pacoima, Settled Water Sampling

Due to some plumbing problems at the Glenoaks facility, Facilities called out a plumber. Several man-holes were discovered in front of the building, lifted and inspected. Water was observed, and sampled. The testing results are attached as Exhibit C to Response number 7 to the Request for Information. The results conclude that the water is not hazardous waste. The source of the water and the reason for its presence are unknown.

Distribution:
Chron

350169

2166-04748

LAW OFFICES
BALLARD, ROSENBERG & GOLPER
10 UNIVERSAL CITY PLAZA, 16TH FLOOR
UNIVERSAL CITY
LOS ANGELES, CALIFORNIA 91608
TELEPHONE (818) 509-7100

LABOR AND EMPLOYMENT LAW
ON BEHALF OF MANAGEMENT
AND RELATED LITIGATION

FACSIMILE
(818) 506-4827
(818) 985-8167

VIA FEDERAL EXPRESS

PRIVILEGED AND CONFIDENTIAL
CLIENT COMMUNICATION

June 11, 1990

RECEIVED
JUN 12 1990
VP Legal and Contracts

Michael J. Breining
General Counsel
California Manufacturers Association
1121 L Street
Suite 900
Sacramento, California 95805

Dear Mike:

I am pleased to enclose the original Petition for filing with the Office of Administrative Law. Please sign and date the Petition and Declaration where indicated. Enclosed is a copy to be conformed by the OAL. Please return the conformed cover sheet to us for our records. Also enclosed is a copy for your records and a service copy on Robert Ghirelli. Please make sure that Mr. Ghirelli's copy is mailed on the 12th. A self-addressed envelope to Mr. Ghirelli is enclosed for your convenience. The Office of Administrative Law is located at 555 Capitol Mall, Suite 1290, Sacramento, California 95814, telephone (916) 323-6225.

Very truly yours,

BALLARD, ROSENBERG & GOLPER

Linda Auerbach Allderdice

Enclosures
WP4:42432:ln

bcc: Mr. John Hedges

Copy in file 350170

BEFORE THE

STATE OF CALIFORNIA

OFFICE OF ADMINISTRATIVE LAW

REQUEST FOR DETERMINATION THAT RULE OF CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION, IS AN INVALID REGULATION UNDER GOVERNMENT CODE 11342(b), AS NOT BEING ADOPTED IN ACCORDANCE WITH CALIFORNIA'S ADMINISTRATIVE PROCEDURE ACT

SUPPORTING MEMORANDUM

DECLARATION OF MICHAEL J. BREINING IN SUPPORT THEREOF

RECEIVED
JUN 12 1990
VP Legal and Contracts

Michael J. Breining
General Counsel for CMA
California Manufacturers Association
1121 L Street, Suite 900
Post Office Box 1198
Sacramento, California 95805
(916) 441-5420

REQUEST FOR DETERMINATION

Pursuant to 1 California Code of Regulations Section 122, the California Manufacturers Association hereby submits a Request for Determination that a state agency rule is invalid and unenforceable.

(1) The party making the Request for Determination is the California Manufacturers Association (CMA), 1121 L Street, Suite 900, Post Office Box 1198, Sacramento, California 95805, by Michael J. Breining, General Counsel for CMA. CMA is a voluntary nonprofit membership organization representing approximately 800 manufacturing and processing companies headquartered or doing a substantial amount of business in California. Its primary functions include representing its collective membership before the California judiciary, legislature and regulatory agencies in matters that may significantly affect such businesses and consumers throughout the state.

(2) The State Agency that has issued, and is enforcing, the invalid rule is the California Regional Water Quality Control Board, Los Angeles Region, Robert P. Ghirelli, Executive Director, Regional Water Quality Control Board, 101 Center Plaza Drive, Monterey Park, California 91754-2156.

The rule being challenged by this Request was announced by the California Regional Water Quality Control Board, Los Angeles Region ("Regional Board"), on April 23, 1990, at the conclusion of the Regional Board's hearing concerning "In the Matter of the Petition of HR Textron Inc. re Cleanup and Abatement Order 89-104." CMA is not a party to

that proceeding. However, in the course of representing CMA member interests, CMA monitors proceedings before state agencies involving environmental matters. In the course of ratifying Cleanup and Abatement Order 89-104, the Regional Board announced a regulation that has a general affect on the enforcement activities of the Regional Board, and necessarily, the State Water Quality Control Board.

(3) and (4) A copy of the official transcript of the April 23, 1990 hearing at which the rule being challenged by this Request was reported is attached hereto as Exhibit "1."

The rule requires automatic groundwater monitoring and preparation of environmental audits before an underground storage tank release case pending before a Regional Board can be closed. The rule was adopted without compliance with California's Administrative Procedure Act, Cal. Gov't Code § 11340 et seq., and is contrary to the Regional Board's statutory authority in Cal. Water Code § 13304. The promulgation of the rule, its effect on California industry, and the reasons why it is invalid and unenforceable are discussed fully in the accompanying Supporting Memorandum which is incorporated in full by this Request.

Dated: June 12, 1990 Respectfully submitted,

California Manufacturers Association
1121 L Street, Suite 900
Post Office Box 1198
Sacramento, California 95805
(916) 441-5420

By: _____
Michael J. Breining
General Counsel for CMA

MEMORANDUM OF CALIFORNIA MANUFACTURERS ASSOCIATION

SUPPORTING REQUEST FOR DETERMINATION

I. PRELIMINARY STATEMENT.

California Manufacturers Association (CMA) respectfully requests the Office of Administrative Law (OAL) to rescind a state agency rule issued by the California Regional Water Quality Control Board, Los Angeles Region ("Regional Board"), on April 23, 1990. The rule affects the cleanup and, ultimately the terms of case closure, of underground storage tank release cases in the State of California.

The Regional Board established a rule of general application whereby in any soil contamination case resulting from a release from an underground storage tank of contaminants into soil below grade, groundwater monitoring shall automatically be required in a Cleanup and Abatement Order pursuant to Cal. Water Code § 13304. The effect of the rule is that in each and every underground storage tank release case, regardless of whether the specific facts of the case support such extraordinary action by a responsible party, groundwater monitoring shall be required. This extension of Regional Board authority is unprecedented and unsupported by governing law.

In issuing the rule and applying it generally to its enforcement activities, the Regional Board failed to observe the statutorily mandated procedures for adopting a regulation that are established by California's Administrative Procedure

Act (APA), Cal. Gov't Code § 1340 et seq. Not only was the rule improperly adopted, this "underground" regulation fails to consider that soil contamination from an underground storage tank may be remediated in alternative ways, and that the effectiveness of these remediation efforts can be confirmed. The wholesale failure to consider cost-effective measures also invalidates the rule under the APA. Moreover, the governing statute of the Regional Water Board does not support the regulation.

Accordingly, in keeping with its statutory mandate, the OAL should rescind the regulation as invalid and unenforceable.

II. THE PROCEEDING IN WHICH THE RULE WAS ISSUED

A. Background Facts.

The proceeding in which the regulation was issued involves "In the Matter of the Petition of HR Textron Inc. re Cleanup and Abatement Order 89-104." A copy of Order 89-104 is attached hereto as Exhibit "2". The Textron proceeding concerns remediation of contaminated soil due to a release from two underground storage tanks that HR Textron Inc. ("Textron") formerly operated at its Pacoima manufacturing facility. These two underground storage tanks leaked, causing various Volatile Organic Compounds ("VOC's") and Total Petroleum Hydrocarbon ("TPH") materials to be released in the shape of a limited cylindrical plume into soil directly below the tanks. Cleanup and Abatement Order 89-104 directs Textron to submit a general facility environmental audit report

(Order, p. 4, para. 2), and to install groundwater monitoring wells to determine the "full extent of any groundwater contamination originating from the facility." (Order, p. 4, para. 1.) On March 26 and April 23, 1990, the Regional Board conducted a hearing on Order 89-104, at the conclusion of which the Regional Board ratified Order 89-104 and announced the groundwater monitoring regulation.

B. The Regulation Requiring Groundwater Monitoring In Soil Release Cases.

In making the motion to ratify Cleanup and Abatement Order 89-104, the Regional Board Member stated as follows:

> I think that the appellant does make a reasonable case in the face of policy and getting his corporate view across. But I think we have to look - at a different standard and for a different purpose.
>
> There were five or six points that were mentioned by the attorney [for Textron]: no data beyond the clay barrier; an area-wide problem; not cost-effective; unreasonably burdensome; and the fact that this is a regional problem.
>
> Those comments address many things, but they don't address the basic question with regards to that which was brought up by-- for lack of a better name, I will call him

> Watermaster II -- Mr. Mann. And his argument and comments, I think, were very persuasive.
>
> (4/23/90 Textron Transcript, p. 131.)[1]

No other rationale was offered by any other Board Member for ratification of Order 89-104.

The Regional Board's rule dispenses with any need to analyze whether soil contamination would probably migrate to groundwater, as is required by Water Code § 13304.[2] Instead, the Regional Board promulgated an "underground" regulation to the effect that any contaminant release into soil necessitates groundwater monitoring in order to prove with a degree of certainty not contemplated by Section 13304 that migration to groundwater has, or has not, occurred:

---

[1]The CMA has obtained a copy of the official transcript of the Regional Board hearing on Order 89-104. Cited excerpts of the transcript are attached hereto as Exhibit "3".

[2]Water Code § 13304 states, in pertinent part, as follows:

> Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board clean up such waste or abate the effects thereof or, in the case of threatened pollution or nuisance, take other necessary remedial action.
>
> Water Code § 13304(a).

> I will say this: I don't believe the state of the art allows the conclusion from sampling merely in the clay zone, which this whole problem involves. That doesn't answer the question. What we need is one or more wells to groundwater, and then an actual sample of groundwater to find out if the pollutants are in there. I don't think it's possible to sift data taken perhaps 100 feet above the water table, and make a firm conclusion that the water didn't get there, that the pollutants didn't get to the water.
>
> (4/23/90 Textron Transcript, p. 108.)[3]

The Regional Board resolved the Textron case not by making any factual determination concerning a probability that the specific tank release migrated to groundwater, but rather by establishing a new regulation. The rule calling for automatic groundwater monitoring in response to every release of contaminants into soil is not reflected in any published regulation. Moreover, it is contrary to past Regional Board

---

[3]The Board Member making the ratification motion recognized that the rule the Regional Board was establishing would not even assure that the party responsible for the soil release would be necessarily the same party responsible for any groundwater contamination that was discovered:

> "We cannot, nor should we, allow this Body to keep the problems of the world and everything that may be found in the water that was derived from another source, on this particular entity." (4/23/90 Textron Transcript, 131.)

Yet, despite this ingrained lack of certainty, the rule was promulgated.

practice, as indicated by identification of seven soil contamination sites over which the Regional Board has exercised jurisdiction, but has not required groundwater monitoring. (See Exhibit "4".) CMA is informed that it also may be contrary to existing practices of other Regional Water Boards.

Under the prior policy for implementing Water Code Section 13304, parties like Textron seeking closure approval following a tank release have been required to monitor groundwater only if soil data demonstrated an actual probability of discharge in groundwater. Under the new regulation, as applied to California industry, costly groundwater sampling will be required in every case in which contaminants are released into soil from an underground storage tank.

C. The Regulation Is Invalid As Not Being Adopted In Accordance With The Administrative Procedure Act.

The action of the Regional Board clearly constitutes adoption of a new "regulation" under the definition of that term in Cal. Gov't. Code Section 11342(b):

> "Regulation" means every rule, regulation, order, or standard of general application or the amendment, supplement or revision of any such rule, regulation, order or standard adopted by a state agency to implement, interpret, or make specific the law enforced or administered by it, or govern its

procedure, except one which relates only to the internal management of the state agency.

The policy announced by the Regional Board for determination of the need for groundwater monitoring in the Textron case is clearly a "standard of general application . . . adopted by a state agency to implement, interpret, or make specific" California Water Code Section 13304. This unwritten new policy has not previously been established in any formally promulgated regulation. Guided by the far reaching protections of California's Administrative Procedure Act, California courts have not hesitated to overturn state agency regulations that have not been properly adopted. Armistead v. State Personnel Board (1978) 22 Cal. 3d 198 [149 Cal. Rptr. 1].

In Armistead, a former state employee brought a writ of mandate action against the California State Personnel Board ("SPB") and his former agency/employer seeking to set aside the agency's refusal to allow him to withdraw his resignation, even though the agency had relied on a provision in its Personnel Transactions Manual ("PTM") requiring agency approval before an employee can withdraw a resignation. The Supreme Court considered whether the provision regarding employee resignations was a "regulation" within the meaning of the APA. The court rejected the SPB's contention that the subject provision in the PTM was not a "regulation" but merely related to the internal affairs of the agency. The court held that the provision in question was an invalid regulation since

it was adopted by the agency without compliance with the APA.

In so holding, the court stated:

> "PTM Section 525.11 is designed for use by personnel officers and their colleagues in the various state agencies throughout the state. It interprets and implements board rule 445 [resignation]. It concerns termination of employment, a matter of import to all state civil service employees. It is not a rule governing the board's internal affairs." (Citations omitted.) 22 Cal. 3d at 203.

The court also stated:

> "That it is not readily accessible to affected employees and the public does not persuade us that Section 525.11 relates to internal management only. The section obviously was intended to be generally applied, to make specific for all state civil service employees the limits on their rights to withdraw resignations.
>
> . . . A major aim of the APA was to provide a procedure whereby people to be affected may be heard on the merits of the proposed rules. Yet we are here requested to give weight to Section 525.11 and a controversy that pits the board against an individual member of exactly that class the APA sought

to protect before rules like this are made effective. That, we think, would permit an agency to flout the APA by penalizing those who were entitled to notice and opportunity to be heard but received neither." 22 Cal. 3d at 204.

Most recently, in Grier v. Kizer (Case No. 2nd Civil No. B036081, April 2, 1990, 1990 Cal. App. Lexis 323), the appellate court followed the OAL's determination in Union of American Physicians and Dentists (1987 OAL Determination No. 10 [Docket No. 86-106] August 6, 1987), in which the OAL found that a rule promulgated by the California Department of Health Services was invalid. The OAL's analysis had set forth a two-part test: "First, is the informal rule either a rule or standard of general application or a modification or supplement to such a rule? Second, does the informal rule either implement, interpret, or make specific the law enforced or administered by the agency or govern the agency's procedure?" (1987 OAL Determination No. 10, supra, slip opn., p. 8.)

The appellate court concluded that the Department's adoption of a random sampling audit procedure was a regulation, and not an internal rule of limited application. The court agreed with the OAL's analysis:

"The issue to be determined by this court is whether the challenged audit method constitutes the subject of a regulation within the meaning of section 11342,

> subdivision (b), of the APA, or amounts only to an exempt internal management rule. If the method were properly the subject of a formal regulation, the Department's failure to comply with the APA would render the method invalid and unenforceable." (Section 11347.5.)

As in Grier, the rule adopted and implemented by the Regional Board in ratifying Order 89-104 is an "underground" regulation. The rule applies generally to enforcement proceedings under the State's Water Code, and purportedly implements the Regional Board's statutory authority.

Accordingly, the Regional Board's action violates the California Administrative Procedure Act, Cal. Gov't. Code § 11346 et seq. in at least three ways.

First, that action violates the requirement in Government Code Section 11347.5(a) that:

> No State agency shall issue, utilize, enforce or attempt to enforce any guideline, criterion, bulletin, manual, instruction, order, standard of general application, or other rule, which is a regulation as defined in subdivision (b) of Section 11342, unless the guideline, criterion, bulletin, manual, instruction, order, standard of general application or other rule has been adopted as a regulation and filed with the Secretary of State pursuant to this Chapter.

Among those statutorily required rulemaking procedures are 45 days advance notice to potentially interested parties [Government Code § 11346.4(a)]; advance distribution of a text of the express terms of the proposed rule [Government Code § 11346.7]; and an obligation to conduct a public hearing to receive comments if one is requested [Government Code § 11346.8(a)]. The legislative purpose underlying these procedural requirements is to assure an opportunity for all interested parties to have meaningful input into rulemaking. There was no such opportunity before the Regional Board, which first revealed its intent to announce the new policy after the close of public testimony in Textron's case and without notice to other interested parties.

Other substantive requirements for valid rulemaking were also not met by the Regional Board. New regulations are valid only if there is substantial evidence that there is a necessity for the provision to be promulgated. [Government Code § 11349.1(a)(2) & 11349(b)]. "Necessity" for that purpose is defined in Section 11349(b) as meaning that " . . . the record of the rulemaking proceeding demonstrates by substantial evidence the need for a regulation." As revealed by Section 11346.7(b)(4), such "necessity" inherently includes a cost-effectiveness determination because a promulgating agency must make:

> A determination with supporting information that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed

> or would be as effective or less burdensome to affected private persons than the adopted regulation.

As explained above, the Regional Board expressly conceded that no consideration was given to such cost effectiveness. (4/23/90 Textron Transcript, p. 131.)[4]

Finally, a new regulation like the one informally promulgated in the Textron proceeding is valid only if it is consistent with the Regional Board's statutory mandate. [Government Code §§ 11349.1(1) and 11349(a).] Section 13304 of the Water Code does not support a regulation that automatically mandates groundwater monitoring in a soil contamination case, without regard to whether the specific facts of the case support a finding that the contamination has probably been discharged in, or migrated to groundwater.[5]

III. CONCLUSION.

For the reasons set forth in the Request and Supplemental Memorandum, the groundwater monitoring rule is invalid and unenforceable, as it was not adopted in accordance with California's Administrative Procedure Act. Enforcement of this recently announced rule would subject many

---

[4]In the Textron matter, for example, there was conflicting evidence over where groundwater actually could be found (4/23/90 Textron Transcript, pp. 46, 103) and estimates of the cost of complying with the Regional Board's order ranged between $500,000 - $600,000. (4/23/90 Textron Transcript, p. 85.)

[5]CMA is informed that Textron has petitioned the State Water Resources Control Board to review Cleanup and Abatement Order 89-104.

manufacturers in California to costly, unjustified and unlawfully imposed environmental audit and groundwater monitoring costs in underground tank leak cases, without those manufacturers having had the opportunity for meaningful input into the promulgation of such regulation. Accordingly, this "underground" regulation should be rescinded.

Dated: June 12, 1990 Respectfully submitted,

California Manufacturers Association
1121 L Street, Suite 900
Post Office Box 1198
Sacramento, California 95805
(916) 441-5420

By: _____
Michael J. Breining
General Counsel for CMA

DECLARATION OF MICHAEL J. BREINING

IN SUPPORT OF REQUEST FOR DETERMINATION

I, Michael J. Breining, the undersigned, hereby declare and say as follows:

1. I am the General Counsel of the California Manufacturers Association (CMA), and on behalf of the CMA and its over 800 members of California Industry, I am submitting the Request for Determination herein.

2. I declare, under penalty of perjury under the laws of the State of California that, to the best of my belief, the information presented in the Request, and the accompanying Supporting Memorandum, is true and correct.

3. I declare, under penalty of perjury under the laws of the State of California that on June ___, 1990, I caused a copy of the Request for Determination, the Supporting Memorandum and this Declaration, to be transmitted to the California Regional Water Quality Control Board, Los Angeles Region, through Robert P. Ghirelli, Executive Director, Regional Water Quality Control Board, 101 Center Plaza Drive, Monterey Park, California 91754-2156 by placing the copy thereof in a sealed envelope and personally placing such envelope with postage fully prepaid with the United States Postal Service at Sacramento, California.

Executed this ____ day of June, 1990 in Sacramento, California.

MICHAEL J. BREINING

WP4:42414:ln

Exhibit 1

COPY

HEARING BEFORE THE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

107 SOUTH BROADWAY
LOS ANGELES, CALIFORNIA

MONDAY, APRIL 23, 1990

9:30 A.M.

Reported By:

CECILY KRAWCZYK

Karyn Abbott & Associates, Inc.
Certified Shorthand Reporters
714 West Olympic Boulevard, Suite 1112
Los Angeles, California 90015
(213) 749-1234

HEARING BEFORE THE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

107 SOUTH BROADWAY
LOS ANGELES, CALIFORNIA

MONDAY, APRIL 23, 1990

9:30 A.M.

A P P E A R A N C E S :

HEARING OFFICER:	CHARLES C. VERNON, CHAIRMAN
BOARD MEMBERS:	LARRY ZARIAN, VICE CHAIRMAN NAN J. DRAKE CLARK DRANE PAUL D. FLOWERS JAMES H. GROSSMAN RALPH B. HELM HENRY MORGAN DAN W. WALKER ROBERT P. GHIRELLI, EXECUTIVE OFFICER RICHARD A. HARRIS, ASSISTANT EXECUTIVE OFFICER DOLORES PAQUET, EXECUTIVE ASSISTANT JORGE LEON, ATTORNEY
SECTION CHIEF:	HANK H. YACOUB, TOXICS SECTION
STAFF:	PHILIP B. CHANDLER EJIGU G. SOLOMON
ALSO PRESENT:	MELVIN BLEVINS, SAN FERNANDO VALLEY WATERMASTER JOHN F. MANN, JR., U.L.A.R.A. WATERMASTER

A P P E A R A N C E S (CONTINUED):

FOR HR TEXTRON:

PETTIT & MARTIN
BY: MICHAEL HICKOK, ESQ.
355 SOUTH GRAND AVENUE
THIRTY-THIRD FLOOR
LOS ANGELES, CA 90071

DAVID B. DUNBAR,
ERM-WEST, INCORPORATED
ISAAC R. KAPLAN,
GLOBAL GEOCHEMISTRY CORP.
JOHN W. HEDGES
HR TEXTRON

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COUNSELORS THAT THE QUESTION IS WRAPPED AROUND A WORD CALLED "PROBABLY." AND THE PHRASE WAS "PROBABLY WILL HAVE AFFECTED GROUNDWATER."

NOW, YOU INDICATED THE VERBIAGE OF "CONCEIVABLE," AND WE HAVE GOT TO WORK WITH THE WORD "PROBABLE." IS IT YOUR TESTIMONY THAT, IN FACT, THAT THERE IS A PROBABILITY THAT WHAT WE ARE DEALING WITH TODAY HAS AFFECTED GROUNDWATER?

MR. BLEVINS: THERE IS NOT ONLY A PROBABILITY, THERE IS A STRONG, STRONG POTENTIAL THAT IT WOULD AFFECT GROUNDWATER.

MR. WALKER: THAT'S A STRONG "PROBABLE"?

MR. BLEVINS: THAT'S A STRONG "PROBABLE."

MR. VERNON: ANY OTHER QUESTIONS FOR MR. BLEVINS?

THANK YOU VERY MUCH, MR. BLEVINS.

MR. BLEVINS: THANK YOU.

MR. HICKOK: MR. CHAIRMAN, WE WERE TOLD THAT WE WOULD BE ALLOWED A BRIEF CROSS-EXAMINATION. WOULD NOW BE THE TIME OR NOT?

MR. WALKER: THE WORD IS "NOT."

MR. HICKOK: NOT? THANK YOU.

MR. VERNON: LET'S FINISH OUR TESTIMONY. FOLLOWING MR. MANN'S TESTIMONY, I'M GOING TO CONFER WITH THE BOARD HERE ON OUR SCHEDULE.

MR. MANN: MY NAME IS JOHN F. MANN, M-A-N-N. I

LIVE AT 945 REPASADO DRIVE, LA HABRA, 90631.

I WAS A PROFESSOR AT USC AND TAUGHT COURSES IN GROUNDWATER AND GROUNDWATER MANAGEMENT FOR A PERIOD OF 26 YEARS. I WAS A CONSULTANT TO THE STATE WATER RESOURCES CONTROL BOARD ON THE AEROJET PROBLEM IN SACRAMENTO FOR A PERIOD OF SEVEN OR EIGHT YEARS. I'M THE COURT-APPOINTED WATERMASTER IN THE PUENTE BASIN, WHICH IS THE TRIBUTARY TO SAN GABRIEL VALLEY. I'M APPEARING HERE ON BEHALF OF THE UPPER LOS ANGELES AREA RIVER AREA WATERMASTER, AND IT'S AN AREA IN WHICH I HAVE HAD EXPERIENCE FOR NOW MORE THAN 33 YEARS.

THE PROBLEM HERE IS VERY SIMPLE. I HATE TO SEE THINGS GETTING ALL TIED UP IN THESE LEGAL TERMS. THE QUESTION IS: HAVE THE MATERIALS THAT LEAKED FROM THESE TANKS REACHED GROUNDWATER?

IT'S VERY DIFFICULT TO CONCLUDE ONE WAY OR ANOTHER. IN MY EXPERIENCE, THESE CLAYS IN AN ENVIRONMENT LIKE THIS -- THIS IS AN ENVIRONMENT OF WHAT IS CALLED "CUT-AND-FILL" STRUCTURES. ON THE SIDES OF THE CHANNELS AT THE TIME OF FLOODS, THE SILTS AND CLAYS WOULD BE DEPOSITED, AND I HAVE SEEN MANY OF THEM IN GRAVEL PITS OF THE SAN FERNANDO VALLEY.

WHEN THE NEXT FLOOD COMES ALONG, IT TENDS TO CUT THROUGH THAT CLAY AND DEPOSIT GRAVEL. SO YOU HAVE A SERIES OF CHANNELS. AND QUITE OFTEN THESE CLAYS WILL END ALONG THE EDGE OF A LATER CHANNEL, WHICH HAS BEEN CUT AND THEN

BACKFILLED WITH GRAVEL. AND THAT IS THE PICTURE.

THE CLAYS ARE NOT EXTENSIVE. THEY TEND TO BE MORE EXTENSIVE ALONG THE COURSE OF THE STREAM THAN THEY DO AT RIGHT ANGLES.

SO THE PROSPECT IS THAT WHEN POLLUTANTS LEAK DOWN AND THEY HIT ONE OF THESE LAYERS, THE MATERIAL TENDS TO MOVE -- DOESN'T HAVE TO GO THROUGH THE CLAY. IT SORT OF SPILLS UNDERGROUND OVER THE SIDE OR THE EDGE OF THE CLAY. AND WE ARE DEALING HERE WITH -- IT'S VERY DIFFICULT TO ANSWER THIS QUESTION OF WHETHER THE POLLUTANTS HAVE ACTUALLY GOTTEN TO THE WATER TABLE.

I WILL SAY THIS: I DON'T BELIEVE THE STATE OF THE ART ALLOWS THE CONCLUSION FROM SAMPLING MERELY IN THE CLAY ZONE, WHICH THIS WHOLE PROBLEM INVOLVES. THAT DOESN'T ANSWER THE QUESTION.

WHAT WE NEED IS ONE OR MORE WELLS TO GROUNDWATER, AND THEN AN ACTUAL SAMPLE OF GROUNDWATER TO FIND OUT IF THE POLLUTANTS ARE IN THERE. I DON'T THINK IT'S POSSIBLE TO SIFT DATA TAKEN PERHAPS 100 FEET ABOVE THE WATER TABLE, AND MAKE A FIRM CONCLUSION THAT THE WATER DIDN'T GET THERE, THAT THE POLLUTANTS DIDN'T GET TO THE WATER.

NOW, I THINK WHAT WE HAVE TO DO HERE -- I AM LONG FAMILIAR WITH REGIONAL BOARD ACTIVITIES -- YOU MUST BE CAUTIOUS. IN THE EARLY DAYS OF THE ENVIRONMENTAL CONCERN ABOUT THIS, STARTING WHEN ALL OF THE VOLATILE ORGANICS CAME --

CONCERN ABOUT THEM CAME IN 1980, THERE WERE MANY CLAIMS THAT "YES, THIS LEAKED, BUT IT DIDN'T GET TO THE WATER TABLE."

THERE HAVE BEEN NUMEROUS EXPERIENCES SINCE THEN THAT HAVE PROVED THAT THE ORIGINAL ASSESSMENT WAS INCORRECT. I THINK THAT YOU MUST BE CAUTIOUS HERE, AND I THINK THE ANSWER TO THIS IS RELATIVELY SIMPLE -- YOU DRILL TO THE GROUNDWATER AND TAKE THE SAMPLE.

NOW, I APPRECIATE THE PROBLEMS OF SOMEONE IN A COMMUNITY OF INDUSTRIES, MANY OF WHICH HAVE PROBLEMS OF THIS SORT, OF DRILLING DOWN AND POSSIBLY GETTING A SAMPLE OF WATER THAT INCLUDES CHEMICALS THAT ARE NOT FROM YOUR PLANT. THIS IS THE RISK THAT EVERY INDUSTRY TAKES, EVERY LEAK, UNLESS THERE IS AN ISOLATED ONE OUT IN THE MIDDLE OF THE BASIN WHERE THERE IS ABSOLUTELY NOTHING ELSE AROUND. BUT WHEN YOU GET INTO THIS PART OF THE RISK THAT HAS TO BE TAKEN, AND I DON'T SEE HOW YOU CAN GET AROUND IT. AND, HOPEFULLY, THAT WHEN IT COMES TO THE NEW AND EXCITING THINGS ABOUT TRANSPORTING THE SOURCE OF POLLUTANTS, THE SORT OF WORK THAT DR. KAPLAN IS WORKING ON, THAT WE CAN GET THE ANSWER TO THE QUESTION THAT APPEARS TO BE SO UNFAIR, THAT YOU DRILL UNDER SOMEBODY ELSE'S PROPERTY AND YOU GET NICKED FOR THE CLEANUP. THIS IS UNFORTUNATE. HOPEFULLY, THERE WILL BE A BREAKTHROUGH THERE ON THE TRANSPORTING.

BUT I WOULD SUGGEST THAT UNTIL YOU HAVE A SAMPLE OF GROUNDWATER THAT SHOWS POLLUTANTS, YOU DON'T EVEN

HAVE A TRANSPORT TO WORK WITH.

THANK YOU.

MR. VERNON: ANY QUESTIONS OF DR. MANN?

THANK YOU VERY MUCH.

BOARD, WE HAVE EXACTLY ONE-HALF HOUR OF SLACK PRESUMING, OF COURSE, THAT WE CAN DO THE SEPTIC TANK ISSUE IN THE TWO HOURS BETWEEN 3:00 AND 5:00.

WHAT'S THE BOARD'S WISH? IS YOUR WISH TO GO TO 1:00 AND THEN TAKE NO MORE THAN HALF AN HOUR FOR LUNCH? DO YOU WISH TO ADJOURN NOW FOR LUNCH AND COME BACK AND WIND IT UP? WHAT'S THE PLEASURE OF THE BOARD?

MR. WALKER: I THINK THAT WE SHOULD STICK TO THE SCHEDULE THAT WE ESTABLISHED.

MR. ZARIAN: MR. CHAIRMAN, I AM NOT EVEN SURE THAT I NEED A HALF HOUR FOR LUNCH. I THINK THAT I CAN GET IT ALL DONE IN 15 MINUTES AND GET BACK. AT LEAST I THINK I CAN GET BACK IN 15 MINUTES.

MR. WALKER: YOUR MOTHER ALWAYS SAID YOU GULPED YOUR FOOD.

MR. ZARIAN: WELL, WHAT I'M SAYING, I DON'T EAT AS MUCH.

MR. VERNON: WHAT WE HAVE TO DO TO CONCLUDE THIS CASE IS THAT TEXTRON HAS A RIGHT TO CROSS-EXAMINATION; THEN WE HAVE A STAFF RECOMMENDATION, A STAFF RECAP; THEN WE HAVE A BOARD DISCUSSION AND DIRECTIONS TO STAFF. WE HAVE 30 MINUTES

ALL RIGHT. THEN THE NEXT ITEM IS THE BOARD'S DISCUSSION.

YES, MR. WALKER.

MR. WALKER: I THINK THAT WE HAVE LOOKED INTO ALL ASPECTS OF THIS MATTER AS THOROUGHLY AS IS HUMANLY POSSIBLE.

I THINK THAT THE APPELLANT DOES MAKE A REASONABLE CASE IN THE FACE OF POLICY AND GETTING HIS CORPORATE POINT OF VIEW ACROSS. BUT I THINK WE HAVE TO LOOK AT A DIFFERENT STANDARD AND FOR A DIFFERENT PURPOSE.

THERE WERE FIVE OR SIX POINTS THAT WERE MENTIONED BY THE ATTORNEY: NO DATA BEYOND THE CLAY BARRIER, AN AREA-WIDE PROBLEM, NOT COST-EFFECTIVE, UNREASONABLY BURDENSOME, AND THE FACT THAT THIS IS A REGIONAL PROBLEM.

THOSE COMMENTS ADDRESS MANY THINGS, BUT THEY DON'T ADDRESS THE BASIC QUESTION WITH REGARDS TO THAT WHICH WAS BROUGHT UP BY -- FOR LACK OF A BETTER NAME, I WILL CALL HIM WATERMASTER II -- MR. MANN. AND HIS ARGUMENT AND COMMENTS, I THINK, WERE VERY PERSUASIVE.

WE ARE IN A SITUATION HERE WHERE I BELIEVE THAT STAFF RECOMMENDATION SHOULD CARRY, BUT I WOULD ALSO COMMENT AND CAUTION THAT WE ARE DEALING WITH SPECIFICS HERE, AND WE CANNOT, NOR SHOULD WE, ALLOW THIS BODY TO HEAP THE PROBLEMS OF THE WORLD AND EVERYTHING THAT MAY BE FOUND IN THE WATER THAT WAS DERIVED FROM ANOTHER SOURCE, ON THIS PARTICULAR ENTITY. IF THAT'S THE CASE, THEN WE'LL BE SETTING

Exhibit 2

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

CLEANUP AND ABATEMENT ORDER NO. 99-104

Requiring HR Textron to cleanup and abate the effects of wastes discharged to soil and/or groundwater at its Paccima facility.

The California Regional Water Quality Board, Los Angeles Region, finds:

1. HR Textron, Inc.; herein after called HRT, is located at 10445 Glenoaks Blvd. in the city of Pacoima, county of Los Angeles, California.

2. The property is owned by Mr. William Tolson, 999 Green Street, # 1001, San Francisco, California. HRT has been the lease holder and the operator of this facility since 1966.

3. The site is located in the San Fernando Subunit of the Los Angeles River Basin. The San Fernando Subunit contains well fields which provide domestic drinking water to the residents of the San Fernando Valley and the Great Los Angeles area.

4. HRT manufactures various components used in the aerospace industry. The company uses both chlorinated and unchlorinated solvents, cutting oils and other chemicals in its manufacturing operations. According to information provided by HRT, both above ground and underground storage tanks have been and continue to be utilized by HRT for chemical, gasoline and waste storage purposes. A workplan for underground tank leak detection was requested by this Board's staff in 1984.

5. Between 1966 and January 1985, HRT utilized two underground tanks, 1,000 -gallon capacity for waste storage purposes. As part of HRT's leak detection and site assessment program, these two tanks were removed in January, 1985.

6. Various soil assessment studies have been conducted at the site by consultants for HRT. Reviews by Board staff of the analytical data in the subject site assessment reports resulted in the following findings:

   a. The subsurface stratigraphy at the site is generally silty sands interspersed with discontinuous clay lenses and poorly -sorted sands and gravel.

b. Volatile Organic Compounds, (VOCs) including trichloroethylene (TCE) methylene chloride, 1, 1, 1- trichloroethane(TCA), petroleum hydrocarbons and oil and grease were analytically confirmed in soil samples obtained from the soil borings. These chemicals have been used and/or stored at HRT facility.

c. Clay lenses occur at around 50-55 feet below ground surface, but are not considered a permanent barrier to contaminants migration. VOC contamination was found in soil samples at a depth of 78 feet and petroleum hydrocarbons were detected at a depth of 110 feet onsite.

d. During tank removal, an undisclosed amount of soil was excavated for offsite disposal. Questions remain regarding the final extent of cleanup achieved and the potential impact of the contamination on groundwater quality.

7. The chlorinated solvents confirmed in samples obtained at the site, including methylene chloride and 1, 1, 1- TCA, are highly mobile and have densities greater than that of water. Thus, these compounds behave as "sinkers" with respect to the movement of water in the permeable sediments underlying the facility.

8. In accordance with this, Regional Board staff directed HRT in three letters dated August 27, 1987, May 12, 1988 and April 5, 1989 to submit a groundwater investigation workplan.

9. The required technical reports were not received by their respective due dates. Several meetings were held to try to reach an understanding regarding HRT's activities. During the latest meeting, held on September 26, 1989, HRT was directed again by Board staff to submit the required workplan for groundwater investigation.

10. On October 16, 1989 the Board received a letter from HRT stating that HRT has" tentatively" concluded that the release from the underground storage tanks does not pose a present threat to groundwater and thus HRT does not intend to submit a groundwater investigation workplan.

11. HRT, however, has indicated its willingness to clean up the soil and has proposed to this Board a soils remediation plan. In a letter dated November 17, 1989 , Board staff responded to the HRT proposal and indicated no objection to its implementation on condition that groundwater monitoring wells are installed. Board staff emphasized the primary purposes of

the groundwater monitoring wells to be as follows:

1. Determine if groundwater underlying the site has been impacted by the confirmed chemical releases.

2. Monitor the effectiveness of any cleanup system including the proposed soil remediation.

12. This discharge of unauthorized wastes onsite is a violation of Section 13260 of the California Water Code, which requires that any person proposing to discharge waste to land must file a report of waste discharge and receive requirements from the Board.

13. The dischargers have not submitted a report of waste discharge. The Regional Board has not considered nor adopted waste discharge requirements for this facility.

14. The discharge of wastes at MRT threatens to cause a condition of pollution and nuisance. This discharge has contaminated the underlying soils and potentially the groundwater underlying the facility. Board staff has concluded that further investigation of this site is necessary to determine if VOCs and fuel hydrocarbons had migrated to the underlying groundwater.

15. On November 27, 1978, the Regional Board adopted a revised water quality plan for the Los Angeles River Basin. This plan lists the beneficial uses of the San Fernando Subunit which underlies the facility. The beneficial uses, as described in the Basin Plan, include municipal and domestic supply, agricultural supply, industrial service supply and industrial process supply.

16. Section 13304 of the California Water Code states, in part, that:
"Any person .... who has caused or permitted..... any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create a condition of pollution or nuisance, shall upon order of the Regional Board cleanup such waste or abate the effects thereof or, in the case of threatened pollution or nuisance, take other necessary remedial action."

17. This enforcement action is being taken for the protection of the environment and as such is exempt from the provisions of the California Environmental Quality Act (Public Resource Code, Section 21000 et. seq.) in accordance with Section 15321, Chapter 3, Title 14, California Code of Regulations).

Order

IT IS HEREBY ORDERED that pursuant to the California Water Code, Section 13304, the discharger shall:

1. By January 15, 1990, submit a comprehensive site characterization workplan to the Regional Board's Executive Officer for review and approval, describing in detail a groundwater investigation proposal capable of determining the full extent of any groundwater contamination originating from the facility.

2. By January 15, 1990, submit a facility audit to supplement information already provided to the Board. This audit must consist of, at a minimum, a written chronology and site plan showing all past and present use, storage and disposal of chemicals, including accidental spills, and a history of past pracitices and activities with respect to waste storage and offsite disposal. An appropriately scaled map with clear labelling of facility details including location, size and contents of all above and underground tanks and associated piping system shall be included with this audit report.

3. Implementation of the approved site characterization workplan shall begin no later than one month after its approval by the Executive Officer. The final report describing the analytical results and conclusions must be submitted to the Board no later than 90 days after workplan approval.

4. In order to insure that all work at the facility is conducted in a timely manner, monthly reports of progress are required. The first progress report under this schedule is due to this Board by February 18, 1990. The reports must include, but not be limited to, the following information.

   a. a discussion of all completed and ongoing activities during the reporting period;

   b. a discussion of proposed work activities for the next reporting period;

   c. an updated time schedule for completion of all additional work needed, and

   d. the results of any soil and/ or groundwater monitoring or testing completed.

This Order in no way limits the authority of the Regional Board, as contained in the California Water Code, to require additional investigation and cleanup pertinent to this project.

This Order may be revised by the Executive Officer as additional information from the project becomes available.

Failure to comply with the terms and conditions of this Order may result in imposition of civil liability, either by the Regional Board or judicially by the Superior Court, in accordance with Section 13350 et. seq., of the California Water Code and/or referral to the Attorney General of the State of California for such legal action as he may deem appropriate.

Robert P. Ghirelli

Robert P. Ghirelli. D. Env.
Executive Officer

12/18/89
Date

Exhibit 3

COPY

HEARING BEFORE THE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

107 SOUTH BROADWAY
LOS ANGELES, CALIFORNIA

MONDAY, APRIL 23, 1990

9:30 A.M.

Reported By:

CECILY KRAWCZYK

Karyn Abbott & Associates, Inc.
Certified Shorthand Reporters
714 West Olympic Boulevard, Suite 1112
Los Angeles, California 90015
(213) 749-1234

HEARING BEFORE THE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

107 SOUTH BROADWAY
LOS ANGELES, CALIFORNIA

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BOARD MEMBERS:	LARRY ZARIAN, VICE CHAIRMAN NAN J. DRAKE CLARK DRANE PAUL D. FLOWERS JAMES H. GROSSMAN RALPH B. HELM HENRY MORGAN DAN W. WALKER ROBERT P. GHIRELLI, EXECUTIVE OFFICER RICHARD A. HARRIS, ASSISTANT EXECUTIVE OFFICER DOLORES PAQUET, EXECUTIVE ASSISTANT JORGE LEON, ATTORNEY
SECTION CHIEF:	HANK H. YACOUB, TOXICS SECTION
STAFF:	PHILIP B. CHANDLER EJIGU G. SOLOMON
ALSO PRESENT:	MELVIN BLEVINS, SAN FERNANDO VALLEY WATERMASTER JOHN F. MANN, JR., U.L.A.R.A. WATERMASTER

A P P E A R A N C E S (CONTINUED):

FOR HR TEXTRON:

PETTIT & MARTIN
BY: MICHAEL HICKOK, ESQ.
355 SOUTH GRAND AVENUE
THIRTY-THIRD FLOOR
LOS ANGELES, CA 90071

DAVID B. DUNBAR,
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WILL PUT ON JUST BRIEFLY HERE.

THE PRESENT DEPTH OF THE GROUNDWATER BELOW THIS 125-FOOT LAYER IS NOT REALLY KNOWN. WE HAVE INDICATIONS FROM BOTH CURRENT CONDITIONS AND FROM THOSE BOREHOLES THAT IT MAY BE SIGNIFICANTLY BELOW THAT DEPTH, BUT THE PRECISE DEPTH BELOW THAT IS ACTUALLY UNKNOWN.

I WOULD LIKE TO JUST BRIEFLY SHOW HERE WHAT THE AVAILABLE DATA IS ON DEPTH OF GROUNDWATER BELOW THE SITE. THIS IS A REPRODUCTION OF THE MOST RECENT SPRING, 1988, GROUNDWATER DATA FOR THE WHOLE UPPER LOS ANGELES RIVER AREA BASIN. IT IS A LITTLE DIFFICULT TO SEE FROM A POINT HERE, BUT I WILL SUMMARIZE IT BRIEFLY.

AT THE SITE AND FOR A GOOD DISTANCE ON ALL SURROUNDING PARTS OF THE SITE, THERE ARE NO GROUNDWATER CONTOURS. REALLY -- AND I WOULD AGREE WITH THIS AS A HYDROGEOLOGIST, BECAUSE THERE IS NO DATA THAT WOULD REALLY SUPPORT DRAWING GROUNDWATER CONTOURS AT THAT SITE. THE BEST DATA WE HAVE IS DRILLING BOREHOLES AT THE SITE, AND THAT IS, INDEED, WHAT HAS BEEN DONE. THE DEPTH OF THE GROUNDWATER IS AT LEAST 125 FEET. IT IS PROBABLY MUCH DEEPER THAN THAT FROM A SPECULATIVE STANDPOINT BECAUSE WE'RE IN THE FOURTH YEAR OF A DROUGHT, AND IT IS LIKELY THAT THE DEPTH OF THE GROUNDWATER IS A BIT DEEPER THAN 120 FEET. IT IS DIFFICULT TO EXTRAPOLATE FROM THE SURROUNDING DATA BOTH ABOVE AND BELOW THE SITE, IF YOU WILL. POINTING IT OUT HERE, THERE ARE CONTOURS ON EITHER

REALLY, THAT'S WHERE WE ENDED UP.

SO OUR PERCEPTION IS -- OUR HOPE IS THAT IT'S GOING TO TAKE APPROXIMATELY $350,000 TO DO THE REMEDIATION. WE'VE SPENT A HALF A MILLION DOLLARS DOING SOIL INVESTIGATION. WE PERCEIVE THAT IT'S GOING TO BE ANOTHER $500,000 TO $600,000 TO DO ADDITIONAL GROUNDWATER INVESTIGATION. I DON'T THINK THAT WHAT IT COSTS OTHER PEOPLE IN THE AREA IS SIGNIFICANT. I THINK WHAT IT COSTS US IS SIGNIFICANT, GIVEN THE KIND OF RELEASE THAT WE HAVE AND THE KIND OF THREAT THAT WE HAVE.

I THANK YOU FOR YOUR HELP, AND I'M LOOKING FORWARD TO -- AGAIN, WE ARE ALL LOOKING FORWARD -- OUR COMPANY -- TO GETTING ON WITH REMEDIATION. WE ARE HOPEFUL THAT THIS CLEANUP AND ABATEMENT ORDER -- I DON'T KNOW THE PROPER ADMINISTRATION OF HOW YOU ALL WOULD ADMINISTER THIS THING. EITHER IT CAN BE HELD IN ABEYANCE OR WITHDRAWN. IT HAS NEVER BEEN OUR INTENTION, HOWEVER, TO REFUSE TO DRILL. I WOULD JUST LIKE -- IF I CAN ANALOGIZE IT, RATHER THAN HAVING OPEN-HEART SURGERY, I WOULD RATHER GO THROUGH SOME LESS ONEROUS PROCEDURES FROM MY POINT OF VIEW, AND IDENTIFY WHAT THE SCOPE OF OUR PROBLEM IS WITHOUT GOING TO ULTIMATE MAXIMUM AND MAXIMUM RISK, FOR US AT LEAST.

OF COURSE, I UNDERSTAND THE GROUNDWATER IS UNDER STRESS. YOU ALL HAVE A DIFFERENT FOCUS. YOU ARE LEADING THE PUBLIC POLICY AND LEADING THE ENVIRONMENTAL MARCH

DON'T NEED NECESSARILY A GROUNDWATER WELL AT A LOCATION TO KNOW WHAT THE DEPTH IS APPROXIMATELY. AND SO I HAVE AN OPINION ON THAT.

IN TERMS OF WHERE THE WATER LEVEL HAS BEEN IN THE PAST, I THINK MR. YACOUB INDICATED THAT IT HAS BEEN SOMEWHERE BETWEEN 100 AND MAYBE, AT THE MOST, A DEPTH OF 200 FEET BELOW. WE HAVE HAD FOUR BELOW-NORMAL YEARS OF RUNOFF, AND SO THAT ENTERS INTO THE PICTURE. BUT I WOULD SAY THE DEPTH OF WATER RIGHT NOW COULD EASILY BE SOMEWHERE AROUND 160, 150, 170 -- TO 170 FEET. THAT WOULD BE MY OPINION IN TERMS OF WHERE THE DEPTH OF WATER IS BASED ON THE KIND OF CONFIGURATION AS IT RELATES TO GROUNDWATER FLOW.

ANOTHER THING I DID IN THIS STUDY BACK IN 1977 IS THAT I ESTIMATED WHAT THE RECHARGE TO THE WHOLE BASIN IS, NOT ONLY FROM RAINFALL, BUT FROM WATER THAT'S DELIVERED AND RETURNS, AS A MATTER OF THE KIND OF MATERIALS THAT ARE THERE.

IN THE SANDS AND GRAVELS THAT ARE LOCATED THERE, IN THE PAST THERE HAVE BEEN SPREADING STUDIES, AND I DON'T NEED A PERMEAMETER OR SOME OF THOSE TYPES OF THINGS, BUT WHEN WATER IS PUT ON THE SURFACE OF THE GROUND THERE THROUGHOUT THE BASIN, AND MAYBE SITE SPECIFIC IS IMPORTANT, BUT IT VARIES ANYWHERE FROM WHERE WATER WOULD FLOW BETWEEN THREE FEET TO SIX FEET A DAY.

SO WHEN YOU TALK ABOUT 100 FEET OF WATER,

COUNSELORS THAT THE QUESTION IS WRAPPED AROUND A WORD CALLED "PROBABLY." AND THE PHRASE WAS "PROBABLY WILL HAVE AFFECTED GROUNDWATER."

NOW, YOU INDICATED THE VERBIAGE OF "CONCEIVABLE," AND WE HAVE GOT TO WORK WITH THE WORD "PROBABLE." IS IT YOUR TESTIMONY THAT, IN FACT, THAT THERE IS A PROBABILITY THAT WHAT WE ARE DEALING WITH TODAY HAS AFFECTED GROUNDWATER?

MR. BLEVINS: THERE IS NOT ONLY A PROBABILITY, THERE IS A STRONG, STRONG POTENTIAL THAT IT WOULD AFFECT GROUNDWATER.

MR. WALKER: THAT'S A STRONG "PROBABLE"?

MR. BLEVINS: THAT'S A STRONG "PROBABLE."

MR. VERNON: ANY OTHER QUESTIONS FOR MR. BLEVINS?

THANK YOU VERY MUCH, MR. BLEVINS.

MR. BLEVINS: THANK YOU.

MR. HICKOK: MR. CHAIRMAN, WE WERE TOLD THAT WE WOULD BE ALLOWED A BRIEF CROSS-EXAMINATION. WOULD NOW BE THE TIME OR NOT?

MR. WALKER: THE WORD IS "NOT."

MR. HICKOK: NOT? THANK YOU.

MR. VERNON: LET'S FINISH OUR TESTIMONY. FOLLOWING MR. MANN'S TESTIMONY, I'M GOING TO CONFER WITH THE BOARD HERE ON OUR SCHEDULE.

MR. MANN: MY NAME IS JOHN F. MANN, M-A-N-N. I

LIVE AT 945 REPASADO DRIVE, LA HABRA, 90631.

I WAS A PROFESSOR AT USC AND TAUGHT COURSES IN GROUNDWATER AND GROUNDWATER MANAGEMENT FOR A PERIOD OF 26 YEARS. I WAS A CONSULTANT TO THE STATE WATER RESOURCES CONTROL BOARD ON THE AEROJET PROBLEM IN SACRAMENTO FOR A PERIOD OF SEVEN OR EIGHT YEARS. I'M THE COURT-APPOINTED WATERMASTER IN THE PUENTE BASIN, WHICH IS THE TRIBUTARY TO SAN GABRIEL VALLEY. I'M APPEARING HERE ON BEHALF OF THE UPPER LOS ANGELES AREA RIVER AREA WATERMASTER, AND IT'S AN AREA IN WHICH I HAVE HAD EXPERIENCE FOR NOW MORE THAN 33 YEARS.

THE PROBLEM HERE IS VERY SIMPLE. I HATE TO SEE THINGS GETTING ALL TIED UP IN THESE LEGAL TERMS. THE QUESTION IS: HAVE THE MATERIALS THAT LEAKED FROM THESE TANKS REACHED GROUNDWATER?

IT'S VERY DIFFICULT TO CONCLUDE ONE WAY OR ANOTHER. IN MY EXPERIENCE, THESE CLAYS IN AN ENVIRONMENT LIKE THIS -- THIS IS AN ENVIRONMENT OF WHAT IS CALLED "CUT-AND-FILL" STRUCTURES. ON THE SIDES OF THE CHANNELS AT THE TIME OF FLOODS, THE SILTS AND CLAYS WOULD BE DEPOSITED, AND I HAVE SEEN MANY OF THEM IN GRAVEL PITS OF THE SAN FERNANDO VALLEY.

WHEN THE NEXT FLOOD COMES ALONG, IT TENDS TO CUT THROUGH THAT CLAY AND DEPOSIT GRAVEL. SO YOU HAVE A SERIES OF CHANNELS. AND QUITE OFTEN THESE CLAYS WILL END ALONG THE EDGE OF A LATER CHANNEL, WHICH HAS BEEN CUT AND THEN

BACKFILLED WITH GRAVEL. AND THAT IS THE PICTURE.

THE CLAYS ARE NOT EXTENSIVE. THEY TEND TO BE MORE EXTENSIVE ALONG THE COURSE OF THE STREAM THAN THEY DO AT RIGHT ANGLES.

SO THE PROSPECT IS THAT WHEN POLLUTANTS LEAK DOWN AND THEY HIT ONE OF THESE LAYERS, THE MATERIAL TENDS TO MOVE -- DOESN'T HAVE TO GO THROUGH THE CLAY. IT SORT OF SPILLS UNDERGROUND OVER THE SIDE OR THE EDGE OF THE CLAY. AND WE ARE DEALING HERE WITH -- IT'S VERY DIFFICULT TO ANSWER THIS QUESTION OF WHETHER THE POLLUTANTS HAVE ACTUALLY GOTTEN TO THE WATER TABLE.

I WILL SAY THIS: I DON'T BELIEVE THE STATE OF THE ART ALLOWS THE CONCLUSION FROM SAMPLING MERELY IN THE CLAY ZONE, WHICH THIS WHOLE PROBLEM INVOLVES. THAT DOESN'T ANSWER THE QUESTION.

WHAT WE NEED IS ONE OR MORE WELLS TO GROUNDWATER, AND THEN AN ACTUAL SAMPLE OF GROUNDWATER TO FIND OUT IF THE POLLUTANTS ARE IN THERE. I DON'T THINK IT'S POSSIBLE TO SIFT DATA TAKEN PERHAPS 100 FEET ABOVE THE WATER TABLE, AND MAKE A FIRM CONCLUSION THAT THE WATER DIDN'T GET THERE, THAT THE POLLUTANTS DIDN'T GET TO THE WATER.

NOW, I THINK WHAT WE HAVE TO DO HERE -- I AM LONG FAMILIAR WITH REGIONAL BOARD ACTIVITIES -- YOU MUST BE CAUTIOUS. IN THE EARLY DAYS OF THE ENVIRONMENTAL CONCERN ABOUT THIS, STARTING WHEN ALL OF THE VOLATILE ORGANICS CAME --

CONCERN ABOUT THEM CAME IN 1980, THERE WERE MANY CLAIMS THAT "YES, THIS LEAKED, BUT IT DIDN'T GET TO THE WATER TABLE."

THERE HAVE BEEN NUMEROUS EXPERIENCES SINCE THEN THAT HAVE PROVED THAT THE ORIGINAL ASSESSMENT WAS INCORRECT. I THINK THAT YOU MUST BE CAUTIOUS HERE, AND I THINK THE ANSWER TO THIS IS RELATIVELY SIMPLE -- YOU DRILL TO THE GROUNDWATER AND TAKE THE SAMPLE.

NOW, I APPRECIATE THE PROBLEMS OF SOMEONE IN A COMMUNITY OF INDUSTRIES, MANY OF WHICH HAVE PROBLEMS OF THIS SORT, OF DRILLING DOWN AND POSSIBLY GETTING A SAMPLE OF WATER THAT INCLUDES CHEMICALS THAT ARE NOT FROM YOUR PLANT. THIS IS THE RISK THAT EVERY INDUSTRY TAKES, EVERY LEAK, UNLESS THERE IS AN ISOLATED ONE OUT IN THE MIDDLE OF THE BASIN WHERE THERE IS ABSOLUTELY NOTHING ELSE AROUND. BUT WHEN YOU GET INTO THIS PART OF THE RISK THAT HAS TO BE TAKEN, AND I DON'T SEE HOW YOU CAN GET AROUND IT. AND, HOPEFULLY, THAT WHEN IT COMES TO THE NEW AND EXCITING THINGS ABOUT TRANSPORTING THE SOURCE OF POLLUTANTS, THE SORT OF WORK THAT DR. KAPLAN IS WORKING ON, THAT WE CAN GET THE ANSWER TO THE QUESTION THAT APPEARS TO BE SO UNFAIR, THAT YOU DRILL UNDER SOMEBODY ELSE'S PROPERTY AND YOU GET NICKED FOR THE CLEANUP. THIS IS UNFORTUNATE. HOPEFULLY, THERE WILL BE A BREAKTHROUGH THERE ON THE TRANSPORTING.

BUT I WOULD SUGGEST THAT UNTIL YOU HAVE A SAMPLE OF GROUNDWATER THAT SHOWS POLLUTANTS, YOU DON'T EVEN

HAVE A TRANSPORT TO WORK WITH.

THANK YOU.

MR. VERNON: ANY QUESTIONS OF DR. MANN?

THANK YOU VERY MUCH.

BOARD, WE HAVE EXACTLY ONE-HALF HOUR OF SLACK PRESUMING, OF COURSE, THAT WE CAN DO THE SEPTIC TANK ISSUE IN THE TWO HOURS BETWEEN 3:00 AND 5:00.

WHAT'S THE BOARD'S WISH? IS YOUR WISH TO GO TO 1:00 AND THEN TAKE NO MORE THAN HALF AN HOUR FOR LUNCH? DO YOU WISH TO ADJOURN NOW FOR LUNCH AND COME BACK AND WIND IT UP? WHAT'S THE PLEASURE OF THE BOARD?

MR. WALKER: I THINK THAT WE SHOULD STICK TO THE SCHEDULE THAT WE ESTABLISHED.

MR. ZARIAN: MR. CHAIRMAN, I AM NOT EVEN SURE THAT I NEED A HALF HOUR FOR LUNCH. I THINK THAT I CAN GET IT ALL DONE IN 15 MINUTES AND GET BACK. AT LEAST I THINK I CAN GET BACK IN 15 MINUTES.

MR. WALKER: YOUR MOTHER ALWAYS SAID YOU GULPED YOUR FOOD.

MR. ZARIAN: WELL, WHAT I'M SAYING, I DON'T EAT AS MUCH.

MR. VERNON: WHAT WE HAVE TO DO TO CONCLUDE THIS CASE IS THAT TEXTRON HAS A RIGHT TO CROSS-EXAMINATION; THEN WE HAVE A STAFF RECOMMENDATION, A STAFF RECAP; THEN WE HAVE A BOARD DISCUSSION AND DIRECTIONS TO STAFF. WE HAVE 30 MINUTES

ALL RIGHT. THEN THE NEXT ITEM IS THE BOARD'S DISCUSSION.

YES, MR. WALKER.

MR. WALKER: I THINK THAT WE HAVE LOOKED INTO ALL ASPECTS OF THIS MATTER AS THOROUGHLY AS IS HUMANLY POSSIBLE.

I THINK THAT THE APPELLANT DOES MAKE A REASONABLE CASE IN THE FACE OF POLICY AND GETTING HIS CORPORATE POINT OF VIEW ACROSS. BUT I THINK WE HAVE TO LOOK AT A DIFFERENT STANDARD AND FOR A DIFFERENT PURPOSE.

THERE WERE FIVE OR SIX POINTS THAT WERE MENTIONED BY THE ATTORNEY: NO DATA BEYOND THE CLAY BARRIER, AN AREA-WIDE PROBLEM, NOT COST-EFFECTIVE, UNREASONABLY BURDENSOME, AND THE FACT THAT THIS IS A REGIONAL PROBLEM.

THOSE COMMENTS ADDRESS MANY THINGS, BUT THEY DON'T ADDRESS THE BASIC QUESTION WITH REGARDS TO THAT WHICH WAS BROUGHT UP BY -- FOR LACK OF A BETTER NAME, I WILL CALL HIM WATERMASTER II -- MR. MANN. AND HIS ARGUMENT AND COMMENTS, I THINK, WERE VERY PERSUASIVE.

WE ARE IN A SITUATION HERE WHERE I BELIEVE THAT STAFF RECOMMENDATION SHOULD CARRY, BUT I WOULD ALSO COMMENT AND CAUTION THAT WE ARE DEALING WITH SPECIFICS HERE, AND WE CANNOT, NOR SHOULD WE, ALLOW THIS BODY TO HEAP THE PROBLEMS OF THE WORLD AND EVERYTHING THAT MAY BE FOUND IN THE WATER THAT WAS DERIVED FROM ANOTHER SOURCE, ON THIS PARTICULAR ENTITY. IF THAT'S THE CASE, THEN WE'LL BE SETTING

Exhibit A

LIST OF LARWQCB INVESTIGATION SITES WHERE GROUND WATER MONITORING WAS NOT REQUIRED

1. MOC Products (Case ID# 913311134)
   12306 Montague St.
   Pacoima, CA 91331

2. American Etching & Manufacturing (Case ID# 913311061)
   Roger Beem
   13730 Desmond Street
   Pacoima, CA 91331

3. Borg-Warner Fluid Controls
   7500 Tyrone Ave.
   Van Nuys, CA

4. Fansteel Precision Sheet Metal (Case ID# 4C900450016)
   5235 W. 104th Street
   Los Angeles, CA 90045

5. Mr. M. W. Carlson (Case ID# 83-8)
   Mobil Oil Corp.
   West Coast Pipelines
   3700 West 190th St.
   Torrance, CA 90509

6. Peterson/Puritan, Inc. (Case ID# 90670006)
   9101 South Sorensen Ave.
   Santa Fe Springs, CA 90670

7. Shell Service Station (Case ID# 913401961)
   11278 Laurel Canyon Blvd.
   Mission Hills, CA 91340

COPY

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Attorneys for Plaintiff/Petitioner
HR TEXTRON INC.

RECEIVED
FEB 12 1991
VP Legal and Contracts

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

HR TEXTRON INC., Plaintiff/Petitioner, vs. REGIONAL WATER QUALITY CONTROL BOARD FOR THE LOS ANGELES REGION, Defendant/Respondent.	CASE NO. BC 001733 NOTICE OF RULING DATE: February 4, 1991 TIME: 10:00 a.m. DEPT: 1 PREVIOUSLY ASSIGNED DEPT: 64 CASE TRANSFERRED TO DEPT: 85 TRIAL DATE: None set.

TO: ALL PARTIES HERETO AND TO THEIR ATTORNEYS OF RECORD:

PLEASE TAKE NOTICE that on February 4, 1991, the Court, per Commissioner Emilie H. Elias, transferred this action to Department 85 for all further proceedings.

/ / /

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copy in file

PLEASE TAKE FURTHER NOTICE that the Clerk of Department 85 notified us that no further action, if any, should be required of the parties until the administrative proceedings have terminated.

DATED: February 5, 1991

BALLARD, ROSENBERG & GOLPER
LINDA AUERBACH ALLDERDICE

and

SEYFARTH, SHAW, FAIRWEATHER
& GERALDSON
MICHAEL L. HICKOK

By: Linda Allderdice
Linda Auerbach Allderdice
Attorneys for Plaintiff
HR TEXTRON INC.

WP4:43011:ln

PROOF OF SERVICE

I am a citizen of the United States, and am employed in the County of Los Angeles in the office of a member of the bar of this Court at whose directions this service was made. I am over the age of 18, and not a party to the within action. My business address is: 10 Universal City Plaza, Suite 1650, Universal City, California 91608.

On February 5, 1991, I served the foregoing document described as:

NOTICE OF RULING

on the interested parties in this action, by placing a true copy thereof enclosed in sealed envelopes addressed as follows:

Michael L. Hickok, Esq.
SEYFARTH, SHAW, FAIRWEATHER
& GERALDSON
2029 Century Park East
Suite 3300
Los Angeles, California 90067

Douglas B. Noble, Esq.
Deputy Attorney General
Daniel Lungren
Attorney General of the
State of California
3580 Wilshire Boulevard
Los Angeles, CA 90010

___ (BY MAIL) I deposited such envelope in the mail at Universal City, California. The envelope was mailed with postage thereon fully prepaid.

XXX (BY MAIL) and personally placing such envelope with postage fully prepaid for collection and mailing on the above-referenced date following the ordinary business practices of this office. I am readily familiar with our office's practice for collection and processing of correspondence for mailing with the United States Postal Service. In the ordinary course of business, correspondence, including said envelope, would be deposited with the United States Postal Service at Universal City on the above-referenced date.

I declare under penalty of perjury that the foregoing is true and correct under the laws of the State of California. Executed on February 5, 1991, at Universal City, California.

Elizabeth Nazarian
ELIZABETH NAZARIAN

WP4:pos

2166-04748

12/3/90
Copy
Sent
Landlord

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SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

HR TEXTRON, INC., Plaintiff/Petitioner, vs. REGIONAL WATER QUALITY CONTROL BOARD FOR THE LOS ANGELES REGION, Defendant/Respondent.	CASE NO. BC 001733 **DECLARATION OF DAVID B. DUNBAR IN SUPPORT OF PETITION OF HR TEXTRON INC. FOR PRELIMINARY INJUNCTION** **DATE:** June 12, 1990 **TIME:** 9:00 a.m. **DEPT:** 85

I, DAVID B. DUNBAR, the undersigned, hereby declare and say as follows:

1. I am a Principal of ERM-West, Inc., located at 1920 Main Street, Suite 600, Irvine, California 92714-7210. I have direct and personal knowledge of the facts set forth herein, and if called and sworn as a witness, I could and would testify to the same.

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2. ERM-West, Inc. ("ERM"), is a technical consultant to HR TEXTRON INC. ("TEXTRON") in connection with the remediation of a limited release of contaminents from two underground storage tanks into the soil directly beneath the tanks at TEXTRON's Pacoima manufacturing facility.

3. I appeared as an expert witness on behalf of TEXTRON at the April 23, 1990 hearing before the California Regional Water Quality Control Board, Los Angeles Region, in connection with Order 89-104.

4. I have been directly involved in designing and implementing the remediation plan for the Pacoima site. The remediation plan basically involves the installation of a vapor extraction system at the site of the release.

5. In my opinion, the remediation plan is properly limited to soil remediation, as the contaminants from the soil release have not migrated to groundwater and have not impacted the groundwater below the site. Furthermore, the remediation plan is designed in such a way that the contaminants in the soil release will be affected immediately, so that any migration of the chemicals Total Petroleum Hydrocarbons (TPH) and Volatile Organic Compounds (VOC's) through the clay layer located at approximately 46.5 to 52.5 feet below grade will be prevented.

6. On approximately April 21, 1990, the remediation process was commenced under ERM's direction and supervision. The remediation process has produced significant and compelling new data, not available at the April 23, 1990 hearing, that completely supports TEXTRON's position that drilling to

groundwater pursuant to Order 89-104 is at best premature, and at worst highly risky given the likelihood of breaching the clay layer, that to date has served as an effective barrier to contaminant migration.

THE REMEDIATION WORK PERFORMED

7. As part of the installation of a vapor extraction system, five soil borings were installed using a CME-55 truck-mounted drilling rig equipped with 10-inch continuous-flight hollow-stem augers and soil samples were obtained and analyzed.

8. Four of these boreholes (named IW-1, -2, -3 and-4) were converted to air injection wells. One boring (named EX-1) in the center of the former tank excavation was converted to a vapor extraction well.

9. These borings were installed during the April 21-29, 1990, time period. Soil borings converted to wells were installed to a depth of up to 52 feet below grade, depending on the thickness of the clay layer at approximately 50 feet.

10. Relatively undisturbed soil samples were collected from all borings at 5-foot intervals with a few exceptions that have been noted in the boring logs.

THE SOIL SAMPLING PROCESS

11. Soil samples were collected by pounding a California modified split-spoon sampler ahead of the augers with a 140-pound hammer dropped from a height of 30 inches.

12. Soil sample tubes were examined in 6-inch sections for classification and lithologic description. Soil samples and drill cuttings were visually inspected and classified according to the Unified Soil Classification System

(USCS). A boring log was generated at each location which records vertical variations in lithology, moisture content, color, texture, odor, and organic vapor concentration of the soil. Boring logs from this investigation are attached hereto as Exhibit "A" and are incorporated herein by this reference as though set forth in full.

13. Soil samples for chemical analysis were collected in 2-inch diameter by 6-inch brass tubes. The sample tubes were covered at each end with Teflon film and air-tight plastic caps. Each sample was labeled indicating sample number, depth, time, job number, and client. Following sample labeling, the samples were immediately placed in a Zip-lock bag and enclosed in an iced cooler for transport to the analytical laboratory. Chain of Custody forms were completed in the field and accompanied the samples to the analytical laboratory.

14. In accordance with the investigation workplan, the wells have been cleaned, filled and sealed in such a manner as to prevent cross-contamination.

THE CLAY LAYER IS CONFIRMED

15. The lithologic conditions encountered in the five new boreholes were entirely consistent with those encountered in the previous boreholes at the release site. In particular, the silty clay layer (a reddish-brown silty clay with traces of sand) that was reported at a depth interval of 46.5 and 52.5 feet below land surface in previous boreholes at the site was also encountered at this same depth interval in each of the five new boreholes.

TOTAL PETROLEUM HYDROCARBONS

16. With regard to Total Petroleum Hydrocarbons (TPH), in borehole EX-1 (which was installed through the cylindrical release plume) the concentrations of TPH in soil samples taken in the interval from land surface to the top of the 50-foot clay layer ranged from approximately 1,000 to 20,000 parts per million (ppm) with most concentrations above 8,000 ppm.

17. Immediately above the 50-foot clay layer these elevated soil concentrations dropped to 900 ppm. Within the clay layer itself, concentrations of TPH were reported at 400 ppm in the upper portion and at non-detectable levels in the lower portion of the clay.

18. In the four boreholes installed and sampled outside the cylindrical release plume (IW-1 through IW-4), TPH concentrations were at the non-detectable level. The only exception to this was trace levels of TPH (less than 20 ppm) at 15 and 20 feet depth in one borehole. However, all soil samples below these two were reported as non-detectable for TPH. The process of extracting the soil sample effectively removed the trace findings from the soil.

VOLATILE ORGANIC COMPOUNDS

19. With regard to Volatile Organic Compounds (VOC's), in borehole EX-1 the concentrations of VOC's in soil samples taken in the interval from land surface to the top of the 50-foot clay layer ranged from approximately 2,000 to 40,000 parts per billion (ppb).

20. Immediately above the 50-foot clay layer these elevated soil concentrations dropped to 1000 ppb. Within the clay layer itself, concentrations of VOC's were reported at 500 ppm in the upper portion and at trace levels (40 ppb) in the lower portion of the clay.

21. In the four boreholes installed and sampled outside the cylindrical release plume (IW-1 through IW-4), VOC concentrations were at the non-detectable level except for trace levels (less than 10 ppb) in the uppermost portion of the clay layer itself. The only exception to this was trace levels of VOC (less than 10 ppb) at depths less than 30 feet in one borehole.

ADDITIONAL CHEMICAL TESTING FOR EVIDENCE OF MIGRATION

22. Additional tests were conducted for four chemicals, Benzene, Toluene, Ethylbenzene and Xylene, that are commonly associated with gasoline contamination. In borehole EX-1, the concentrations of benzene, toluene, ethylbenzene and xylene (BTEX) in soil samples taken in the interval from land surface to the top of the 50-foot clay layer ranged from approximately 50 to 21,000 parts per billion (ppb).

23. Immediately above the 50-foot clay layer and within the clay layer itself, these elevated soil concentrations dropped to non-detectable levels.

CONCLUSIONS

24. The data resulting from these additional five borings, confirm the earlier findings that described the lateral and vertical extent of the contaminant plume in the soil directly below the two underground storage tanks.

25. In particular, the plume of TPH, BTEX and VOC's in soil has penetrated through the soil from the bottom of the tank excavation to the top of the "50-foot" clay layer. The leading edge of the plume as defined by trace levels of VOC's has reached into the clay layer itself. However, the clay layer is not saturated with respect to any of the contaminants. This saturation of the clay is a necessary first step in the migration of contaminants through the clay layer. There are no data from the four boreholes installed outside the plume that show the contaminants to extend beyond the 25-foot diameter originally described.

26. The lithologic data from these boreholes also confirms that the silty clay layer at approximately 46.5 to 52.5 feet is continuous within at least a 50-foot radius of the tank release.

27. The data from these five boreholes give no reason to change the original conclusion that the distribution of contaminants do not demonstrate a probable release to ground water.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed at Los Angeles, California this 31st day of May, 1990.

DAVID B. DUNBAR

WP4:42404:ln

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SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

HR TEXTRON, INC., Plaintiff/Petitioner, vs. REGIONAL WATER QUALITY CONTROL BOARD FOR THE LOS ANGELES REGION, Defendant/Respondent.	CASE NO. BC 001733 REQUEST FOR LEAVE TO FILE MEMORANDUM EXCEEDING 15 PAGES; SUPPLEMENTAL MEMORANDUM IN SUPPORT OF PRELIMINARY INJUNCTION DATE: June 12, 1990 TIME: 9:00 a.m. DEPT: 85

REQUEST FOR LEAVE TO FILE MEMORANDUM EXCEEDING 15 PAGES

Plaintiff and Petitioner HR TEXTRON INC. respectfully requests leave for consideration by the Court of its previously filed Memorandum in Support of Motion For Preliminary Injunction. The 31-page length of that pleading is necessitated by the nature of this case, and it includes a

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summary "Preliminary Statement," as well as descriptive headings. Douglas Noble from the Office of the California Attorney General representing Defendant/Respondent has no objection to the length of that pleading.

SUPPLEMENTAL MEMORANDUM IN SUPPORT OF PRELIMINARY INJUNCTION

Pursuant to the Court's Order of May 22, 1990, Petitioner HR TEXTRON INC. ("TEXTRON") respectfully submits this Supplemental Memorandum and the accompanying Declarations of David B. Dunbar and Dr. Issac Kaplan in support of its application for a preliminary injunction.

A. Soil Sampling That Has Recently Occurred As Part of the Remediation Process Confirms That There Is No Probable Threat of Contaminant Migration to Groundwater.

TEXTRON commenced remediation of the soil release on or about April 21, 1990. As part of the remediation process, five (5) additional soil borings were made in order to confirm the vertical and lateral dimensions of the release. Soil from these five (5) borings was sampled at regular intervals and tested for chemical contamination, specifically for Total Petroleum Hydrocarbon (TPH) and Volatile Organic Compounds (VOC's), and for a series of chemicals commonly associated with gasoline contamination. (Declaration of David B. Dunbar, accompanying this Supplemental Memorandum, paras. 6-22.)

The data from these borings and the findings they produce are compelling, in that they confirm the technical data on which TEXTRON has based its resistance to Order 89-104.

These findings are fully explained in the Declarations of Dunbar and Kaplan.

In summary, the data and findings support the preliminary injunction as follows:

First, the findings confirm the limited extent of the soil release, as previously characterized by TEXTRON's technical consultants. Second, the findings confirm the existence of a clay layer between 46 1/2 and 52 1/2 feet below surface, that is continuous, at least within a fifty foot radius of the tank release. Third, the pattern of detected and non-detected results confirm that, while the leading edge of the plume has reached the top of the clay layer, the clay layer has held firm as a barrier to contaminant migration, as the clay layer is not saturated. Fourth, in the lower part of the clay layer, there were non-detects of TPH within the release. Outside the release, TPH concentrations were also at non-detect levels in all samplings, except for trace samplings in one boring at 15 and 20 feet, but non-detects below that. The sampling process itself removed the TPH at those levels. Fifth, only trace levels of VOC were detected within the release in the lower portion of the clay, and outside of the release's cylindrical plume, results were non-detect in the lower portion of the clay layer. Sixth, confirmation testing of chemicals customarily associated with gasoline contamination resulted in non-detects immediately above the clay layer and within the clay layer itself.

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The data from the remediation process confirms that there is no probable threat to groundwater from the TPH and VOC contaminants released at the Pacoima site from the two underground tanks. In light of these findings, as well as the reasons discussed in the moving papers, TEXTRON will be irreparably harmed if it is forced to commence groundwater monitoring before the merits of the Regional Board action can be reviewed in accordance with the statutory remedy.

B. The Regional Board Exceeded Its Authority In Ordering TEXTRON To Perform A General Facility Audit.

On May 23, 1990, under protest, TEXTRON complied with the first of its numerous obligations under Order 89-104, by submitting inter alia a general facility audit report. Paragraph 2 of the Order requires submission of a general facility audit covering subjects as broad as "all past and general use, storage and disposal of chemicals" and "a history of past practices and activities with respect to waste storage and offsite disposal." (Hickok Decl., Exh. 2. Tab 1, p.4.) The Regional Board has no authority under Water Code Section 13304 to require a general facility environment audit, in

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response to an underground tank leak, and such a requirement exceeds the Regional Board's investigative authority.

DATED: May 31, 1990

Respectfully submitted,

PETTIT & MARTIN
MICHAEL L. HICKOK

and

BALLARD, ROSENBERG & GOLPER
LINDA AUERBACH ALLDERDICE

By: _____
Michael L. Hickok
Attorneys for Plaintiff/
Petitioner HR TEXTRON INC.

WP4:42405:ln

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AND RELATED LITIGATION

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+ Pettit & Martin

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HR TEXTRON

PRIVILEGED AND CONFIDENTIAL

FAX NO.: (805) 259-9622

DATE: May 30, 1990 TIME: 2:20 p.m.

TELECOPIER TRANSMITTAL LETTER

Please deliver the accompanying telecopied material to:

NAME: MR. JOHN HEDGES

HR TEXTRON INC.

FROM: LINDA ALLDERDICE, ESQ.

BALLARD, ROSENBERG & GOLPER

Total number of pages including this Transmittal Letter: 13

MESSAGE: ATTACHED ARE WORKING DRAFTS OF DUNBAR'S DECLARATION AND THE SUPPLEMENTAL MEMORANDUM. I WILL PREPARE IAN'S SUPPORTING DECLARATION AFTER RECEIVING YOUR COMMENTS.

If you have any problems receiving, please call:

NAME: Liz Nazarian

PHONE NO.: (818) 509-7100, EXT. 2120

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LINDA AUERBACH ALLDERDICE, State Bar No. 81227
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MICHAEL L. HICKOK, State Bar No. 71203
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(213) 277-7200

Attorneys for Plaintiff/Petitioner
HR TEXTRON INC.

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SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

HR TEXTRON INC., Plaintiff/Petitioner, vs. REGIONAL WATER QUALITY CONTROL BOARD FOR THE LOS ANGELES REGION, Defendant/Respondent.	CASE NO. BC 001733 **NOTICE OF MOTION AND MOTION FOR RELIEF FROM ASSIGNMENT TO FAST TRACK DEPARTMENT 64; MEMORANDUM OF POINTS AND AUTHORITIES; AND DECLARATION OF LINDA AUERBACH ALLDERDICE IN SUPPORT THEREOF** **DATE: January 28, 1991** **TIME: 9:00 a.m.** **DEPT: 1** **STATUS CONFERENCE: 3/6/91** **TIME: 8:00 a.m.** **DEPT: 64** **TRIAL DATE: None set.**

TO: DEFENDANT REGIONAL WATER QUALITY CONTROL BOARD FOR THE LOS ANGELES REGION AND TO ITS ATTORNEYS OF RECORD:

PLEASE TAKE NOTICE that on January 28, 1991, at 9:00 a.m., or as soon thereafter as counsel may be heard, in Department 1 of the Superior Court of the County of Los

350174

Angeles, located at 111 North Hill Street, Los Angeles, California 90012, Plaintiff HR TEXTRON INC. will move this court for relief from assignment to Fast Track Department 64 and for a reassignment of this action on the grounds that (1) good cause exists for a reassignment of this action, as this action is atypical of the civil litigation matters that the Fast Track procedures are designed to expedite; and (2) this reassignment is consistent with the underlying policies of this court's Fast Track Rules;

This Motion is based upon this Notice, the supporting Memorandum of Points and Authorities and the supporting Declaration of Linda Auerbach Allderdice filed herewith and attached hereto, oral argument presented at the hearing on this matter, all pleadings filed to date, and all such other matters as the court may deem appropriate.

DATED: January 7, 1990

BALLARD, ROSENBERG & GOLPER
LINDA AUERBACH ALLDERDICE

and

SEYFARTH, SHAW, FAIRWEATHER
& GERALDSON
MICHAEL L. HICKOK

By: _____
Linda Auerbach Allderdice
Attorneys for Plaintiff
HR TEXTRON INC.

WP4:42941:ln

MEMORANDUM OF POINTS AND AUTHORITIES

I.

INTRODUCTION.

This motion is brought by plaintiff HR Textron Inc. ("Textron") to have the instant action transferred from Department 64 and the Fast Track Calendar to Department 1 for purposes of reassignment to a non-Fast Track proceeding. This motion is not opposed by the defendant, the Regional Water Quality Control Board for the Los Angeles Region ("Regional Board"). As will be demonstrated below, good cause exists for granting the relief requested herein, as this action is atypical of the civil litigation matters that the Fast Track procedures are designed to expedite.

II.

STATEMENT OF FACTS.

On May 22, 1990, the instant action was commenced by Textron in order to obtain, in part, a preliminary injunction barring immediate enforcement of the Regional Board's Clean Up and Abatement Order 89-104 ("Order 89-104"). Order 89-104 was issued by the Regional Board's staff on December 18, 1989, and was ratified by the Regional Board on April 23, 1990, with an effective date of May 23, 1990.

On or about May 16, 1990, Textron filed with the State of California Water Resources Control Board ("State Board") a Petition for Review to set aside Order 89-104. This administrative review proceeding is now pending. The State

Board is not expected to address this matter until the end of February at the earliest.

Despite the pending administrative review proceeding, the Regional Board threatened to proceed with an enforcement action of Order 89-104 upon the Order's effective date. Such action would have resulted in substantial penalties for Textron. Accordingly, the instant complaint was filed. On June 13, 1990, the Superior Court, by the Hon. John Zebrowski, entered a minute order granting the preliminary injunction and staying enforcement of Order 89-104. On August 1, 1990, the formal order of preliminary injunction and bond were filed.

III.

THE INSTANT ACTION IN WHICH A PRELIMINARY INJUNCTION HAS BEEN ISSUED ULTIMATELY SEEKS REVIEW OF ADMINISTRATIVE ACTION THAT IS NOT YET FINAL.

This action is essentially an action to review an order of an administrative agency, or, in other words, an administrative mandate proceeding. See Cal. Water Code Section 13325. The Regional Board's order is not yet final, given the pending review proceeding before the State Board. Were it not for the Regional Board's threatened enforcement of Order 89-104, the action would not have been commenced at this time, as the State Board has authority to affirm or modify Order 89-104, or to refuse to uphold it in any manner. Cal. Water Code Section 13324(c).

Accordingly, the expedited discovery and trial timetables are inapplicable to this action as it currently stands. Therefore, Textron should be relieved of the assignment to Department 64, and the matter should be assigned to the master calendar department for the purpose of reassigning the matter to a non-Fast Track proceeding, if not to Writs and Receivers for continuing jurisdiction over the action. It is believed that such assignment should assist the court in implementing the Fast Track program, and should result in a proper assignment of the action.

IV.

CONCLUSION.

For the reasons discussed herein, Textron respectfully moves the court for relief from the assignment to Department 64 and for a reassignment of this action.

DATED: January 7, 1991

Respectfully submitted,

BALLARD, ROSENBERG & GOLPER
LINDA AUERBACH ALLDERDICE

and

SEYFARTH, SHAW, FAIRWEATHER
& GERALDSON
MICHAEL L. HICKOK

BY: _____
Linda Auerbach Allderdice
Attorneys for Plaintiff/
Petitioner HR TEXTRON INC.

WP4:42941:ln

DECLARATION OF LINDA AUERBACH ALLDERDICE

I, LINDA AUERBACH ALLDERDICE, declare under penalty of perjury as follows:

1. I am an attorney at law duly admitted to practice before all of the courts of the State of California and am a partner in the law firm of Ballard, Rosenberg & Golper, attorneys of record for Plaintiff HR Textron Inc. I have direct and personal knowledge of the facts set forth herein, and if called as a witness I could and would competently testify under oath to the same.

2. On May 22, 1990, the instant action was commenced by Textron in order to obtain, in part, a preliminary injunction barring immediate enforcement of the Regional Board's Clean Up and Abatement Order 89-104 ("Order 89-104").

3. Order 89-104 was issued by the Regional Board's staff on December 18, 1989, and was ratified by the Regional Board on April 23, 1990, with an effective date of May 23, 1990.

4. On or about May 16, 1990, Textron filed with the California Water Resources Control Board ("State Board") a Petition for Review to set aside Order 89-104. This administrative review proceeding is now pending. I recently had a telephone conversation with Ms. Frances McChesney, on the staff of the State Board. Ms. McChesney stated to me that the State Board is not expected to address this matter until the end of February at the earliest.

5. Despite the pending administrative review proceeding, the Regional Board threatened to proceed with an enforcement action of Order 89-104 upon the Order's effective date. Such action would have resulted in substantial penalties for Textron. Accordingly, the instant complaint was filed.

6. On June 13, 1990, the Superior Court, by the Hon. John Zebrowski, entered a minute order granting the preliminary injunction and staying enforcement of Order 89-104. On August 1, 1990 the formal order of preliminary injunction and bond were filed.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on this 7th day of January 1991, at Universal City, California.

LINDA AUERBACH ALLDERDICE

WP4:42941:ln

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DATE: 02/21/91 TIME: _____
REFERENCE NO. _____
FAX NO. (805) 259-9622

FAX TRANSMITTAL LETTER

Please deliver the accompanying faxed material to:

NAME: JOHN HEDGES

COMPANY: HR TEXTRON

FROM: LINDA AUERBACH ALLDERDICE

RE: _____

ITEM(S): Memorandum with attachments

MESSAGE: Rosemary, please make sure that John sees this as soon as possible.

Total number of pages
including this Transmittal Letter: 15

****

IF YOU DO NOT RECEIVE ALL THE PAGES, PLEASE CALL KAREN THOMSON AT 818/509-7100, extension 2128. THANK YOU.

****

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State of California

Memorandum

To : Craig M. Wilson
Assistant Chief Counsel
Office of Chief Counsel

Date : OCT 2 - 1990

From : Jesse M. Diaz, Chief
Division of Water Quality
STATE WATER RESOURCES CONTROL BOARD

Subject: IN THE MATTER OF THE PETITION OF HR TEXTRON, INC. FOR REVIEW OF CLEANUP AND ABATEMENT ORDER NO. 89-104 OF THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION, OCC FILE NO. A-684

Attached is the technical report on the above-mentioned petition in response to your request of June 6, 1990.

If we can be of further assistance, please feel free to telephone me at 5-9552. The staff person currently working on this issue is Howard Weinberg; he can be reached at 3-5482.

Attachments (4)

350176
Copy in
Ballard
& Water Bd
file

Technical Review

IN THE MATTER OF THE PETITION OF HR TEXTRON, INC. FOR REVIEW OF CLEANUP AND ABATEMENT (CAO) ORDER NO. 89-104 OF THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION (LOS ANGELES REGIONAL BOARD) OFFICE OF CHIEF COUNSEL (OCC) FILE NO. A-684

Background

HR Textron, Inc. ("HRT" or "discharger") is located at 10445 Glenoaks Boulevard in the City of Pacoima, County of Los Angeles, California. The property is owned by Mr. William Tolson, 999 Green Street, San Francisco, California. HRT has been the lease holder and the operator of facilities on this property since 1966.

HRT manufactures various components used in the aerospace industry. The company stores and uses both chlorinated and unchlorinated solvents, cutting oils and other chemicals in its manufacturing operations. Between 1966 and January 1985, HRT utilized two underground tanks, each of 1,000 gallon capacity, for storage of waste solvents, freon, and other spent hydrocarbons.

The two 1,000 gallon underground waste storage tanks were maintained at the Pacoima site from 1966 until they were removed in 1985. Prior to removal, it was discovered that one or both of the tanks had, over an unspecified period, leaked unknown quantities of hazardous wastes including solvents.

A workplan for underground tank leak detection and soil testing was requested by the Los Angeles Regional Board's staff in 1984. Laboratory test data confirmed the presence of trichloroethane (TCA), trichloroethylene (TCE), oil and grease, and Total Petroleum Hydrocarbons (TPH) in the soil samples. A plan for removal of the leaking tanks was approved by Los Angeles Regional Board staff. The tanks were subsequently removed in January 1985.

In May 1987, HRT submitted a workplan for a "Phase II" soil investigation proposing to drill three borings. In August 1987, Los Angeles Regional Board staff approved the plan on the condition that the proposed three boreholes be extended into the ground water and developed as sealed ground water monitoring wells for testing water quality in the underlying aquifer. In October 1987, HRT submitted a revised workplan. Task I of the plan was to drill, install, and sample one six-inch diameter monitoring well (MW-1) downgradient from the excavated area. In March 1988, HRT submitted a technical report, prepared by consultants, containing a historical review of the site and information on MW-1's termination at 110-foot depth due to refusal, as the rig encountered a formation of gravel and cobbles.

350177

CAO No. 89-104 was issued by the Los Angeles Regional Boards's Executive Officer on December 18, 1989 requiring that HRT, among other things, develop and submit, by January 15, 1990, a site characterization workplan, including a ground water investigation proposal to address discharges from underground tanks at its Pacoima site. HRT asked for a hearing before the Los Angeles Regional Board to contest the Executive Officer's issuance of the CAO.

A hearing, held on March 26, 1990 and continued on April 23, 1990, resulted in the Los Angeles Regional Board unanimously upholding the issuance of the CAO. On May 16, 1990, the State Water Resources Control Board (State Board) received a Petition for Stay of Action of a California Water Resources Control Board (Regional Board) Order and a Petition for Review of Action of a Regional Board. This report is a technical evaluation of scientific issues raised by the latter petition.

Contentions

The discharger stipulates that HRT's tanks did leak. However, HRT contends that movement of the hazardous materials from those tanks has been circumscribed. According to HRT, limited movement in the soil has resulted in a vertical cylinder of contamination, approximately 25 feet in diameter, reaching a depth of 42 to 50 feet, where the further downward progress of the hazardous material is impeded by a clay layer. The discharger further contends that the clay layer acts as a barrier preventing or greatly slowing down any further downward migration of the hazardous materials toward ground water. These contentions, plus the great depth to the ground water table (alleged to be greater than 120 feet by the discharger) form the basis for HRT's argument that the discharge presents no threat to ground water and, therefore, mandatory ground water monitoring, as part of the site remediation, is excessive and unnecessary.

The Los Angeles Regional Board contends that there is a discrete threat to create a condition of pollution of ground water under California Water Code Section 13304; and, therefore, in the Los Angeles Regional Board's judgement, mandatory ground water monitoring is a reasonable and necessary part of any remedial plan for the site.

Questions Presented

The following questions were asked by the OCC. For reasons of clarity and continuity, these questions are listed, with answers interspersed.

Question: 1. Does the soil contamination resulting from the leaking tanks threaten to cause waste to be discharged into the waters of the State and threaten to create a condition of nuisance or pollution?

Answer: Based on a review of the administrative record including the hearing transcripts, it is more likely than not that there is a threat to cause wastes to be discharged into the waters of the State. The actual severity of the threat cannot be determined with any degree of certainty with the information presented in the record.

Question: 1a. Do the investigations conducted so far establish whether waste from the tanks has migrated below the level of clay lenses found at approximately 50 feet below the surface?

Answer: The investigations conducted thus far do establish the likelihood that waste from the tanks has migrated below the level of the clay layer found at approximately 50 feet below the surface.

Question: 1b. Do the soil samples establish that waste has migrated below (i.e., a contaminant plume exists) the clay layer, or are those samples indicative of lab error, cross-contamination, background levels, or other sources?

Answer: There is insufficient information in the record to give a definitive answer to this question.

It should be noted that high levels of both TPH (total petroleum hydrocarbons) and oil and grease have been found in borings at depths of 95 and 125 feet below grade (Progress Report Number 2 for Phase II Subsurface Contamination Investigation at HR Textron's Pacoima Facility located at 10445 Glenoaks Boulevard, Pacoima, California, Volume 1, March 14, 1988, pages 22 and 23). High levels of methylene chloride were also found in borings taken from below the alleged 50 foot barrier (ibid., page 26). This last fact is of interest because Judge Zebrowski, in granting a preliminary injunction prohibiting the Regional Board from requiring ground water monitoring, stated:

> "There was no evidence that methylene chloride, a VOC, was ever used in the manufacturing process at this site (nor, to be sure, was there evidence to the contrary). There was evidence, however, that methylene chloride is used in laboratory procedures of the type used to test the samples here and was, in fact, used in the laboratory that tested the samples here in question" (page 5 of the decision).

The Judge goes on to state that the evidence is consistent with laboratory contamination of samples. In point of fact, methylene chloride was used by Textron (see page 2, Chemical Inventories List, Attachment 1); therefore, the Judge's conclusion is based on incorrect assumptions.

Based on the record, the chemical analytical evidence shows that it is more likely than not that waste has migrated below the clay layer.

Question: 1c. Is the clay layer likely to absorb pollutants or only to retard their movement toward ground water? Is it likely that pollutants have "spilled over" the edges of the clay layer.

Answer: The likelihood of the silty clay layer absorbing or retarding contaminant movement was addressed by Dr. Greg Frantz of the State Board's Well Investigation Program (Attachment 2). Dr. Frantz reviewed the information of record including the most recent drilling logs generated during initial soil remediation efforts. Dr. Frantz pointed out several data gaps that preclude a definitive answer to the first part of this question. Likewise, there is a dearth of data in the record that would yield a sound answer to the second part of this question as well, i.e., the likelihood that pollutants have "spilled over" the edges of the clay layer cannot be determined.

Question: 1d. Are the chlorinated solvents that are present in the soil at the site likely to migrate more quickly in wet soil than dry soil? Has ground water risen to a level at the site where it has affected the migration of pollutants from the tank?

Answer: The chlorinated solvents that are present in the soil at the site are trichloroethylene (TCE), methylene chloride, and 1,1,1 trichloroethane (TCA). Unfortunately, the data necessary for an accurate assessment of the present conditions are not available in the record. See the attached memorandum from Dr. Greg Frantz (Attachment 3) for further discussion.

Based on HRT's March 1988 drilling of MW-1 to a depth of 110 feet without reaching the ground water table, plus the fact that there have been four below-normal years of runoff (Watermaster Melvin L. Blevins' testimony, April 23, 1990--page 103, line 7), it is unlikely that ground water has risen to a level at the site where it has affected the migration of pollutants from the tank or where it has been affected by such migration of pollutants.

Question: 2. Could installation of ground water monitoring wells prior to soil remediation cause pollution of ground water (i.e., cross-contamination)?

Answer: In theory, installation of ground water wells could cause pollution of ground water if a well perforated a containment layer, creating hydrologic continuity with a ground water aquifer, and was improperly cased, allowing contaminants to move and mix between strata. If a ground water monitoring well is properly installed and the proper casings are used, it is improbable that cross contamination between soil strata will result.

Question: 3. Is there a statewide or Regional Board policy requiring ground water monitoring in every case where there is soil contamination?

Answer: There is no statewide or Regional Board policy addressing these situations. There is a general tendency toward the use of ground water monitoring, particularly by the Regional Boards, to define soil contamination plumes and survey the progress of CAO efforts. The decision whether or not to use ground water monitoring is made using the experience and best professional judgement of Regional Board staff. Given the cost of cleaning up ground water once polluted, the Regional Boards have taken a conservative approach when requiring ground water monitoring, preferring protection of the resource.

Question: 4. Should the petitioner be required to conduct a ground water monitoring program prior to completion of the soil remediation?

Answer: This is the cornerstone issue of the entire petition. The answer, in a word, is yes. See Conclusion Section, below, for further elucidation.

Conclusion

When the technical evaluation is approached using a purely logical analytical framework, it should be noted that the exact period during which the tanks leaked hazardous material is unknown, as is the precise date the tanks began to leak. Not knowing when the hazardous materials began a downward migration, nor the rate of release of the materials as a function of amount released over time, we are unable to deduce the rate of movement through the soil. More importantly, we have no way of determining when the vertical plume of contamination reached the clay layer, and, therefore, how long the layer acted, or will continue to act, as an impediment to further downward migration of the hazardous materials. In other words, any conclusion regarding the duration or effectiveness of the clay layer as an impediment to the further downward movement of contaminants cannot be logically supported with the information at hand.

Questions regarding the effectiveness of the clay layer raised by Dr. Greg Frantz of the State Board's Well Investigation Unit have been discussed above. Dr. Frantz's report (Attachment 1) also questions the efficacy of the clay layer from a scientific perspective. His report concludes that a lack of data precludes any sound scientific judgement about the relative merits of the silty clay layer to confine the site's contaminants. Therefore, any conclusion regarding the effectiveness of the clay layer cannot be scientifically supported by the facts.

In light of the paucity of available scientific information, reliance on the expertise and experience of the Los Angeles Regional Board staff is rational and reasonable, and the action of the Los Angeles Regional Board should be upheld.

BOND, PL10	WJ ROSCOE	175
BRAYCO 885	BRAYCO	174/175
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CATALYST, ORGANTIN	TELEDYNE DENTAL PROD.	757
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CAUSTIC SODA	OXY CHEM	775
CAUSTIC SODA	SAN JOAQUIN	281
CEE-BEE A-202 (METHYLENE CHLORIDE/PHENOL) MC	GEAN ROCHO	505
CHICO A 005	?	175
CHROMIUM INTENSIFIER, PART B	KODAK	721
CHROMIUM INTENSIFIER, PART A	KODAK	721
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CLEANER, (GLASS) ICS #237	INDUSTRIAL CHEM	153/156
CLEANER, HAND	HARDMAN	153/156
CLEANER, ANTISTATIC	CONTROLLED STATIC	153/156
CLEANER, MC D-5675	ZIP AEROSOL	721
CLEANER, SOLVENT ALPHA 565	ALPHA METALS	153/156
CLEANER, APC	MARKING METHODS	175
CLEANER, GLASS	INDUSTRIAL CHEMICALS	775
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COATING, ACRYLIC #1301	BORDEN	505
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COMPOUND, LAPPING OIL	JOHN CRANE	281
COMPOUND, LAPPING #38-1200	U.S. PRODUCTS	193
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COMPOUND, DOW CORNING 4	DOW CORNING	175
COMPOUND, PADDING #337	HURST	721
COOL TOOL	MONROE CHEM. CO.	181
CUTTING OIL 2190 OR W & B GUN DRILLING OIL	WHITE & BAGLEY	181
DAPCTACO 3302 (CHG. FROM 3300TH)	AIRCRAFT PROD.CO.	181
DEBONDER, CYANOACRYLATE ADHV.	DEXTER-HYSOL	153/156
DEGREASER CLEANER, D-305	DIRECT IMAGE	721
DEGREASER, CHROME CLEANER	DICO	721
DEOXIDIZER, 102-TNC	ICP/WEST	752
DETERGENT, WONDER WASH	MASTERLITH IND.	721
DETERGTS./MIXD HYDROCARBONS ROLL-R-WASH 1	IC COMPOUND	721
DETERGTS./MIXD HYDROCARBONS ROLL-R-WASH 2	IC COMPOUND	721
DEVELOPER, LLD PART B	3M	721

Attachment 2

To: Howard Weinberg
Program Support Unit

From: Greg Frantz
Well Investigation Program

Date: July 2, 1990

Subject: PETITION OF HR TEXTRON INC. RE CLEANUP AND ABATEMENT ORDER 89-104: NEW TECHNICAL REPORT

This is in response to your request that I review a new technical report submitted to the State Board by HR Textron. The report contains supplemental information to that previously submitted regarding their petition for review of Cleanup and Abatement Order 89-104 issued by the Los Angeles Regional Board. The new report, prepared for Textron by ERM-West and dated May 1990, is entitled "Technical Report for First Phase of Remediation, HR Textron, Pacoima Site."

The supplemental information primarily concerns the presence of a silty clay layer at about 46 to 52 feet beneath a former site of two underground tanks used to store petroleum products. The tanks apparently leaked, resulting in a (roughly cylindrical) plume of hydrocarbons in the unsaturated zone directly beneath the tanks. The estimated extent of soil contamination is shown in the attached contour map submitted by Textron in a previous report. The new report claims that the silty clay layer will prevent the contaminants from reaching ground water.

I have several concerns about this assertion:

1. The silty clay layer is described only as a "reddish-brown silty clay with traces of sand." From this description, it is not possible to deduce the exact particle size distribution, but this designation could describe a sample with only about 45 percent clay (Shepard, 1954). This becomes relevant if one asserts that movement of organic chemicals will be retarded due to adsorption onto clay particles. While such retardation does occur, it is not quantifiable based solely on clay content. However, it is clear that a layer with only 45 percent clay will retard movement less than a layer of identical thickness that is 100 percent clay. Inclusion in the report of a laboratory textural analysis of the silty clay would have been helpful in determing the relative importance of clay in retardation.

2. Neither the vertical permeability nor the effective porosity of the silty clay layer is given in the report. These properties, along with the hydraulic gradient, are necessary to calculate a travel time for the contaminants. This calculation would not be exact, since chemical movement would be retarded due to adsorption and other processes, but it would at least provide a reasonable estimate. Without site-specific values for permeability and effective porosity, it is only possible to

estimate the travel time of contaminants using typical values for silty clays that have been measured and presented in other studies. Permeability values range from about 3×10^{-5} ft/day to about 5×10^{-4} ft/day for silty clays in the Central Valley (Johnson et al., 1968), and an average effective porosity for clay is about 6 percent (Morris and Johnson, 1967). Using these values, and assuming a hydraulic gradient of unity for vertical infiltration, one can calculate travel times through 1 foot of silty clay that range from 5 years to about 4 months. Depending on how far the contaminants have already penetrated the silty clay at the tank site (and they have; see attached contour map), this could be significant considering how long it may take to remediate the site.

3. There is evidence that organic chemicals such as hydrocarbons can alter the permeabilities of earth materials. Gasoline, for example, has been shown to increase the hydraulic conductivity (permeability) of a bentonite-sand mixture by over 3000 times its value for water (Brown and Thomas, 1984). Three things should be noted about this process: it is reversible, it does not always result in permeability increases, and it is dependent on the concentration of the organic chemical. While it is not possible to know what effect this site's contaminants might have on the silty clay layer, this phenomenon should be considered.

4. The possibility exists of cracks in the silty clay layer through which contaminants may move with little retardation. It is also possible that the "traces of sand" described for this layer occur as lenses, which would be much more porous than the silty clay component and therefore provide more direct channels for movement of contaminants through the layer. In addition, the silty clay layer may thin out in places. The layer description given in the drilling log for bore hole IW-3 (about 30 feet NE of the tank site) is particularly relevant in this respect-- at 46 feet, the layer is silt with some clay "becoming sandy at about 47 feet" and "gravelly sand at 49.7 feet."

5. The contaminants have already penetrated a clay layer that occurs between 20 and 30 feet. This layer is variously described in the drilling logs as a "silty sandy clay," a "sandy silty clay," and a "sandy clayey silt." In any case, it is apparent that clay predominates. Note that this clay layer is thicker than the silty clay layer at 46 to 52 feet.

Until additional evidence is presented that conclusively shows that the silty clay layer will confine the site contaminants, my best professional judgement is that it will not. The fact that the contaminants have already migrated through a similar clay layer at 20 feet is perhaps the most convincing empirical evidence for this conclusion. Estimates of travel times presented above, along with the recognition that there may be geologic conditions associated with the silty clay that may promote contaminant movement, further support this conclusion.

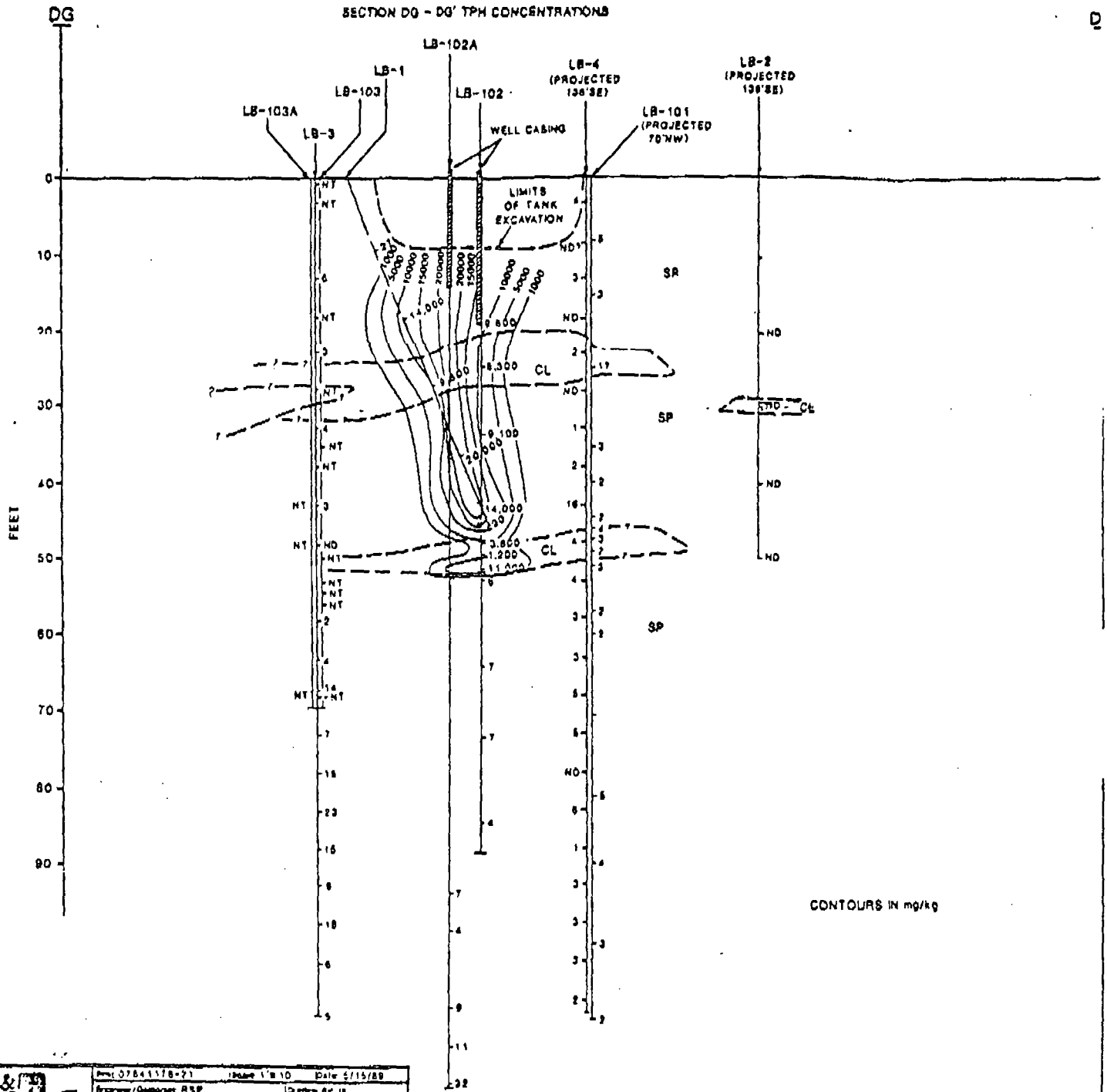
References

Brown, K.W. and J.C. Thomas. 1984. Conductivity of three commercially available clays to petroleum products and organic solvents. Hazardous Waste 1:545-553.

Johnson, A.I., R.P. Moston, and D.A Morris. 1968. Physical and hydrologic properties of water-bearing deposits in subsiding areas in central California. U.S. Geological Survey Professional Paper 497-A.

Morris, D.A. and A.I. Johnson. 1967. Summary of hydrologic and physical properties of rock and soil materials as analyzed by the Hydrologic Laboratory of the U.S. Geological Survey, 1948-1960. U.S. Geological Survey Water Supply Paper 1839-D.

Shepard, F.P. 1954. Nomenclature based on sand-silt-clay ratios. Jour. Sed. Petrology, vol. 24, no. 3, pp. 151-58.



LEIGHTON AND ASSOCIATES, INC.

PLATE 5

Attachment 3

To: Howard Weinberg
Program Support Unit

From: Greg Frantz
Well Investigation Program

Date: July 10, 1990

Subject: RESPONSE TO QUESTION REGARDING MIGRATION OF CHLORINATED SOLVENTS AT LEAKING TANK SITE

This is in response to your request that I comment on a question posed by the Office of Chief Counsel concerning the migration of chlorinated solvents present beneath a leaking tank in the Los Angeles area. The solvents include trichloroethylene (TCE), trichloroethane (TCA), and methylene chloride. The specific question is "Are the chlorinated solvents that are present in the soil at the site likely to migrate more quickly in wet soil than dry soil?"

The answer to this question is not straightforward. Migration of organic chemicals in soil is a complicated processs which depends on both chemical properties and (perhaps most of all) soil properties. However, since the question seems to ask for a generic response, I will focus only on chemical properties and assume a uniform, non-reactive soil for the sake of simplicity. Please keep in mind that this approach does not represent the site conditions, but only provides a best guess as to how the chemicals might behave.

I have presented below for the subject chemicals what I consider to be the two most important properties that might influence their behavior under either wet or dry conditions. Solubility indicates how much chemical might move under wet conditions, and vapor pressure indicates the tendency for a chemical to move under dry conditions. The values presented were taken from the Handbook of Environmental Data on Organic Chemicals, by Karel Verschueren, 1983.

Chemical	Sol. @ 20C in water (mg/l)	v.p. @ 20C (mm Hg)
TCE	1	60
TCA	4400	100
Methylene chloride	20,000	350

Given the high solubilities of TCA and methylene chloride, I would conclude that these chemicals would migrate under wet conditions. This would be especially true if there were saturated flow, in which case these chemicals could move as fast as the water column. Note also that their vapor pressures are relatively high, indicating that they are capable of migrating easily through empty pore space under dry conditions. Given the

low solubility but still relatively high vapor pressure for TCE, it is likely that this chemical might move more quickly under dry conditions. Again, the critical question in evaluating migration is water content.

I hope this somewhat equivocal response is of some use to you. If you need a more detailed explanation regarding the dynamics of chemical migration through soil, please let me know.

2166-04748

BALLARD, ROSENBERG & GOLPER

10 UNIVERSAL CITY PLAZA, 16TH FLOOR
UNIVERSAL CITY
LOS ANGELES, CA 91608
(818) 509-7100
FAX (818) 506-4827
PRACTICE LIMITED TO LABOR AND EMPLOYMENT LAW
ON BEHALF OF MANAGEMENT AND RELATED LITIGATION

RECEIVED
JUN 15 1990
HR TEXTRON

6/15/90

cc: R. J. Millman
D. T. Stewart
M. D. Bell
J. Wheeler
W. Moses
ERM West
A. Friedman
P. Duff
A. Spacone
B. Maneckji
Landlords

PRIVILEGED AND CONFIDENTIAL

I. Kaplan
R. A. McWhirter
6/20/90 telecopy to Judith Wesley

12/3/90 copy JWH Landlord

FAX NO.: (805) 259-9622

RECEIVED
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VP Legal and Contracts

DATE: 6/15/90 TIME: 1:10 p.m.

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Please deliver the accompanying telecopied material to:

NAME: MR. JOHN HEDGES

HR TEXTRON INC.

FROM: LINDA ALLDERDICE, ESQ.

BALLARD, ROSENBERG & GOLPER

Total number of pages including this Transmittal Letter: 14

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If you have any problems receiving, please call:

NAME: Liz Nazarian

PHONE NO.: (818) 509-7100, EXT. 2120

***

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3.50180

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK _____

HONORABLE JUDGE PRO TEM | _____

1. Deputy Sheriff | NONE Reporter (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

vs
Regional Water Quality Control
Board for the Los Angeles Region

Counsel for Plaintiff

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

In this matter heretofore submitted on June 12, 1990, the court announces its decision as follows:

ORDER ON APPLICATION FOR PRELIMINARY INJUNCTION

1. The "underground rule-making" argument: This argument is rejected as superfluous because it amounts to nothing more than another way of stating the argument that a remedial action was ordered without meeting the probability standard. Moreover, there was no showing that drilling to groundwater is always required even without regard to the specific circumstances, although it could be argued that this conclusion logically flows from a decision to require remedial action simply on the basis of a general desire to gather more information.

2. The Equal Protection/Due Process argument: This argument is rejected because of insufficient showing that other parties not ordered to drill to groundwater were similarly situated in comparison to plaintiff. There has not even been any identification of relevant indices of similarity in this context.

(continued on page 2)

☐ It is stipulated (not stipulated) that Commissioner _____ may hear of this matter as Judge Pro Tem (by moving party/responding party).

☐ TRANSFERRED TO/FROM DEPARTMENT ..... ☐ Court disqualifies itself ☐ 170.6 CCP affidavit filed
☐ OFF CALENDAR ☐ On court's own motion ☐ No Appearance ☐ At request of moving party ☐ By stipulation
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☐ REQUEST OF ☐ Moving party ☐ Respondent(s) ☐ Per Ex Parte Order of _____
☐ TRO to remain in full force and effect ☐ TRO dissolved
☐ MOTION: ☐ granted as prayed ☐ denied ☐ with/without prejudice ☐ argued and taken under submission
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MINUTES ENTERED
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DEPT. 85

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK _____

HONORABLE JUDGE PRO TEM | _____

Deputy Sheriff | NONE Reporter (Parties and counsel checked if present)

1a.

BC 001 733
HR Textron Inc.,

vs
Regional Water Quality Control
Board for the Los Angeles Region

Counsel for Plaintiff

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 1)

3. Irreparable injury: Since this is an injunctive proceeding, the imminence of irreparable injury is an issue. In view of the immunities enjoyed by the State, any monetary injury suffered by plaintiff would be irreparable.

The fact that plaintiff's injury might be monetary only is therefore not a basis to deny equitable relief. In addition, plaintiff faces the potential of increased liability from groundwater contamination not along a naturally occurring plume path, but rather following the proposed well bore drilled to groundwater. Again, given the immunities enjoyed by the State, that liability would fall wholly on plaintiff and would be irreparable even if plaintiff later prevails.

4. Likelihood of success: Water Code §13304 provides for remedial orders when the water has been or probably will be contaminated. The oral record of the hearing in this matter will reflect discussion of whether some other standard would be preferable (possibility, significant possibility, threat, danger, etc.), but there is no doubt that the legislatively mandated standard applicable here is probability and not some other standard.

(continued on page 3)

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DEPT. 85

8-225
76M 213E (REV. 3-87) 3-89

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK

HONORABLE JUDGE PRO TEM |

lb. Deputy Sheriff | NONE Reporter (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

vs
Regional Water Quality Control Board for the Los Angeles Region

Counsel for Plaintiff

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 2)

In this case, it is probable that the groundwater will be contaminated if nothing is done. The Board thus has good grounds for a remedial order, and this is not disputed. (The record reflects that remedial efforts are already underway). The Board has also ordered, however, that plaintiff drill to groundwater in order to test the groundwater for contamination. This order to drill to groundwater can be justified only if the groundwater has already been contaminated by this release, or if the groundwater "probably" will be contaminated notwithstanding the remediation measures now in process.

When plaintiff's petition for a writ of mandate (directed to the Board to set aside any order which might finally result from the Board's proceedings) is finally tried, the issue will be whether there is substantial evidence in the record to support a finding that the groundwater probably has been, or probably will be, contaminated from this release. Although the Regional Board did not expressly find such a probability, that is the legal requirement and hence such a finding is implied.

(continued on page 4)

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B-225
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SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK

HONORABLE JUDGE PRO TEM |

lc. Deputy Sheriff | NONE Reporter (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

vs
Regional Water Quality Control
Board for the Los Angeles Region

Counsel for Plaintiff

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 3)

The Board cited 1) the indeterminate lapse of time since leakage, 2) lack of knowledge of the continuous or discontinuous nature of the clay formation, 3) the evidence of the permeable nature of the soil beneath the clay formation, and 4) the existence of pollutants beneath the clay formation as the substantial evidence of probability of groundwater contamination upon which the Board now relies.

a) Pollutants beneath the clay formation: The evidence of pollutants beneath the clay formation is the strongest and most tangible evidence in favor of a probability of groundwater contamination; it will therefore be considered first. The evidence was uncontradicted that VOCs migrate downward faster than TPH. The test bore that found TPH beneath the clay level at a depth of 110 feet, however, found no VOC at this location. If TPH had migrated from the release in question to the depth of 110 feet, VOC should have been found there also according to the evidence in this record. (The VOCs were mixed in with the TPH and the VOCs would have reached at least as far and farther than the TPH). It was undisputed that the test bore drilled 400 feet away from the site of the leaking tanks was too far from the site to have been contaminated by the release in question, yet it yielded similar readings for TPH.

(continued on page 5)

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HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK _____

HONORABLE JUDGE PRO TEM | _____

ld. Deputy Sheriff | NONE Reporter (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

Counsel for Plaintiff

vs
Regional Water Quality Control Board for the Los Angeles Region

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 4)

The test borings found no continuous plume path below the level of the clay formation, although this might possibly be explained by a meandering plume path. The combination of no VOCs with the TPH plus similar TPH readings at the 400 foot distant bore can be explained by background or naturally occurring hydrocarbons, or by pollution migrating from another source. On the evidence in this record, however, these two phenomena are not consistent with migration from this release, especially in the absence of an identified continuous plume path below the clay formation.

There was no evidence that methylene chloride, a VOC, was ever used in the manufacturing process at this site (nor, to be sure, was there evidence to the contrary). There was evidence, however, that methylene chloride is used in laboratory procedures of the type used to test the samples here and was in fact used in the laboratory that tested the samples here in question. While there was evidence that VOCs migrate faster than TPH, there was no evidence that methylene chloride migrates faster (or otherwise differently) than other VOCs. There was evidence that the tanks that leaked were used for waste storage and that a variety of compounds within the VOC category were mixed together stored in the tanks.

(continued on page 6)

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SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

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Deputy Sheriff | NONE Reporter (Parties and counsel checked if present)

le.

BC 001 733
HR Textron Inc.,

Counsel for Plaintiff

vs
Regional Water Quality Control Board for the Los Angeles Region

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 5)

Implicit in the Board's finding of probability of contamination of the groundwater from the release in question is a finding that the methylene chloride found below the clay formation was not an artifact of the laboratory testing procedure, but rather that this chemical migrated downward from the release in question. There was no explanation, however, for how this methylene chloride could have separated from all the other VOCs in the plume and migrated alone. The evidence is consistent with laboratory contamination, but not with separate migration of methylene chloride, especially in the absence of an identified continuous plume path below the clay formation.

The evidence in the record of pollutants in test borings at levels below the level of the clay formation is thus consistent with explanations other than migration from the release in question (background or naturally occurring, migration from some other source, artifact of laboratory procedures), but not consistent on any theory that has been articulated in this record with migration from the release in question.

(continued on page 7)

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SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

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HONORABLE JUDGE PRO TEM |

Deputy Sheriff | NONE Reporter

lf. (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

Counsel for Plaintiff

vs
Regional Water Quality Control Board for the Los Angeles Region

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 6)

b) The other three categories of evidence cited in satisfaction of the "substantial evidence" requirement: The Board also cites lack of precise knowledge of the nature of the clay lens, the permeability of the soil below the lens, and the time elapsed since the leak in satisfaction of the substantial evidence requirement (on the issue of eventual likelihood of success on the merits in an eventual mandate trial). These three categories of evidence are considered together because they are similar in concept. The theory is that in view of the lapse of time since release and the nature of the subsurface soil at the site, the contaminants have probably already reached, or will eventually reach, the groundwater.

If the substantial evidence test were still applied, as it once was, according to the "isolation" theory (isolating the evidence in favor of the administrative decision and disregarding the rest), a closer question might be raised whether substantial evidence is present. The modern standard, however, is substantial evidence in light of the whole record. When the record reflects test boring data that is not consistent with migration to groundwater from the release in question, but which is consistent with alternative explanations, a finding that there is substantial evidence of probability of groundwater

(continued on page 8)

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SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK _____

HONORABLE JUDGE PRO TEM | _____

Deputy Sheriff | NONE Reporter

lg. (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

vs
Regional Water Quality Control
Board for the Los Angeles Region

Counsel for Plaintiff

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 7)

contamination from the release in question would be tantamount to a per se rule requiring groundwater testing in cases of leakage. Groundwater testing would then be required even though the test boring data was inconsistent with a probability of migration to groundwater simply because of the suspicion or possibility, and not probability, of migration to groundwater.

These three factors, one of time and two of permeability, do raise a suspicion or danger of groundwater contamination and standing alone were likely sufficient to support a finding of probability and the requirement of test borings. Now that the data yielded by the test borings proves inconsistent with migration from the release in question, the data from the test borings cannot properly simply be ignored.

c) The probability standard: The difficulty posed by this case is the obvious paramount importance of preventing contamination of water supplies, which has resulted in a tendency in the record and at oral argument to evaluate this matter as if some lower standard such as "significant possibility", "potential danger", "possible threat", or some similar formulation applied. The legislature, however, has set the standard as that of probability, and not some lesser standard.

(continued on page 9)

☐ It is stipulated (not stipulated) that Commissioner _____ may hear of this matter as Judge Pro Tem (by moving party/responding party).

☐ TRANSFERRED TO/FROM DEPARTMENT ..... ☐ Court disqualifies itself ☐ 170.6 CCP affidavit filed
☐ OFF CALENDAR ☐ On court's own motion ☐ No Appearance ☐ At request of moving party ☐ By stipulation
☐ CONTINUED TO ..... IN DEPT. ..... AT ..... AM PM
☐ On court's own motion ☐ Stip. to be filed ☐ On oral/written stipulation. ☐ OSC Discharged
☐ REQUEST OF ☐ Moving party ☐ Respondent(s) ☐ Per Ex Parte Order of _____
☐ TRO to remain in full force and effect ☐ TRO dissolved
☐ MOTION: ☐ granted as prayed ☐ denied ☐ with/without prejudice ☐ argued and taken under submission
☐ DEMURRER: ☐ sustained/ ☐ overruled ☐ with/without leave to amend ☐ _____ days to amend/answer
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☐ NOTICE: ☐ Waived ☐ By moving party ☐ By respondent(s)
☐ PETITIONER(S) IS/ARE SWORN AND TESTIFIES/TESTIFY
☐ PETITION IS GRANTED (AS AMENDED) ☐ ORDER/JUDGMENT IS SIGNED AND FILED

MINUTES ENTERED
JUN 13 1990

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK

HONORABLE JUDGE PRO TEM |

lh. Deputy Sheriff | NONE Reporter (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

Counsel for Plaintiff

vs
Regional Water Quality Control Board for the Los Angeles Region

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 8)

Whatever the personal views of the Board or court, and whatever personal convictions involved individuals may have about the importance of protecting the water supply, it is the standard set by the legislature that must be applied and not some other standard.

d) The substantial evidence test: "Substantial evidence" has been defined as that adequate to support a conclusion (even though a court, were it to apply an independent judgment standard, might reach a different conclusion after weighing all the evidence). See, California Administrative Mandamus (CEB 1989) §4.161. Here the necessary conclusion to support the Board's order in that the spill has, or probably will, migrate to groundwater. For the reasons noted above, the evidence in the record is not adequate to support the conclusion that the TPH and VOCs from this release have, or probably will, migrate to groundwater notwithstanding the remediation procedures now in process.

e) Conclusion on likelihood issue: Based on the foregoing, the court concludes that it is likely that plaintiff would be successful at a mandamus trial in demonstrating that the record here does not contain substantial evidence that the contaminants from this release have, or probably will, reach the groundwater.

(continued on page 10)

☐ It is stipulated (not stipulated) that Commissioner _____ may hear of this matter as Judge Pro Tem (by moving party/responding party).

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MINUTES ENTERED
JUN 13 1990
COUNTY CLERK
DEPT.

CF (REV. 3-87) 3-89

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

ATE June 13, 1990

ONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK

ONORABLE JUDGE PRO TEM |

Deputy Sheriff li. | NONE Reporter (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

Counsel for Plaintiff

vs
Regional Water Quality Control Board for the Los Angeles Region

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 9)

5. Other equitable considerations: As conceded by the Board, drilling to groundwater, testing and finding contamination would not determine who was responsible for the contamination. The Board acknowledged that underlying the site in question is an aquifer that underlies much of the San Fernando Valley. Without identifying a plume path from this release to the groundwater, the question of who caused any contamination which might be found will remain open (unless possibly types of chemicals can be traced, which has not been shown likely here). The Board has stated that it does not necessarily intend to hold plaintiff responsible for all contamination found precisely because of this continuing causation uncertainty. This state of affairs makes it at least doubtful that any immediate remediation steps would be undertaken even if wells were drilled to groundwater. This situation militates in favor or preserving plaintiff's opportunity to present its case in full.

6. Order:

a) A preliminary injunction is granted enjoining the Board from enforcing those provisions of Order 89-104 which require drilling to, testing and monitoring the groundwater.

(continued on page 11)

☐ It is stipulated (not stipulated) that Commissioner _____ may hear of this matter as Judge Pro Tem (by moving party/responding party).

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JUN 13 1990
COUNTY CLERK

DEPT.

REV. 3-87) 3-89

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK

HONORABLE JUDGE PRO TEM |

Deputy Sheriff | NONE Reporter

lj. (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

Counsel for Plaintiff

vs

Counsel for Defendant

Regional Water Quality Control
Board for the Los Angeles Region

NATURE OF PROCEEDINGS:
ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION
(continued from page 10)

b) As a condition of this injunction, plaintiff is to proceed with remediation efforts forthwith as they are approved by the Board. To the extent continuation or upgrading of remediation efforts requires submission of plans and proposals by plaintiff, plaintiff shall expedite the submission of such plans and proposals.

c) As a further condition of this injunction, plaintiff is to conduct such further reasonable monitoring and testing as the Board may reasonably require. In the event of dispute about the reasonableness of a Board requirement, the matter may be presented during ex parte hours upon 72 hours notice.

d) The Board is expressly advised that this order may be modified upon a showing of adequate evidence to support a conclusion that the contamination has probably already reached groundwater, or that the contamination will probably reach groundwater notwithstanding the remediation efforts underway.

(continued on page 12)

☐ It is stipulated (not stipulated) that Commissioner _____ may hear of this matter as Judge Pro Tem (by moving party/responding party).

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SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK

HONORABLE JUDGE PRO TEM |

Deputy Sheriff | NONE Reporter

1K. (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

Counsel for Plaintiff

vs

Counsel for Defendant

Regional Water Quality Control Board for the Los Angeles Region

NATURE OF PROCEEDINGS:

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 11)

3) Nothing in this order is intended to affect or restrict in any way any efforts the Board may have undertaken, or might in the future undertake, to audit the quality of the groundwater on a regional basis. Should any such effort be underway, or be undertaken in the future, plaintiff in this action shall not by reason of this order have any special dispensation from what the law might require or permit in such a circumstance.

4) Plaintiff to file a preliminary injunction bond in the amount of $50,000.

5) Plaintiff to prepare order, submit it to Board counsel for approval as to form, and submit it to the court for signature.

(continued on page 13)

☐ It is stipulated (not stipulated) that Commissioner _____ may hear of this matter as Judge Pro Tem (by moving party/responding party)

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☐ PETITION IS GRANTED (AS AMENDED)

MINUTES ENTERED

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK

HONORABLE JUDGE PRO TEM

11. Deputy Sheriff | NONE Reporter (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

vs
Regional Water Quality Control
Board for the Los Angeles Region

Counsel for Plaintiff

Counsel for Defendant

NATURE OF PROCEEDINGS: **ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION**

(continued from page 12)

A copy of this minute order is sent via U. S. Mail this date to counsel for all appearing parties as shown:

PETIT & MARTIN
MICHAEL L. HICKOK
355 South Grand Avenue
Thirty-Third Floor
Los Angeles, California 90071

BALLARD, ROSENBERG & GOLPER
LINDA AUERBACH ALLDERDICE
10 Universal City Plaza
Suite 1650
Universal City, California 91608

JOHN K. VAN DE KAMP, ATTORNEY GENERAL of the State of California
R. H. CONNETT, Assistant Attorney General
DOUGALS B. NOBLE Deputy Attorney General
3580 Wilshire Boulevard
Los Angeles, California 90010

☐ It is stipulated (not stipulated) that Commissioner _____ may hear of this matter as Judge Pro Tem (by moving party/responding party).

☐ TRANSFERRED TO/FROM DEPARTMENT ..... ☐ Court disqualifies itself ☐ 170.6 CCP affidavit filed
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☐ NOTICE: ☐ Waived ☐ By moving party ☐ By respondent(s) MINUTES ENTERED

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T. Mills
M. Mahi
do not put on
official list

2166-04748

LAW OFFICES
BALLARD, ROSENBERG & GOLPER
10 UNIVERSAL CITY PLAZA, 16TH FLOOR
UNIVERSAL CITY
LOS ANGELES, CALIFORNIA 91608
TELEPHONE (818) 509-7100

LABOR AND EMPLOYMENT LAW
ON BEHALF OF MANAGEMENT
AND RELATED LITIGATION

FACSIMILE
(818) 506-4827
(818) 985-8167

June 25, 1990

RECEIVED
JUN 27 1990
VP Legal and Contracts

Douglas B. Noble
Deputy Attorney General
3580 Wilshire Boulevard
Los Angeles, California 90010

Re: HR Textron Inc. v. Regional Water Quality Control Board For The Los Angeles Region
Los Angeles County Superior Court Case No. BC 001733

Dear Mr. Noble:

Pursuant to the court's order, please find enclosed herein the Order on Application for Preliminary Injunction. Please indicate your approval by your signature on page 5, and return the original to me in the enclosed self-addressed envelope.

We will forward a conformed copy to you after the order has been filed with the court. Meanwhile, a copy is enclosed for your use.

Very truly yours,

BALLARD, ROSENBERG & GOLPER

Linda Allderdice

Linda Auerbach Allderdice

Enclosure
WP4:42475:ln

cc: Jorge Leon, Esq. (w/encl.)
Michael L. Hickok, Esq. (w/encl.)

✓bcc: Mr. John Hedges (w/encl.)

Copy in file

PETTIT & MARTIN
MICHAEL L. HICKOK
355 South Grand Avenue
Thirty-Third Floor
Los Angeles, California 90071
(213) 626-1717

BALLARD, ROSENBERG & GOLPER
LINDA AUERBACH ALLDERDICE
10 Universal City Plaza
Suite 1650
Universal City, California 91608
(818) 509-7100

Attorneys for Plaintiff/Petitioner
HR TEXTRON INC.

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

HR TEXTRON INC., Plaintiff/Petitioner, vs. REGIONAL WATER QUALITY CONTROL BOARD FOR THE LOS ANGELES REGION, Defendant/Respondent.	CASE NO. BC 001733 ORDER ON APPLICATION FOR PRELIMINARY INJUNCTION DATE: June 12, 1990 TIME: 9:00 a.m. DEPT: 85

On June 12, 1990, this matter came before the court, Linda Allderdice and Michael L. Hickok appearing on behalf of Plaintiff/Petitioner HR Textron Inc., and Douglas B. Noble and Jorge Leon appearing on behalf of Defendant/Respondent California Regional Water Quality Control Board, Los Angeles Region.

Having duly considered all moving and opposing pleadings and documents on file in connection with the

application of HR Textron Inc. for preliminary injunction, and having heard oral argument, and good cause appearing to the satisfaction of the court therefrom that this is a proper case for granting an order of preliminary injunction, the court, consistent with its Minute Order of June 12, 1990, hereby enters its order granting the application of HR Textron Inc. for preliminary injunction for the reasons and on the conditions as announced herein.

1. Findings

1. Plaintiff HR Textron Inc. ("Textron") operates a manufacturing facility leased at 10445 Glenoaks Boulevard, Pacoima, California.

2. Textron's Pacoima facility is the subject of Cleanup and Abatement Order 89-104 ("Order 89-104"), issued by the California Regional Water Quality Control Board, Los Angeles Region (the "Regional Board") on December 18, 1989 and ratified by the Regional Board on April 23, 1989, with an effective date of May 23, 1990.

3. Order 89-104 was issued pursuant to Cal. Water Code Section 13304.

4. Order 89-104, in part, directs Textron to submit a "comprehensive site characterization work plan . . . describing in detail a groundwater investigation proposal capable of determining the full extent of any groundwater contamination originating from the facility." (Order, page 4, para. 1.)

/ / /

5. Order 89-104 also directs Textron to submit a facility audit to supplement the information already provided to the Regional Board regarding past and present use, storage and disposal of chemicals at the site. (Order, page 4, para. 2.)

6. Order 89-104 further directs Textron to implement the site characterization work plan for groundwater sampling no later than one month after the plan's approval by the Executive Officer. Textron is also required to submit a final report regarding groundwater sampling within 90 days after work plan approval. (Order, page 4, para. 3.)

7. Order 89-104 provides that failure to comply with its terms or conditions shall subject Textron to civil liability in accordance with Section 13350 of the California Water Code and/or referral to the Attorney General of the State of California for such legal action as may be deemed appropriate. (Order, page 5.)

8. On or about May 16, 1990, Textron filed with the California Water Resources Control Board ("State Board") a Petition for Review to set aside Order 89-104 and a Petition for Stay of Order 89-104. Textron's appeal is still pending before the State Board.

9. Textron has complied with Order 89-104 to the extent of submitting a site characterization work plan and a facility audit as required by Order 89-104, paras. 1 and 2, respectively.

/ / /

/ / /

10. Textron seeks a preliminary injunction to restrain enforcement of Order 89-104 (Order, page 4, paras. 3, 4), pending decision on the merits of Order 89-104.

2. Conclusions

1. The Court concludes that it is likely that Textron would be successful at a mandamus trial in demonstrating that the record here does not contain substantial evidence that the contaminants from the release have, or probably will, reach the groundwater.

2. Accordingly, there is no substantial evidence on the record as a whole to support the groundwater monitoring provisions of Order 89-104.

3. Order

1. A preliminary injunction is granted enjoining the Regional Board from enforcing those provisions of Order 89-104 which require drilling to, testing and monitoring the groundwater.

2. As a condition of the preliminary injunction, Textron is to proceed with remediation efforts forthwith as they are approved by the Regional Board. To the extent continuation or upgrading of remediation efforts requires submissions of plans and proposals by Textron, Textron shall expedite the submission of such plans and proposals.

3. As a further condition of the preliminary injunction, Textron is to conduct such further reasonable monitoring and testing as the Regional Board may reasonably

require. In the event of dispute about the reasonableness of a Regional Board requirement, the matter may be presented during ex parte hours upon 72 hours notice.

4. The Regional Board is expressly advised that this order may be modified upon a showing of adequate evidence to support a conclusion that the contamination has probably already reached groundwater, or that the contamination will probably reach groundwater notwithstanding the remediation efforts underway.

5. Nothing in this order is intended to affect or restrict in any way any efforts the Regional Board may have undertaken, or might in the future undertake, to audit the quality of the groundwater on a regional basis. Should any effort be underway, or be undertaken in the future, Textron shall not by reason of this order have any special dispensation from what the law might require or permit in such a circumstance.

6. Textron is to file a preliminary injunction bond in the amount of $50,000.00.

IT IS SO ORDERED.

_____
HON. JOHN ZEBROWSKI

Approved As To Form:

California Regional Water
Quality Control Board, The
Los Angeles Region

By:_____

WP4:42461.2:ln

2166-04748

LAW OFFICES

BALLARD, ROSENBERG & GOLPER

10 UNIVERSAL CITY PLAZA, 16TH FLOOR
UNIVERSAL CITY
LOS ANGELES, CALIFORNIA 91608
TELEPHONE (818) 509-7100

LABOR AND EMPLOYMENT LAW
ON BEHALF OF MANAGEMENT
AND RELATED LITIGATION

FACSIMILE
(818) 506-4827
(818) 985-8167

August 24, 1990

Michael L. Hickok, Esq.
Pettit & Martin
355 South Grand Avenue, 33rd Floor
Los Angeles, California 90071

RECEIVED
AUG 27 1990
VP Legal and Contracts

Douglas B. Noble, Esq.
Office of the Attorney General
3580 Wilshire Boulevard, #800
Los Angeles, California 90010

Re: HR Textron, Inc. v. Regional Water Quality Control Board for the Los Angeles Region
Case No. BC 001733

Gentlemen:

Enclosed please find for your records a conformed copy of the Order signed by Judge Zebrowski and the Bond.

Very truly yours,

BALLARD, ROSENBERG & GOLPER

Linda Auerbach Allderdice

WP4:42597:cc
Enclosures

12/3 } Copy to H. Landlord

8/27/90 original to: Legal
copy: File
@ Ballard
@ P&M
350184

bcc: Mr. John Hedges
HR Textron Inc.

RECEIVED
AUG 27 1990
VP Legal and Contracts

PETTIT & MARTIN
MICHAEL L. HICKOK
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Universal City, California 91608
(818) 509-7100

Attorneys for Plaintiff/Petitioner
HR TEXTRON INC.

ORIGINAL FILED
AUG 01 1990
COUNTY CLERK

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

HR TEXTRON INC., Plaintiff/Petitioner, vs. REGIONAL WATER QUALITY CONTROL BOARD FOR THE LOS ANGELES REGION, Defendant/Respondent.	CASE NO. BC 001733 [redacted] FOR PRELIMINARY INJUNCTION DATE: June 12, 1990 TIME: 9:00 a.m. DEPT: 85

On June 12, 1990, this matter came before the court, Linda Allderdice and Michael L. Hickok appearing on behalf of Plaintiff/Petitioner HR Textron Inc., and Douglas B. Noble and Jorge Leon appearing on behalf of Defendant/Respondent California Regional Water Quality Control Board, Los Angeles Region.

Having duly considered all moving and opposing pleadings and documents on file in connection with the

12/13 copy to Landlord

application of HR Textron Inc. for preliminary injunction, and having heard oral argument, and good cause appearing to the satisfaction of the court therefrom that this is a proper case for granting an order of preliminary injunction, the court, consistent with its Minute Order of June 12, 1990, hereby enters its order granting the application of HR Textron Inc. for preliminary injunction for the reasons and on the conditions as announced herein.

1. Findings

1. Plaintiff HR Textron Inc. ("Textron") operates a manufacturing facility leased at 10445 Glenoaks Boulevard, Pacoima, California.

2. Textron's Pacoima facility is the subject of Cleanup and Abatement Order 89-104 ("Order 89-104"), issued by the California Regional Water Quality Control Board, Los Angeles Region (the "Regional Board") on December 18, 1989 and ratified by the Regional Board on April 23, 1989, with an effective date of May 23, 1990.

3. Order 89-104 was issued pursuant to Cal. Water Code Section 13304.

4. Order 89-104, in part, directs Textron to submit a "comprehensive site characterization work plan . . . describing in detail a groundwater investigation proposal capable of determining the full extent of any groundwater contamination originating from the facility." (Order, page 4, para. 1.)

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5. Order 89-104 also directs Textron to submit a facility audit to supplement the information already provided to the Regional Board regarding past and present use, storage and disposal of chemicals at the site. (Order, page 4, para. 2.)

6. Order 89-104 further directs Textron to implement the site characterization work plan for groundwater sampling no later than one month after the plan's approval by the Executive Officer. Textron is also required to submit a final report regarding groundwater sampling within 90 days after work plan approval. (Order, page 4, para. 3.)

7. Order 89-104 provides that failure to comply with its terms or conditions shall subject Textron to civil liability in accordance with Section 13350 of the California Water Code and/or referral to the Attorney General of the State of California for such legal action as may be deemed appropriate. (Order, page 5.)

8. On or about May 16, 1990, Textron filed with the California Water Resources Control Board ("State Board") a Petition for Review to set aside Order 89-104 and a Petition for Stay of Order 89-104. Textron's appeal is still pending before the State Board.

9. Pursuant to Order 89-104, paras. 1 and 2, on May 23, 1990, Textron submitted a "Site Characterization Workplan" and an "HR Textron Pacoima Facility Audit Re Order 89-104."

/ / /

/ / /

/ / /

10. Textron seeks a preliminary injunction to restrain enforcement of Order 89-104 (Order, page 4, paras. 3, 4), pending decision on the merits of Order 89-104.

2. Conclusions

1. The Court concludes that it is likely that Textron would be successful at a mandamus trial in demonstrating that the record here does not contain substantial evidence that the contaminants from the release have, or probably will, reach the groundwater.

2. Accordingly, there is no substantial evidence on the record as a whole to support the groundwater monitoring provisions of Order 89-104.

3. Order

1. A preliminary injunction is granted enjoining the Regional Board from enforcing those provisions of Order 89-104 which require drilling to, testing and monitoring the groundwater.

2. As a condition of the preliminary injunction, Textron is to proceed with remediation efforts forthwith as they are approved by the Regional Board. To the extent continuation or upgrading of remediation efforts requires submissions of plans and proposals by Textron, Textron shall expedite the submission of such plans and proposals.

3. As a further condition of the preliminary injunction, Textron is to conduct such further reasonable monitoring and testing as the Regional Board may reasonably

require. In the event of dispute about the reasonableness of a Regional Board requirement, the matter may be presented during ex parte hours upon 72 hours notice.

4. The Regional Board is expressly advised that this order may be modified upon a showing of adequate evidence to support a conclusion that the contamination has probably already reached groundwater, or that the contamination will probably reach groundwater notwithstanding the remediation efforts underway.

5. Nothing in this order is intended to affect or restrict in any way any efforts the Regional Board may have undertaken, or might in the future undertake, to audit the quality of the groundwater on a regional basis. Should any effort be underway, or be undertaken in the future, Textron shall not by reason of this order have any special dispensation from what the law might require or permit in such a circumstance.

6. Textron is to file a preliminary injunction bond in the amount of $50,000.00.

IT IS SO ORDERED.

8/1/90

JOHN ZEBROWSKI

HON. JOHN ZEBROWSKI

Approved As To Form:

California Regional Water Quality Control Board, The Los Angeles Region

By: Douglas B Noble
Deputy Attorney General

WP4:42461.2:ln

Submitted By:

BALLARD, ROSENBERG & GOLPER PETTIT & MARTIN

By: Linda Allderdice
Linda Auerbach Allderdice
Attorneys for Plaintiff/ Petitioner

PROOF OF SERVICE

I am a citizen of the United States, and am employed in the County of Los Angeles in the office of a member of the bar of this Court at whose directions this service was made. I am over the age of 18, and not a party to the within action. My business address is: 10 Universal City Plaza, Suite 1650, Universal City, California 91608.

On July 10, 1990, I served the foregoing documents described as:

ORDER ON APPLICATION FOR PRELIMINARY INJUNCTION

on the interested parties in this action, by placing a true copy thereof in a sealed envelope addressed as follows:

Douglas B. Noble, Esq.
Deputy Attorney General
3580 Wilshire Boulevard
Los Angeles, California 90010

Michael L. Hickok, Esq.
Pettit & Martin
355 South Grand Avenue
Thirty-Third Floor
Los Angeles, California 90071

___ (BY MAIL) and personally placing such envelope with postage fully prepaid with the United States Postal Service at Universal City, California.

XXX (BY MAIL) and personally placing such envelope with postage fully prepaid for collection and mailing on the above-referenced date following the ordinary business practices of this office. I am readily familiar with our office's practice for collection and processing of correspondence for mailing with the United States Postal Service. In the ordinary course of business, correspondence, including said envelope, would be deposited with the United States Postal Service at Universal City on the above-referenced date.

___ (BY PERSONAL SERVICE) and causing such envelope to be hand-delivered on the above date to the above addressee(s).

I declare under penalty of perjury that the foregoing is true and correct under the laws of the State of California. Executed on July 10, 1990, at Universal City, California.

Elizabeth Nazarian
ELIZABETH NAZARIAN

WP4:pos:ln

PETTIT & MARTIN
MICHAEL L. HICKOK
355 South Grand Avenue
Thirty-Third Floor
Los Angeles, California 90071
(213) 626-1717

BALLARD, ROSENBERG & GOLPER
LINDA AUERBACH ALLDERDICE
10 Universal City Plaza
Suite 1650
Universal City, California 91608
(818) 509-7100

Attorneys for Plaintiff/Petitioner
HR TEXTRON INC.

ORIGINAL FILED
AUG 01 1990
COUNTY CLERK

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

HR TEXTRON INC., Plaintiff/Petitioner, vs. REGIONAL WATER QUALITY CONTROL BOARD FOR THE LOS ANGELES REGION, Defendant/Respondent.	CASE NO. BC 001733 **BOND RE PRELIMINARY INJUNCTION**

Pursuant to the Court's Minute Order of June 13, 1990, HR Textron is hereby submitting a Bond Re Preliminary Injunction.

DATED: July 9, 1990

PETTIT & MARTIN
MICHAEL L. HICKOK

and

BALLARD, ROSENBERG & GOLPER
LINDA AUERBACH ALLDERDICE

By: Linda Allderdice
Linda Auerbach Allderdice
Attorneys for Plaintiff/
Petitioner HR TEXTRON INC.

WP4:42505:ln

BOND No. 8123-28-49

SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR COUNTY OF LOS ANGELES

HR TEXTRON INC. SUBSIDIARY OF TEXTRON INC. Plaintiff, vs. REGIONAL WATER QUALITY CONTROL BOARD FOR THE LOS ANGELES REGION Defendant.	)	Case No.: BC001733

WHEREAS, HR TEXTRON INC., A Subsidiary of Textron Inc. desires to give a bond for Preliminary Injunction as provided by California Code of Civil Procedure Section 529.

NOW, THEREFORE, the undersigned, HR TEXTRON INC., as Principal and FEDERAL INSURANCE COMPANY as Surety hereby obligates ourselves, jointly and severally to the California Regional Water Quality Control Board, the Los Angeles Region, under the statutory obligations in the amount of Fifty Thousand Dollars (50,000.00).

Signed, Sealed and Dated this 1th day of July 1990.

FEDERAL INSURANCE COMPANY

Claudia R. Pezzullo
Claudia R. Pezzullo
Attorney-In-Fact

TEXTRON INC.
HR TEXTRON INC.
SUBSIDIARY OF TEXTRON INC.

John L. Morse
John L. Morse
Vice President

TEXTRON INC.

Secretary's Certificate

I, EDWARD O. HANDY, JR., duly elected Vice President and Secretary of TEXTRON INC., a Delaware corporation (hereinafter, the "Corporation"), do hereby certify that the following resolution was adopted by due and valid action of the Executive Committee of the Corporation's Board of Directors at a meeting held on July 31, 1985:

> RESOLVED, any one officer of the Corporation or the Director--Risk Management be and each hereby is authorized to sign, seal, acknowledge where necessary and deliver, in the name and on behalf of the Corporation, or any of its subsidiaries or affiliates, any surety or indemnity bond in the principal or penal sum of not more than $100,000 or in the case of bonds for sums in excess of $100,000 but not more than $1,000,000 any two of the following officers of the Corporation: Chairman, Vice Chairman, President and any Vice President or any one such officer of the Corporation and the Director--Risk Management. Such authority includes performance bonds, appeal bonds, license bonds, and any other bonds of indemnity, performance or surety needed or used in connection with the business, operation, properties or contracts of the Corporation, or any of its subsidiaries or affiliates, whether with or for any governmental department, agency or branch, federal, state or local or any other corporation, firm, partnership, proprietorship, association or person, and also to sign, seal, acknowledge where necessary and deliver any applications or commitments therefor or any other documents or papers in connection therewith, the execution thereof by any such officer or employee to be deemed conclusive evidence of authorization hereunder. This resolution supersedes all prior resolutions concerning the same subject matter.

I do hereby further certify that the foregoing resolution has been neither modified nor amended, and remains in full force and effect as of the date hereof.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Corporate seal to be affixed this 2nd date of July, 1990.

Vice President and Secretary

POWER OF ATTORNEY

Know all Men by these Presents, That the FEDERAL INSURANCE COMPANY, 15 Mountain View Road, Warren, New Jersey, a New Jersey Corporation, has constituted and appointed, and does hereby constitute and appoint John H. BAteman, David H. Chase, Robert J. Lamendola, Royal B. Prentiss, J. J. Rheinberger, Claudia R. Pezzullo, Denise Pacheco and James T. Leavitt of Providence, Rhode Island----------

each its true and lawful Attorney-in-Fact to execute under such designation in its name and to affix its corporate seal to and deliver for and on its behalf as surety thereon or otherwise, bonds of any of the following classes, to-wit:

1. Bonds and Undertakings filed in any suit, matter or proceeding in any Court, or filed with any Sheriff or Magistrate, for the doing or not doing of anything specified in such Bond or Undertaking.
2. Surety bonds to the United States of America or any agency thereof, including those required or permitted under the laws or regulations relating to Customs or Internal Revenue; License and Permit Bonds or other indemnity bonds under the laws, ordinances or regulations of any State, City, Town, Village, Board or other body or organization, public or private; bonds to Transportation Companies, Lost Instrument bonds; Lease bonds, Workers' Compensation bonds, Miscellaneous Surety bonds and bonds on behalf of Notaries Public, Sheriffs, Deputy Sheriffs and similar public officials.
3. Bonds on behalf of contractors in connection with bids, proposals or contracts.

In Witness Whereof, the said **FEDERAL INSURANCE COMPANY** has, pursuant to its By-Laws, caused these presents to be signed by its Assistant Vice-President and Assistant Secretary and its corporate seal to be hereto affixed this 1st day of January 19 88

Corporate Seal

Richard D. O'Connor
Assistant Secretary

FEDERAL INSURANCE COMPANY
By
George McClellan
Assistant Vice-President

STATE OF NEW JERSEY
County of Somerset } ss.

On this 1st day of January 19 88 , before me personally came Richard D. O'Connor to me known and by me known to be Assistant Secretary of the **FEDERAL INSURANCE COMPANY**, the corporation described in and which executed the foregoing Power of Attorney, and the said Richard D. O'Connor being by me duly sworn, did depose and say that he is Assistant Secretary of the **FEDERAL INSURANCE COMPANY** and knows the corporate seal thereof; that the seal affixed to the foregoing Power of Attorney is such corporate seal and was thereto affixed by authority of the By-Laws of said Company, and that he signed said Power of Attorney as Assistant Secretary of said Company by like authority; and that he is acquainted with George McClellan and knows him to be the Assistant Vice-President of said Company, and that the signature of said George McClellan subscribed to said Power of Attorney is in the genuine handwriting of said George McClellan and was thereto subscribed by authority of said By-Laws and in deponent's presence.

Notarial Seal

Acknowledged and Sworn to before me on the date above written.
Notary Public

ALICE LEONARD
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires June 28, 1988

CERTIFICATION

STATE OF NEW JERSEY
County of Somerset } ss.

I, the undersigned, Assistant Secretary of the **FEDERAL INSURANCE COMPANY**, do hereby certify that the following is a true excerpt from the By-Laws of the said Company as adopted by its Board of Directors on March 11, 1953 and most recently amended March 5, 1986 and that this By-Law is in full force and effect.

"ARTICLE XVIII.

Section 2. All bonds, undertakings, contracts and other instruments other than as above for and on behalf of the Company which it is authorized by law or its charter to execute, may and shall be executed in the name and on behalf of the Company either by the Chairman or the Vice-Chairman or the President or a Vice-President, jointly with the Secretary or an Assistant Secretary, under their respective designations, except that any one or more officers or attorneys-in-fact designated in any resolution of the Board of Directors or the Executive Committee, or in any power of attorney executed as provided for in Section 3 below, may execute any such bond, undertaking or other obligation as provided in such resolution or power of attorney.

Section 3. All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the Vice-Chairman or the President or a Vice-President or an Assistant Vice-President, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or lithographed. The signature of each of the following officers: Chairman, Vice Chairman, President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary and the seal of the Company may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached."

I further certify that said **FEDERAL INSURANCE COMPANY** is duly licensed to transact fidelity and surety business in each of the States of the United States of America, District of Columbia, Puerto Rico, and each of the Provinces of Canada with the exception of Prince Edward Island; and is also duly licensed to become sole surety on bonds, undertakings, etc., permitted or required by law.

I, the undersigned Assistant Secretary of **FEDERAL INSURANCE COMPANY**, do hereby certify that the foregoing Power of Attorney is in full force and effect.

Given under my hand and the seal of said Company at Warren, N.J., this 1st day of July 19 90.

Corporate Seal

Assistant Secretary

Form 21-10-0333 (Rev. 4-87) GENERAL

PRINTED IN U.S.A.

PROOF OF SERVICE

I am a citizen of the United States, and am employed in the County of Los Angeles in the office of a member of the bar of this Court at whose directions this service was made. I am over the age of 18, and not a party to the within action. My business address is: 10 Universal City Plaza, Suite 1650, Universal City, California 91608.

On July 10, 1990, I served the foregoing documents described as:

BOND RE PRELIMINARY INJUNCTION

on the interested parties in this action, by placing a true copy thereof in a sealed envelope addressed as follows:

Douglas B. Noble, Esq.
Deputy Attorney General
3580 Wilshire Boulevard
Los Angeles, California 90010

Michael L. Hickok, Esq.
Pettit & Martin
355 South Grand Avenue
Thirty-Third Floor
Los Angeles, California 90071

___ (BY MAIL) and personally placing such envelope with postage fully prepaid with the United States Postal Service at Universal City, California.

XXX (BY MAIL) and personally placing such envelope with postage fully prepaid for collection and mailing on the above-referenced date following the ordinary business practices of this office. I am readily familiar with our office's practice for collection and processing of correspondence for mailing with the United States Postal Service. In the ordinary course of business, correspondence, including said envelope, would be deposited with the United States Postal Service at Universal City on the above-referenced date.

___ (BY PERSONAL SERVICE) and causing such envelope to be hand-delivered on the above date to the above addressee(s).

I declare under penalty of perjury that the foregoing is true and correct under the laws of the State of California. Executed on July 10, 1990, at Universal City, California.

Elizabeth Nazarian
ELIZABETH NAZARIAN

WP4:pos:ln

2166-04748 file

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SAN FRANCISCO, CALIFORNIA 94111
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(415) 434-4000

SAN JOSE
333 W. SANTA CLARA STREET
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4695 MACARTHUR COURT
NEWPORT BEACH, CALIFORNIA 92660
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PETTIT & MARTIN
ATTORNEYS AT LAW
A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS
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CENTRAL, HONG KONG
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011-852-5-266381

MICHAEL HICKOK

September 7, 1990

VIA FEDERAL EXPRESS

RECEIVED
SEP 1[illegible] 1990
VP Legal and Contracts

Mr. John Hedges
HR Textron, Inc.
25200 West Rye Canyon Road
Valencia, California 91355

Re: Textron General Environmetal
(Pacoima) 11134-00007

Dear John:

We are forwarding herewith a copy of the Regional Board's response to Textron's State Board Petition, with copies also going to Linda Allderdice and David Dunbar. I believe that we should all discuss it at your earliest convenience. My initial reaction is that the document is quite vulnerable to attack and that a reply should be filed with the State Board.

Very truly yours,

Michael L. Hickok

MLH/mds
Encl.: a/s

cc: Linda Auerbach Allderdice
(w/ encl.) (via Federal Express)

David Dunbar
(w/ encl.) (via Federal Express)

350185
Copy: file (P.[illegible])
[illegible]

STATE OF CALIFORNIA

Memorandum

To : Ms. Frances McChesney, Staff Counsel

Date : August 31, 1990

File :

Robert P. Ghirelli

Robert P. Ghirelli, Executive Officer

From : CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD – LOS ANGELES REGION
101 Centre Plaza Drive, Monterey Park, CA 91754-2156
Telephone: (213) 266-7500

Subject: IN THE MATTER OF THE PETITION OF HR TEXTRON INC. FOR REVIEW OF CLEANUP AND ABATEMENT ORDER NO. 89-104 OF THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION. STATE BOARD FILE NO. A-684.

This is to transmit the response of the California Regional Water Quality Control Board, Los Angeles to the petition filed by HR Textron, Inc. in this matter. The Regional Board's response is attached. If you have any questions please contact Jorge A. Leon, the Regional Board's Counsel (916) 322-5942 or Hank Yacoub, Toxics Section Chief (213) 266-7522.

cc: Mr. Michael Hickock
Pettit & Martin
355 South Grand Avenue
Thirty-Third Floor
Los Angeles, California 90071

STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

In Re: Petition of HR Textron Inc. reegarding Cleanup and Abatement Order No. 89-104	RESPONSE OF THE REGIONAL BOARD TO PETITION FILE NO. A-684

I.

INTRODUCTION

HR Textron Inc. (HRT) operates a manufacturing facility in Pacoima, California. An underground storage tank system which had been in operation at the site for some 20 years was discovered to be leaking waste solvents, freon, and other hydrocarbons. The leaks had gone on for an unknown period of time and discharged an unknown quantity of the substances. Over the next four years, HRT and its four separate consultants provided a significant amount of data and information to the Regional Board, and after careful review of all the material -- as had been in numerous similar cases -- the Executive Officer decided to issue Cleanup and Abatement Order (CAO) No. 89-104 requiring, among other things, that HRT install a ground water monitoring well to investigate the extent of the probable contamination. Upon HRT's appeal to the Regional Board itself, the CAO was ratified by a unanimous vote.

HRT requests the State Board to overturn the CAO on the basis that, in its judgment, the pollutants have "probably not" reached the ground water, and therefore, ground water monitoring

should not be required. It takes this position in the face of overwhelming information amounting to substantial evidence which shows, in the Regional Board's judgment, that the pollutants probably have reached the ground water and are at least threatening to pollute a major source of drinking water of Southern California.

The State Board is respectfully requested to uphold the Regional Board's conclusion that the CAO issued in this matter is an appropriate exercise of its authority to protect the waters of the State. As will be shown below, the HRT petition represents little more than an attempt to circumvent the carefully drawn technical conclusions of the expert agency responsible for the quality of the States's waters in the Los Angeles Region.

II.

FACTUAL BACKGROUND

1. The HR Textron Facility.

The HR Textron facility is located in the City of Pacoima, County of Los Angeles. HRT has leased the property since 1966. It manufactures components used in the aerospace industry and as part of its manufacturing process, stores and uses both chlorinated and unchlorinated solvents, cutting oils, and other chemicals. Waste solvents, freon and spent hydrocarbons were stored in an underground waste tank system at the site since the commencement of operations in 1966. This system consisted of two 1,000-gallon underground tanks, an inlet sump, and appurtenant piping.

In 1984, it was discovered that the tank system was

leaking and that an unknown quantity of Volatile Organic Compounds (VOCs) and Total Petroleum Hydrocarbons (measured as TPH) had been discharged from the tank system by at least one leaking tank and by possible storm water overflows. The tanks, inlet sump and associated piping were removed in 1985. (TX-I, p. 9-11.)[1] Following tank removal, several soil assessment studies were conducted at the site by a succession of consultants hired by HRT.

2. Regional Board Staff Findings.

A review of all information by Regional Board staff resulted in the following findings, among others:

a. The HRT facility is situated in the so-called Hansen subarea upgradient from the main San Fernando Basin in the San Fernando Hydrologic Area. The site is in hydraulic continuity with aquifers of the San Fernando Basin. Ground water in the alluvial aquifers of the San Fernando Valley is of good quality and generally used for drinking water. (TX-II, p. 10.) The site is some two to three miles upgradient from existing public drinking water wells.

b. Aquifer materials are highly permeable with commonly reported ground water velocities of 10-24 feet/day. This rapid movement of ground water is affected by spreading at the Hansen Spreading Grounds, underflow through Tujunga and La Tuna washes,

---

[1]Cites to the hearing transcripts herein will appear as follows: "TX-I" refers to the transcript of the hearing of March 26, 1990, followed by page number; "TX-II" refers to the transcript of the hearing of April 23, 1990, followed by page number.

underflow from Hansen Dam, as well as direct infiltration, local withdrawal and outflow to the main San Fernando Basin. Historical fluctuations of water depths from 95 to 200 feet below ground surface have been observed at wells in the Hansen subarea. (TX-II, p.122.)

c. Alluvial materials of the unsaturated zone beneath HRT include coarse-grained materials, primarily sands and gravels interbedded with generally silty pebbly sands and fine-grained materials ranging from sandy and clayey silt to sandy and silty clays. The fine-grained materials consistently include coarse granules and pebbles. The materials in the upper fifty feet of the site seem to represent channel deposits and the coarse-grained materials, encountered down to the cobble/boulder layer at over 100 feet, are more characteristic of normal fan deposits. In alluvial fans, such channel fill is not typically continuous as claimed by HRT and in fact demonstrated by lateral variation in thickness and lithology. (TX-II, p. 107-108.)

d. Extensive contamination, primarily consisting of petroleum hydrocarbon and volatile organic compounds, are confirmed to depths of between 46 and 52 feet below ground surface underlying the former underground tank system. The highest VOC concentrations were reported within the last fine-grained horizon. Concentrations of TPH and VOCs below this horizon were considerably reduced. Although TPH was reported to depths of 110 feet, VOCs were sporadically reported to at least 78 feet below ground surface. The change was due to a

combination of the tendency of VOCs to volatilize and migrate as dense gases, the inability of HRT's sampling methods to include gas phase, and significant disturbance of samples during acquisition and handling (improper field protocols and the phenomenon of retardation). (TX-II, p. 116-118.) In addition, the migration rates of gas phase VOCs are much higher than TPH, especially in the coarse materials.

e. The last fine-grained horizon or so-called "barrier clay" may indeed retard HRT's waste discharge migration, but it does not serve as a barrier to contaminant migration. Retardation means the slowing of contaminant and water migration through the same medium with respect to one another. (TX-II, p.118.) It does not mean that site contaminants have ever been wholly retained at that so-called barrier.

f. Arguments presented by HRT to invalidate the positive analytical results are spurious. HRT has made no comment on the improper sampling protocols nor its lack of direct measurement of gas phase VOCs which contributed to the negative analytical results ("no-detects"). It is not reasonable to allow analytical results which report VOCs to be solely ascribed to laboratory error or contamination. Similarly the spectre of cross-contamination in the field as raised by HRT is unreasonable given that the hollow-stem auger method utilized provides appreciable protection against this. (TX-II, p. 119-123.)

g. Petroleum hydrocarbons, encountered in the borings at loci above and below the so-called barrier "clay layer," were

claimed to be different and therefore not indicative of leakage to depths of over 100 feet. (Leighton and Associates, 1988, p. 20.) Low levels of petroleum hydrocarbon occurring to depths of over 100 feet were passed off as "natural background." (TX-II, p. 39.) However, information developed by its consultants indicates that these hydrocarbons are similar or the same. (Global Geochemical Corporation, November, 1988, p. 1 and 5; TX-II, p. 66-67; HRT Response to Staff Findings, Exhibit B, p. 7.)

h. HRT further claimed that petroleum hydrocarbons encountered in borings beneath the so-called barrier were in all cases "natural background." Information provided in testimony by Ian Kaplan indicates that analyses exist that have not been provided to the Regional Board, that would demonstrate that low levels of petroleum hydrocarbons found in the "background boring" (LB-104) are different from that encountered in the demonstrable contamination at the former tanks some 400 feet away. (TX-II, p. 67.) This implies that petroleum hydrocarbons previously analyzed from below the so-called barrier at the former tanks are also different from "natural background" and that site contamination has migrated to depths of over 100 feet below ground surface.

i. Despite HRT's claims that the Ledger Landfill is responsible for observed contaminants (TX-II, p. 80-82) its own consultants determined that HRT had installed its waste tank system within the landfill (Leighton and Associates, Progress Report, 1988, p. 16.) Thus, HRT has discharged hazardous waste

to a closed landfill and may be subject to Subchapter 15 regulations.

3. Site Assessment Chronology.

In May, 1987, HRT submitted a workplan for "Phase II" soil investigation proposing to drill three borings. In August, 1987, the Regional Board staff approved the plan on the condition that the proposed borehole(s) would be extended into the ground water and developed as ground water monitoring well(s) to determine extent of water quality problems resulting from HRT waste discharges. (TX-I, p.19.) In October, 1987, HRT submitted a revised workplan which included as Task I, drilling, installing and sampling of one six-inch diameter monitoring well downgradient from the location of the former tank system. In March 1988, HRT submitted a technical report which included descriptions of all borings being terminated at over 100 foot depths due to inability of the selected drilling method to penetrate a horizon thought to consist of cobbles and boulders. This drilling method had previously failed to penetrate the same horizon. (Enviropro, 1986.) In letters dated May, 1988 and April, 1989, Regional Board staff reiterated that a ground water investigation should be undertaken by means of the monitoring well(s) previously agreed upon. Several meetings were held in the intervening months between staff and HRT representatives. (TX-I, p. 11-12.)

In October 1989, HRT notified staff that it had concluded that the tank releases did not "pose a present danger"

to the ground water and therefore, it would not install any wells. (TX-I, p. 22-23.) HRT, however, sought staff's authorization to commence soil remediation.

4. Cleanup and Abatement Order Chronology.

The Executive Officer issued Cleanup and Abatement Order No. 89-104 on December 18, 1989, to insure that site characterization, ground water threat evaluation, and site remediation be systematically performed to the satisifaction of the Regional Board. (TX-I, p. 13.) Thereafter, by letter dated January 4, 1990, HRT requested that the Regional Board turn over investigation of the site to the Los Angeles City Fire Department. By the time of the Regional Board hearing on the CAO, HRT had abandoned this request. (TX-II, p. 6-8.)

By letter dated January 19, 1990, HRT requested that the Regional Board itself review the CAO. The request was granted and the hearing was commenced on March 26, 1990. Because of lack of time, the matter was continued to the April 23, 1990 Regional Board hearing. During the hearing, the staff presented the information it relied upon to issue the CAO. HRT presented testimony through several experts in support of its position that site characterization was adequate and drilling to ground water should not be required. At the conclusion, the Regional Board voted nine to zero to uphold the CAO.

Shortly thereafter, HRT filed in the Los Angeles County Superior Court a petition seeking issuance of a Temporary Restraining Order (TRO) to halt enforcement of the CAO. The

Court denied the TRO request at a hearing held on May 22, 1990. HRT then proceeded to seek a preliminary injunction. That request was granted, effectively halting enforcement of the ground water monitoring element of the CAO by the Regional Board. The preliminary injunction is presently in effect. At about the same time that it filed its petitions in the Superior Court, HRT also filed the present petition with this Board and a Request for Stay. During the pendency of this petition, HRT has proceeded with additional site characterization to support a soil remediation project at the site, which it asserts will dispel any necessity to drill to ground water. To date, the site characterization is incomplete and the remedial action plan has been determined by the Regional Board staff to be inadequate.

III.

DISCUSSION

A. UNDER WATER CODE SECTION 13304, THE REGIONAL BOARD MAY ISSUE A CLEANUP AND ABATEMENT ORDER WHEN THERE IS EVIDENCE TO SUPPORT THE EXISTENCE OF A THREAT OF DISCHARGE TO GROUND WATER AND A THREAT OF POLLUTION OF THE GROUND WATER. IT IS NOT, AS HRT ASSERTS, NECESSARY TO SHOW A PROBABILITY OF CONTAMINATION.

1. The Statute.

In concluding that issuance of the Cleanup and Abatement Order was appropriate, the Regional Board had to consider the appropriate level of evidence needed to support the action. Section 13304 authorizes issuance of a Cleanup and Abatement Order if the evidence is great enough to support the

probability or the existence of a threat of contamination.

The current version of Section 13304 was enacted by the Legislature in 1980 and has been in effect since 1981. Pertinent portions read as follows:

> "(a) Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order of prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board clean up such waste or abate the effects thereof or, in the case of threatened pollution or nuisance, take other necessary remedial action. [emphasis supplied.]
>
> * * *
>
> "(e) 'Threaten,' for purposes of this section, means a condition creating a substantial probability of harm, when the probability and potential extent of harm make it reasonably necessary to take immediate

action to prevent, reduce, or mitigate damages to persons, property, or natural resources.

HRT argues that before invoking Section 13304, the Regional Board must be able to prove the higher thresholds of actual pollution or probable pollution. The provision is not as simple as HRT would like. A careful reading of paragraph (a) shows that the Legislature crafted several threshold levels for application of Section 13304 with the intention of allowing the State Board and the Regional Boards wide latitude in deciding when it is appropriate to invoke its provisions. The liberal use of the disjunctive "or" indicates that the Legislature intended that several levels of threshold be recognized. On the high end of the threshold levels is an actual discharge or deposit which actually enters the state's waters and which actually creates pollution. On the low end is a threatened discharge or deposit which threatens to enter the state's waters and which threatens to create pollution.

Previous versions of Section 13304 did not contain the current language that reduces the threshold of evidence the Regional Board needs to support a Cleanup and Abatement Order. Under the previous version of Section 13304, only actual discharges causing actual pollution qualified for action under Section 13304. The provision in effect before 1981 read, in part, as follows:

"(a) Any person who discharges waste into the

> waters of this state in violation of waste discharge requirement or other order issued by a regional board, or who intentionally or negligently causes or permits any waste to be deposited where it is discharged into the waters of the state and creates a condition of pollution of nuisance, shall upon order of the regional board clean up such waste or abate the effects thereof."

The 1981 amendments clearly evince a legislative intent to substantially lower the threshold of evidence necessary to invoke Section 13304's authority. In this case, it is clear that an actual discharge has taken place and, while not conceding that it is necessary, the Regional Board asserts that the evidence shows that discharge to the ground water is probable. At the very least, the data demonstrates that discharge to ground water and pollution are threatened.

The few State Board pronouncements that exist on the issue support this conclusion. For example in BKK CORPORATION (1986), State Board Order No. WQ-86-13, a case involving the same region, the State Board stated:

> The Regional Board's findings in Order No. 84-88 and Cleanup and Abatement Order No. 84-4 that conditions of pollution and threatened pollution exist are supported by the record. The threatened pollution of aquifers in the

San Gabriel Valley would provide sufficient basis for issuance of a cleanup and abatement order, independent of any finding of pollution in the immediate vicinity of the BKK landfill."

The Regional Board recognizes that the BKK case does not fit perfectly the situation in the instant case. However, by analogy, the instant case involves incomplete but convincing evidence that ground water pollution is threatened by an actual discharge. As in the BKK case, this should be sufficient to authorize issuance of a cleanup and abatement order pursuant to Section 13304 for the protection of the ground water.

2. Policy Considerations.

Clearly, Section 13304 no longer requires evidence of actual discharge into ground water and actual pollution. However, the "probability" standard which HRT claims is applicable to this case, is also unacceptable as a rigid standard to be applied in all cases. As a matter of practicalities, the higher the standard, the more the burden of proof is shifted to the regional board staff, away from the discharger. Once the staff has received evidence of a discharge that threatens to cause pollution, that should be enough to place the burden on the discharger to investigate, in appropriate cases, by means of ground water monitoring.

The regional boards should not have to prove "probability" in all cases. Rather, each case should be decided

on its independent facts using the more flexible standard that the Legislature adopted in 1980. A rigid standard could tie the regional boards' hands when they need to investigate discharges that threaten pollution but where the evidence does not clearly convince everyone that pollution is probable.

B. THE RECORD IN THIS MATTER AMPLY DEMONSTRATES THE EXISTENCE OF EVIDENCE TO SUPPORT BOTH A "PROBABILITY" OF CONTAMINATION AND A "THREAT" STANDARD.

It is undisputed that an underground waste storage system was in place at the HRT Pacoima site for some 20 years and that it was removed because it was found to be leaking. It is also undisputed that the tank system leaked unknown quantities of waste, including hazardous THP and VOCs. HRT provided data disclosing extensive VOC and TPH contamination to depths of 52 feet below ground surface within both coarse-grained materials (sands and gravels) and fine-grained materials (silty sands, clayey silts, and sandy to silty clays).

Sporadic low levels of VOCs and consistent low levels of TPH were reported from a thick sequence of coarse-grained materials underlying the last fine-grained horizon to a depth of 110 feet. There is a significant concentration decrease reported for both TPH and VOCs below the bottom of the last fine-grained horizon. However, the boring logs reveal that proper samples for VOC analyses were rarely obtained by HRT from the thick underlying coarse-grained sequence. Hence, the large number of "no detect" results and lack of a VOC "pattern" are not

surprising. However, HRT demonstrated that TPH from the area of the tank system above and below the last fine-grained horizon was the same (Global Geochemistry Corporation Report, November, 1988, p 1.), that background TPH from some 400 feet away was different from the TPH at the tank system (TX-II, p. 66-67) and that low levels of TPH were present to depths greater than 100 feet below the tank system area. (Leighton and Associates, March, 1988, p.22.)

No "clay barrier" has been established underlying the site of the discharge, as HRT has claimed. The analytical results indicate that the waste material has reached within and below the last fine-grained horizon that exists at depths of between 46 and 52 feet below ground surface. Gas phase transport of VOCs and retardation of petroleum hydrocarbons, together with HRT's inability to properly sample the coarse-grained materials account for the erratic analytical results.

Depth to ground water at the site is unknown. This would be one of those facts that can only be made certain if HRT would comply with the CAO. Historical fluctuations in the area have ranged from 95 to 200 feet below ground surface, well within range of the reported petroleum hydrocarbons. Melvin L. Blevins, a civil engineer trained in geology and hydrology with 33 years of ground water experience and who serves as Watermaster in the San Fernando Valley testified that based on his review of the data, there is a "high potential" that ground water pollution has occurred at the HRT site. (TX-II, p. 105.) He emphasized, upon

being asked by a Regional Board Member whether that means "probability," "[t]here is not only a probability, there is a strong, strong potential that it would affect ground water." (TX-II, p. 106.)

The definition of "probable" that HRT espouses is the dictionary meaning which is that an event is more likely than not. (Petition, p. 20.) Under the above facts it is clearly probable that the discharged material has reached and polluted the ground water. The tank system may have leaked from the beginning, since no overflow protection has been described which would prevent storm water runoff from the unroofed waste and chemical storage areas from entering the sump and overflowing the tanks. The holes observed in at least one of the tanks proper also may have been quite old. Therefore: (a) leakage has had up to 24 years to migrate downward, (b) significant concentrations of liquid, dissolved or adsorbed phase VOCs have been measured from the surface to inside the last fine-grained horizon, (c) low levels of VOCs represent gas phase transport in the underlying coarse-grained intervals, (d) petroleum hydrocarbons, tracking from surface discharge to the lowest depths drilled, represent residual waste, (e) downward travel of contaminants has not been effectively blocked, and (f) ground water fluctuations place the water table historically higher.

Because of the foregoing, it is more likely than not that the discharge has come into contact with ground water and has caused ground water pollution. Under these facts, the

Regional Board's issuance of the CAO is supported by substantial evidence.

C. THE CLAYEY HORIZON OCCURRING VARIOUSLY BETWEEN 40 TO 52 FEET BELOW SURFACE HAS NOT BEEN OBJECTIVELY CHARACTERIZED TO CONSTITUTE A RELIABLE BARRIER OR RETARDANT. HRT'S ARGUMENT THAT THE CONTAMINANT PLUME IS RETARDED AT THAT LEVEL IS BASED ON SPECULATION.

HRT relies heavily on the existence of the last fine-grained horizon (the so-called "barrier") of varying thickness between 45 and 52 feet below ground surface at the site of the tank system to support its argument that ground water pollution is not probable because the clay formation has acted to prevent and retard migration of the pollutants downward. HRT's reliance is misplaced.

The record does not provide reliable information to support HRT's assertions. Early reports described discontinuous clay lenses and reported sporadic VOCs of several chemical species from below the last fine-grained horizon. The latest data show the highest levels of contaminants within the last clay horizon, not above it. (ERM-West, 1990 p. 2.1-2.2.) Reliable data has not been provided to the Regional Board below this horizon.

Two key reports by a previous consultant provide conflicting descriptions of the clay "barrier" as "discontinuous layers of clay" and as "continuous clay layer." (Leighton and Associates, 1988, p. 17; Leighton and Associates, 1989, p. 3 and

12.) A clayey layer containing granules and pebbles is reported from two borings between 45 and 50 feet in the 1988 report, but is reported as having different characteristics in a third boring, some 14 feet away. Two primary clayey horizons are usually described, one at 20 to 23 feet below ground surface and a second at 46.5 to 52.5 feet below ground surface. (Leighton & Associates, 1989, p. 17.) There seems to be at least a window in the "continuous clay layer" which would preclude it from constituting an effective barrier to vertical migration of contaminants.

It is certainly inconsistent to define a continuous clay layer at 20 to 23 feet below ground surface with a thickness of three to nine feet which has allowed vertical migration of contaminants and then postulate that a second layer, which is thinner (one to four feet) and discontinuous, should serve as a significant barrier. No permeability data has been provided by HRT.

Some descriptions of the postulated barrier horizon, as "...fine sandy, silty clay...," (Leighton and Associates, Progress Report No. 2, 1988 p. 12.) do not resemble that of a 10 to the minus 7 cm/sec material required by Subchapter 15 as a barrier for landfills. Finally, the existence of contaminants below this horizon, detected even in some coarse-grained, disturbed samples, and subjected to lengthy holding times at the laboratory, essentially eliminates the barrier argument. For the sake of thoroughness, all phases of contaminant transport (liquid

and gas) should be considered.

Melvin Blevins testified that it was his opinion that the clayey structure does not assure against pollution. (TX-II, p. 104-105.) The facts do not support HRT's hope that the clayey formations beneath the tank site reliably act as a barrier or even as a retardant to preclude downward migration of the contaminants.

D. HRT ARGUES THAT IT HAS ALREADY SPENT SUBSTANTIAL SUMS AT THE SITE AND HAS PRESENTED INFLATED COST ESTIMATES FOR THE WORK THAT THE REGIONAL BOARD NOW REQUIRES.

Prior to its commencement of soil remediation, which is still proceeding, HRT claims to have spent over $500,000 in costs related to the underground tank leaks. This may be true, and as a partial explanation the record reflects that HRT has changed consultants in this case three times, that it performed work not required by the Regional board, and that it failed to fully or properly perform work which was required. It now claims that the required ground water monitoring work will cost some $400,000. This figure is far in excess of what the Regional Board has seen spent on similar work. In light of HRT's history in this matter, the Regional Board does not accept HRT's estimates, and suggests that the estimate is inflated. HRT has not provided to the Regional Board a complete breakdown of the costs it claims that it will incur and is consistent with HRT's apparent effort to circumvent the inevitable need to drill to ground water. It is ironic that, even disregarding the cost of soil remediation,

which is no doubt substantial, HRT will already have spent far more on its own misguided efforts than it would have spent by monitoring the ground water, as originally requested by the Regional Board.

As an example of HRT's poorly planned expenditures, in 1986, it drilled with a hollow stem auger to over 100 feet below ground surface and encountered cobbles and boulders which prevented further penetration. It again drilled with hollow-stem auger in 1987 to a similar depth and encountered the same resistance. During its 1988 effort to install a monitoring well HRT again used a hollow-stem auger to penetrate the same horizon and failed. (Leighton and Associates, Third Progress Report, 1989.) Had it been serious about installing a monitoring well at an efficient cost, it seems that HRT would have utilized an alternative drilling method to drill below 100 feet.

E. THE REGIONAL BOARD'S DECISION TO ISSUE A CAO WAS BASED ON SITE-SPECIFIC DATA, TAKING REGIONAL INFORMATION INTO ACCOUNT ONLY WHEN RELEVANT. THE REGIONAL BOARD IS NOT SEEKING TO SADDLE HRT WITH RESPONSIBILITY FOR REGION-WIDE CONCERNS.

At various times throughout the pendency of this matter, HRT has complained that the Regional Board staff told its representatives, in effect, that HRT is bearing the brunt of problems in the region caused by the aerospace industry as a whole. On numerous occasions, the Regional Board has disavowed any such implications and has made clear to HRT that any action, including the CAO, is a result of the Regional Board's and

staff's evaluation of this individual site. (e.g. TX-I, p.28.) As demonstrated in section III.B, above, the CAO is supported by the record evidence developed on this discrete case.[2]

The Regional Board is asking HRT to do only that which any other discharger would be required to do, assess the extent to which its waste discharge has affected water quality. Yet, HRT insists that the Regional Board is acting solely out of some regional concern. No evidence supports its claim. While HRT may validly argue that it should not bear sole responsibility for cleanup of an industry's discharges, its fear is entirely unfounded. No action whatsoever has been required of HRT by the Regional Board beyond the area of its site.

HRT apparently fears that drilling to ground water will result in a confirmation of the existence of ground water pollution beneath its facility. (TX-II, p. 80.) It is also fearful that the Regional Board will fail to identify and sort out all of the potentially responsible parties and impose a massive cleanup responsibility solely on HRT. (TX-I, p. 39; TX-II, p. 82; 98-99.) However, this is not the case. The Regional Board will review the analytical data that results from ground water monitoring to determine what, if any, further actions are necessary, HRT's argument, of course, is premature since HRT has

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[2]TPH's have been found below the surface 400 feet away from the tank location. HRT asserts that this is evidence of a region-wide problem. (TX-I, p. 52.) However, it may just as likely be evidence of <u>other</u> TPH leaks at the HRT site and may be indicative of material or waste handling practices that have led to undocumented discharges.

not yet drilled to ground water and the Regional Board has not yet required any cleanup activity. Finally, HRT's speculative argument relating to events after drilling to ground water are entirely irrelevant to the current issue, which is whether drilling to ground water should be required at all.

F. THE REGIONAL BOARD'S ACTION IN THIS MATTER IS BASED ON THE SPECIFIC FACTS OF THIS CASE. THE REGIONAL BOARD IS NOT APPLYING ANY "RULE" OR "REGULATION" THAT WOULD HAVE TO BE ENACTED PURSUANT TO THE ADMINISTRATIVE PROCEDURE ACT.

The Regional Board issued the CAO based on information assembled regarding the leaking underground tank system at the site. HRT argues, however, that the Regional Board's action in approving the CAO violates the Administrative Procedure Act (APA) (Government Code Section 11340 et. seq.) because it constitutes enforcement of an alleged new policy that ground water sampling will always be required in such cases to disprove the possibility that ground water has been adversely impacted. Such action violates the APA, according to HRT's argument because the "new policy" has not had the benefit of enactment pursuant to the APA.

HRT's argument follows from its misperception of the Regional Board's action. Actually, the Regional Board set no new policy, nor is the action taken in this case a generally applicable standard. Rather, the Regional Board is merely enforcing the provisions of Water Code Section 13304.

Even if there were a colorable claim of an APA violation, it is not necessary that the State Board expend its

valuable resources on this argument. First, it is doubtful that the State Board has any responsibility to enforce the APA. Second, at HRT's behest, the claim of an APA violation has been taken up by the California Manufacturer's Association, which recently filed a Request for Determination pursuant to Government Code Section 11347 regarding the Regional Board's rulings in this case. That matter has been calendared for consideration by the Office of Administrative Law. (Office of Administrative Law, Docket No. 90-023.)

Suffice it to say that the Regional Board's action was not the enforcement of any policy, but a decision based on the facts of this individual case. Additionally, The Regional Board does not require HRT to disprove that contamination exists. Rather, based on the probability that contamination does exist, the Regional Board is asking HRT to conduct an investigation to allow the Regional Board to decide what actions are now necessary to protect the state's waters. Finally, in requesting that HRT drill to ground water, the Regional Board is enforcing the provisions of Water Code Section 13304 itself. The enforcement of an existing statute does not constitute rulemaking that could violate the APA. California Coastal Commission v. Quanta Investment Corp. (1981) 113 Cal. App. 3d 579, 170 Cal. Rptr. 263.

G. THE REGIONAL BOARD IS NOT REQUIRING HRT TO PERFORM TASKS OTHER THAN THOSE THAT WOULD BE REQUIRED OF OTHER DISCHARGERS IN SIMILAR CIRCUMSTANCES.

HRT argues that the Regional Board's requirement that

it drill to ground water constitutes selective treatment. It argues that other dischargers similarly situated are not required to perform the same tasks. First, the Regional Board notes that this argument is logically in direct conflict with its preceding argument. HRT argues both that it is being treated like other dischargers under a generally applicable policy and that it is being treated uniquely. More importantly, HRT has flatly failed in its petition to demonstrate that any other dischargers are similarly situated or that they have been treated differently.

H. THE INSTALLATION OF GROUND WATER MONITORING WELLS WILL NOT CAUSE GROUND WATER POLLUTION THROUGH CROSS CONTAMINATION IF PERFORMED PROPERLY.

HRT argues, in support of its position that ground water monitoring should not be required, that to do so may result in cross contamination. Proper well construction technology will preclude preferential migration of contamination along the boring. HRT proposed a version of such a protective technique, indicating that they appear to understand, at least in theory, how to avoid cross-contamination at the same time as achieving monitoring objectives. (Ground Water Monitoring Plan, May 23, 1990.)

I. DATA OBTAINED FROM HRT'S SOIL REMEDIATION PROJECT FAIL TO DISPEL THE NEED TO MONITOR GROUND WATER.

HRT submitted a soil remediation workplan involving soil vapor extraction. The workplan has been a continuing source of disagreement between Regional Board staff and HRT. HRT has

failed to submit requested details regarding its plan and yet it is proceeding. (Letters from Regional Board staff to HRT Textron dated June 11, 1990, July 24, 1990, and August 14, 1990.) Specifically, Regional Board staff questioned the facts under the workplan that (1) extraction wells were screened across all horizons regardless of inferred permeability contrasts; and (2) air rotary drilling which has been used, probably distributed pollution vapors outside the original tank leak impact area. (Staff letter of July 24, 1990.)

Additionally, HRT has not completed data collection satisfactorily and has set up components of its system without appropriate consideration and characterization. It has steadfastly refused to provide appropriate data or to implement baseline monitoring. (HRT letter to Regional Board Staff dated July 16, 1990.)

HRT touted its plan with the claim that it will remove the contaminants, clean the soil and protect the environment. However, there is no assurance that the plan will remove all contaminants and it provides absolutely no assurance that it will protect the ground water from those contaminants that have already migrated downward past the clayey formations. Contaminants are already within the lower-most clayey horizon and below it. The single-screen extraction/injection system is screened across sand/gravel horizons as well as clayey horizons and it will selectively operate on the more permeable horizons and will not clean the fine-grained horizons as promised.

(Regional Board staff letter, July 24, 1990.) Additionally, The remediation plan has completely ignored the escape of vapor phase material and subsequent migration to ground water.

Finally, the post-soil remediation testing program is inadequate. A baseline, operational and post-operational vapor monitoring array is needed. HRT has offered only a few post facto driven samples. The array must also be installed above and below the postulated clayey "barrier" to validate that transport is not being accelerated by HRT's modification of the on-site conditions. The injection wells could literally drive vapors through the thin zones in the last fine-grained horizons. (Regional Board Staff letter, July 24, 1990.)

Far from helping to demonstrate that ground water pollution is not probable, HRT's soil remediation plan may actually be making ground water pollution even more probable than it already was.

IV.

CONCLUSION

The Regional Board issued the CAO on the basis of its best judgment given data provided by HRT showing that there exists, if not a probability of ground water contamination, at least a very substantial threat thereof emanating from the underground tank system that HRT operated for some 20 years. The Regional Board's action was not without some controversy between technical experts. Above all of the controversy, the Regional Board's central concern was the protection of a substantial

source of drinking water for the residents of the area. In balancing this technical dispute and the potential for harm to the public health, the conservative approach -- requiring that ground water be monitored -- should prevail. (TX-II, p. 62.)

The Regional Board urges the State Board to affirm the issuance of the CAO so that a full investigation of the discharge caused by HRT may proceed.

2166-04748

STATE OF CALIFORNIA

WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of HR Textron Inc. re Cleanup and Abatement Order 89-104	)	PETITION FOR STAY OF REGIONAL BOARD ORDER (Water Code § 13321; 23 California Code of Regulations § 2053)
	)	[Affidavit of Michael Hickok In Support Thereof Filed Concurrently Herewith]

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STATE OF CALIFORNIA

WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of HR Textron Inc. re Cleanup and Abatement Order 89-104	)	PETITION FOR STAY OF REGIONAL BOARD ORDER (Water Code § 13321; 23 California Code of Regulations § 2053)
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I. PRELIMINARY STATEMENT.

Petitioner HR Textron Inc. ("Textron") hereby respectfully petitions the State Board for a stay of Cleanup and Abatement Order 89-104 ("the Order") pending a full review by the State Board of the merits of the Order that requires groundwater monitoring in the case of an underground storage tank leak. This petition is brought pursuant to Water Code § 13321 and 23 Code of Regulations § 2053, and is duly supported by the accompanying affidavit of Michael Hickok ("Hickok Affidavit"). Textron is filing concurrently a Petition For Review to set aside the Order, compliance with which is set for May 23, 1990. (A copy of the Order is attached to the Hickok Affidavit as Exhibit "1"; it also appears as Pre-hearing Submission No. 1 of the Administrative Record For Regional Board Hearing Re Order 89-104 ("Administrative Record").[1/] As will

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1/ Textron hereby incorporates by reference the Transcripts of the March 26, 1990 and April 23, 1990 hearing proceedings before the Regional Board, as well as the Administrative Record presented at the 4/23/90 hearing to the Regional Board. The referenced hearing transcripts and Administrative Record are being filed concurrently with the Petition for Review.

be demonstrated below, a stay order is wholly appropriate in this case, as each and every requirement for issuing such an order is met by Textron.

II. STATEMENT OF FACTS.

A. Procedural Status of Case.

On April 23, 1990, the Regional Water Quality Control Board for the Los Angeles Region ("Regional Board") ratified the Order, at the conclusion of the hearing on the Order. The Order requires Textron to devise and implement a plan to drill to groundwater, and test for "any" contamination of volatile organic compounds caused by the release.[2/] The Regional Board ordered Textron to comply fully with the Order within thirty (30) days of the hearing, or be subject to extensive civil penalties.[3/]

The Order was issued in the context of a Regional Board proceeding that was initiated after Textron duly notified the Regional Board Staff in 1984 of a release from an underground storage tank at its manufacturing facility located in Pacoima, California. This leak contaminated the soil directly beneath the tank, in the form of a cylindrical release of volatile

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2/ By letter dated March 16, 1990, Staff Counsel to the Regional Board indicated that the Staff requires three wells to a depth of 20 feet below water surface, or to 200-220 feet. A true and correct copy of the March 16 letter is attached as Exhibit "2" to the Hickok Affidavit, and also appears as Exhibit No. 7 to the Administrative Record filed concurrently with the Petition for Review.

3/ Transcript of the 4/23/90 Regional Board Hearing, 132/5-135/2. For purposes of citation, transcript references are "4/23/90 Transcript, page/line."

organic chemicals and petroleum hydrocarbons, with an estimated radius of 25 feet extending to, but contained by, a clay barrier located approximately 46.5 to 52.5 feet below ground surface.[4/]

The Regional Board has approved the basic remediation plan that Textron proposed, and Textron and Regional Board Staff have agreed to work together to finalize the details of the planning and implementation of the remediation plan. (Hickok Affidavit, para. 7.) The remediation plan will remove the contamination, clean the soil, and protect the environment during its implementation. Significantly, the remediation of the tank release is taking place at the same time that the Order is being challenged.

As the Petition for Review of the Order demonstrates, there is no legal authority of the Regional Board to order groundwater monitoring in this case, and the evidence on the record a whole does not support the agency action. At most, the Order is premature, as there is no evidence that the remediation plan will not effectuate the clean up and abatement of the soil contamination caused by the release. In fact, the remediation process will prevent any migration of the contaminants through the clay layer (4/23/90 Transcript, 51/3-5), and post-remediation testing should be able to confirm that the goal of the remediation plan has been achieved. (4/23/90 Transcript, 72/1-75/3.)

4/ Administrative Record, Exhibit "A," ERM Report, "Technical Evaluation of Underground Tank Release, HR Textron Pacoima Facility, p.5. This excerpt will also appear as Exhibit "3", to Hickok Affidavit.

B. Relief Sought By Textron.

It is urgent that a stay order be issued to toll the effective date of the Order, pending a full review of the Regional Board's action requiring groundwater monitoring in this soil contamination case. Without a stay order, Textron's entitlement to a full and fair review of the significant issues in this matter will be effectively denied. The jurisdiction of the State Board, and if necessary the State courts, to review the merits must be preserved.

As will be demonstrated below, a stay order is wholly appropriate for the following reasons:

1) Textron will suffer substantial harm if the Order remains effective while appeal rights are pursued;

2) A public interest exists in having a full and fair review of the important issues Textron is raising with regard to the administration of the Water Act, Water Code § 13304, and the obligations of a private party in remediating soil contamination;

3) There is a lack of substantial harm to other interested persons and to the public interest if a stay order issues; and

4) Substantial questions of fact and law must be resolved with regard to the merits of Order 89-104.

Accordingly, Textron requests that the following relief be granted pursuant to this Petition:

1) That a stay order be issued without the necessity of a hearing based on Textron's demonstrated compliance with requirements for a stay order as set forth in 23 Code of Regulations § 2053.

2) Alternatively, that the State Board grant Textron a hearing on its Petition for Stay and that the hearing be consolidated with oral argument of the Petition for Review, filed concurrently herewith, pursuant to 23 Code of Regulations § 2053(a); and

3) That, pending a hearing for the purpose of oral argument, interim relief be granted to Textron in the form of a temporary stay in order to preserve Textron's entitlement to a full and fair hearing on the instant petition.

III. THE STATE BOARD SHOULD PROPERLY EXERCISE ITS STATUTORY AUTHORITY TO GRANT A STAY ORDER OF THE REGIONAL BOARD'S ACTION.

A. Textron Will Suffer Substantial Harm If A Stay Is Not Granted.

Pursuant to 23 Code of Regulations § 2050, et seq., Textron is entitled to petition the State Board for review under Water Code § 13320(a) of an action by the Regional Board. This review may include a hearing for the purpose of oral argument. 23 Code of Regulations § 2052(a)(2). As discussed, Textron is pursuing its appeal rights in this matter by filing the Petition for Review of the Order. If the Order were to remain in effect, Textron would have to commence the compliance actions that are the very subject of the appeal pending before the State Board. This would have the very practical effect of denying Textron's right to seek State Board review and of denying Textron due process as established by the statute.

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Substantial harm will also result from the tremendous expense Textron would incur in complying with the order to drill to groundwater, at the same time that the very necessity of such action is being challenged. These costs have been estimated to be between $500,000 to $600,000, which will be in addition to the $500,000 already expended for site characterization and sampling, and $350,000 to be spent on soil remediation. (4/23/90 Transcript, 85/2-10.) Accordingly, Textron will suffer substantial economic harm that, as the Petition for Review demonstrates, is wholly unwarranted in the first place.

In addition, compliance with the Order is premature, in that substantial harm could result from drilling to groundwater before remediation is completed. (4/23/90 Transcript, 51/23-52/6; 71/17-25.) Textron's expert witnesses both confirmed, without dispute, that drilling to groundwater before remediation is completed creates the substantial risk that cross-contamination will reach groundwater, when to date, there is no evidence that has occurred. Given the important public interest in achieving as complete and effective a remediation that technology can produce, substantial risk to the public interest exists if groundwater monitoring were to take place prematurely. Moreover, the potential liability to Textron as a result of such cross-contamination from groundwater drilling is enormous, and it can be avoided.

On the other side of the issue, there is a compelling public interest to ensure that the statutorily mandated appeal procedures provide meaningful review of the Regional Board's action, particularly as this case presents significant issues

involving the scope of Regional Board authority in ordering remediation of soil contamination.

B. There Is A Lack of Substantial Harm To Other Interested Persons And To The Public Interest If A Stay Is Granted.

This matter has been pending since approximately 1984, when Textron first reported the leak and potential soil contamination as part of its leak detection and site assessment program. (Order, paras. 4, 5.) The remediation plan that has been approved by the Regional Board is designed to eliminate the source of the soil contamination. At no time has the Regional Board sought extraordinary relief in this matter. There is no evidence of any immediate risk or of substantial harm if the stay is granted. Significantly, it is uncontroverted that the remediation process itself will prevent any further migration of contamination from the release. (4/23/90 Transcript, 50/22-51/5.) Accordingly, substantial harm to the public interest will not be the by-product of the stay order.

C. Substantial Questions of Law and Fact are Raised By the Petition For Review.

As noted above, this case presents significant issues regarding the scope of Regional Board authority in ordering remediation of contaminated soil. The accompanying Petition for Review is incorporated herein by reference for its complete discussion of the legal issues. By way of summary, these issues include the following questions:

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1) There is a lack of substantial evidence in the record as a whole of the probability of migration of the contaminants to threaten groundwater;

2) The Order is arbitrary and capricious as there are reasonable alternatives to the costly and inconclusive action Textron is directed to undertake;

3) The Order is inconsistent with the Regional Board's statutory authority under Water Code § 13304;

4) The Regional Board violated the California Administrative Procedure Act by implementing an unwritten rule that is contrary to the Board's statutory authority and was established without an appropriate hearing;

5) The Order violates constitutional provisions for Due Process and Equal Protection of law; and

6) The Board lacks authority to direct investigation of groundwater under the circumstances present in this case.

IV. CONCLUSION.

For the reasons set forth in this Petition, as supported by the accompanying Petition for Review, the Administrative Record as introduced at the April 23, 1990

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Regional Board hearing, and the Transcripts of the 3/26/90 and 4/23/90 Hearings, Textron urges that the State Board enter a stay of the Order pending its review of the merits of the Order.

Dated: May 15, 1990

Respectfully submitted,

PETTIT & MARTIN
MICHAEL L. HICKOK
LINDA AUERBACH ALLDERDICE

By: Linda Allderdice
Linda Auerbach Allderdice
Attorneys for Petitioner
HR Textron Inc.

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STATE OF CALIFORNIA

WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of HR Textron Inc. re Cleanup and Abatement Order 89-104	))))))	AFFIDAVIT OF MICHAEL HICKOK IN SUPPORT OF PETITION OF HR TEXTRON INC. FOR STAY OF REGIONAL BOARD ORDER

State of California)
) SS.
County of Los Angeles)

I, Michael Hickok, the undersigned, being first duly sworn, deposes and states:

1. I am an attorney with the law firm of Pettit and Martin, attorneys for petitioner HR Textron Inc. ("Textron"). I have direct and personal knowledge of the facts set forth below, and if called and sworn as a witness, I would and could competently testify to the same.

2. On April 23, 1990, a hearing was conducted by the Regional Quality Water Control Board for the Los Angeles Region with regard to Order 89-104.

3. At the conclusion of the hearing, the Regional Board ratified the Order, and ordered that it become enforceable, for compliance purposes, on May 23, 1990. A true and correct copy of Order 89-104 is attached hereto as Exhibit "1," and is incorporated herein by this reference as though set forth in full.

4. Attached as Exhibit "2", and incorporated herein by this reference as though set forth in full is a true and correct copy of the March 16, 1990, letter from Regional Board Staff Counsel clarifying what groundwater monitoring is actually required by the Order.

5. The Order was issued in the context of a proceeding that was commenced after Textron duly notified Regional Board Staff of a leak from an underground storage tank located at its Pacoima, California manufacturing facility. The release of contaminates occurred in a limited configuration. Attached as Exhibit "3" is an excerpt of a report from ERM, one of Textron's technical consultants, describing the configuration of the release. This excerpt is taken from ERM's report that appears as Exhibit "A" to the Administrative Record For Regional Board Hearing Re Order 89-104 that was submitted at the 4/23/90 hearing.

6. Concurrently herewith, Textron is filing a Petition for Review of the Order, seeking State Board action to rescind the order on the grounds that it is outside of the authority of the agency and unsupported by the record. In that petition, Textron seeks a hearing for the purpose of oral argument.

7. Textron, with Regional Board approval, has developed a plan to remediate the soil contamination that resulted from the tank release, and has commenced to implement it. This remediation activity will take place while the Petition for Review of the order to drill to groundwater is pending. Textron and Regional Board Staff have agreed to work together to finalize the details of the remediation plan.

8. I attended the hearing proceedings before the Regional Board on March 26, 1990, and April 23, 1990. Thereafter, transcripts of the proceedings were prepared. Attached as Exhibit "4" for the convenience of the State Board are excerpts from the 4/23/90 Transcript referenced in the Petition for Stay, as follows: 4/23/90 Transcript, 50, 51, 52, 71, 72-75, 85, 132-135.

I swear under penalty of perjury that the foregoing is true and correct.

Dated: May 15, 1990

Michael L. Hickok

STATE OF CALIFORNIA
COUNTY OF Los Angeles } ss.

On this 15th day of May, in the year 19 90, before me, the undersigned, a Notary Public in and for said State, personally appeared Michael L. Hickok, personally known to m (~~or proved to me on the basis of satisfactory evidence~~) to be the person__ whose name _____ subscribed to the within instrument, and acknowledged to me that __h executed it.

OFFICIAL SEAL
ROBERT S. ERNY
Notary Public-California
LOS ANGELES COUNTY
My Comm. Exp. Oct. 16, 1990

WITNESS my hand and official seal.

Robert S Erny

Exhibit 1

STATE OF CALIFORNIA GEORGE DEUKMEJIAN, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
LOS ANGELES REGION
01 CENTRE PLAZA DRIVE
MONTEREY PARK, CALIFORNIA 91754-2156
(213) 266-7500

DEC 21 1989

December 18, 1989

Mr. John Hedges
HR Textron, Inc.
25200 West Rye Canyon Rd.
Valencia, CA 91355

CLEANUP AND ABATEMENT ORDER NUMBER 89 -104, FOR HR TEXTRON FACILITY LOCATED AT 10445 GLENOAKS BOULEVARD, PACOIMA.
(ID # 913310270).

Reference is made to your letter dated December 4, 1989 that outlined the conditions for groundwater investigation. Board staff have evaluated the letter and find that the issues raised in the letter have already been discussed at all the meetings held. As a result, Board staff firmly believe the necessity of groundwater monitoring wells at the subject site.

Enclosed is a Cleanup & Abatement Order directing you to submit to this Regional Board a groundwater investigation workplan for the subject facility.

This Order is issued under Section 13304 of the California Water Code.

If you fail to comply with the terms and conditions of this Order, the Board may impose civil penalities or seek injunctive relief in accordance with Section 13350 of the California Water Code.

Board staff will be happy to arrange a meeting where issues pertaining to the enclosed Order can be discussed.

If you have any questions, please call Mr. Joshua M. Workman at (213) 266-7561.

Robert P. Ghirelli

Robert P. Ghirelli, D. Env.
Executive Officer

EGS/egs

cc: please see attached mailing list

Regional Board Members
Mr. Jorge Leon, State Water Resources Control Board, Office of Chief Counsel
Ms. Marianne Macki, Harding Lawson Associates, 2804 Camino Dos Rios, Suite 207, Newbury Park, CA 91320
Mr. Russel Powers, Leighton & Associates, 3050 Daimler Street, Suite A, Santa Ana, CA 92705
Mr. Thomas Mills, Leighton & Associates, 3934 Murphy Canyon Rd, Suite B-205, San Diego, CA 92123
Mr. Michael Hickok, Pettit & Martin, 355 S. Grand Avenue, 33rd Floor, Los Angeles, CA 90071
Mr. David Dunbar, 18552 McArthur Blvd., Suite 310, Irvine CA 92715-1211
Mr. Donn Marrin, 8950 Villa La Jolla Dr., Suite 1200, La Jolla CA 92037
Mr. William Tolson, 999 Green St. #1001, San Francisco, CA 94133

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

CLEANUP AND ABATEMENT ORDER NO. 89-104

Requiring HR Textron to cleanup and abate the effects of wastes discharged to soil and/or groundwater at its Pacoima facility.

The California Regional Water Quality Board, Los Angeles Region, finds:

1. HR Textron, Inc.; herein after called HRT, is located at 10445 Glenoaks Blvd. in the city of Pacoima, county of Los Angeles, California.

2. The property is owned by Mr. William Tolson, 999 Green Street, # 1001, San Francisco, California. HRT has been the lease holder and the operator of this facility since 1966.

3. The site is located in the San Fernando Subunit of the Los Angeles River Basin. The San Fernando Subunit contains well fields which provide domestic drinking water to the residents of the San Fernando Valley and the Great Los Angeles area.

4. HRT manufactures various components used in the aerospace industry. The company uses both chlorinated and unchlorinated solvents, cutting oils and other chemicals in its manufacturing operations. According to information provided by HRT, both above ground and underground storage tanks have been and continue to be utilized by HRT for chemical, gasoline and waste storage purposes. A workplan for underground tank leak detection was requested by this Board's staff in 1984.

5. Between 1966 and January 1985, HRT utilized two underground tanks, 1,000 -gallon capacity for waste storage purposes. As part of HRT's leak detection and site assessment program, these two tanks were removed in January, 1985.

6. Various soil assessment studies have been conducted at the site by consultants for HRT. Reviews by Board staff of the analytical data in the subject site assessment reports resulted in the following findings:

   a. The subsurface stratigraphy at the site is generally silty sands interspersed with discontinuous clay lenses and poorly -sorted sands and gravel.

Cleanup & Abatement Order
Order No. 89-104

b. Volatile Organic Compounds, (VOCs) including trichloroethylene (TCE) methylene chloride, 1, 1, 1- trichloroethane(TCA), petroleum hydrocarbons and oil and grease were analytically confirmed in soil samples obtained from the soil borings. These chemicals have been used and/or stored at HRT facility.

c. Clay lenses occur at around 50-55 feet below ground surface, but are not considered a permanent barrier to contaminants migration. VOC contamination was found in soil samples at a depth of 78 feet and petroleum hydrocarbons were detected at a depth of 110 feet onsite.

d. During tank removal, an undisclosed amount of soil was excavated for offsite disposal. Questions remain regarding the final extent of cleanup achieved and the potential impact of the contamination on groundwater quality.

7. The chlorinated solvents confirmed in samples obtained at the site, including methylene chloride and 1, 1, 1- TCA, are highly mobile and have densities greater than that of water. Thus, these compounds behave as "sinkers" with respect to the movement of water in the permeable sediments underlying the facility.

8. In accordance with this, Regional Board staff directed HRT in three letters dated August 27, 1987, May 12, 1988 and April 5, 1989 to submit a groundwater investigation workplan.

9. The required technical reports were not received by their respective due dates. Several meetings were held to try to reach an understanding regarding HRT's activities. During the latest meeting, held on September 26, 1989, HRT was directed again by Board staff to submit the required workplan for groundwater investigation.

10. On October 16, 1989 the Board received a letter from HRT stating that HRT has" tentatively" concluded that the release from the underground storage tanks does not pose a present threat to groundwater and thus HRT does not intend to submit a groundwater investigation workplan.

11. HRT, however, has indicated its willingness to clean up the soil and has proposed to this Board a soils remediation plan. In a letter dated November 17, 1989 , Board staff responded to the HRT proposal and indicated no objection to its implementation on condition that groundwater monitoring wells are installed. Board staff emphasized the primary purposes of

the groundwater monitoring wells to be as follows:

1. Determine if groundwater underlying the site has been impacted by the confirmed chemical releases.

2. Monitor the effectiveness of any cleanup system including the proposed soil remediation.

12. This discharge of unauthorized wastes onsite is a violation of Section 13260 of the California Water Code, which requires that any person proposing to discharge waste to land must file a report of waste discharge and receive requirements from the Board.

13. The dischargers have not submitted a report of waste discharge. The Regional Board has not considered nor adopted waste discharge requirements for this facility.

14. The discharge of wastes at HRT threatens to cause a condition of pollution and nuisance. This discharge has contaminated the underlying soils and potentially the groundwater underlying the facility. Board staff has concluded that further investigation of this site is necessary to determine if VOCs and fuel hydrocarbons had migrated to the underlying groundwater.

15. On November 27, 1978, the Regional Board adopted a revised water quality plan for the Los Angeles River Basin. This plan lists the beneficial uses of the San Fernando Subunit which underlies the facility. The beneficial uses, as described in the Basin Plan, include municipal and domestic supply, agricultural supply, industrial service supply and industrial process supply.

16. Section 13304 of the California Water Code states, in part, that:
"Any person .... who has caused or permitted..... any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create a condition of pollution or nuisance, shall upon order of the Regional Board cleanup such waste or abate the effects thereof or, in the case of threatened pollution or nuisance, take other necessary remedial action."

17. This enforcement action is being taken for the protection of the environment and as such is exempt from the provisions of the California Environmental Quality Act (Public Resource Code, Section 21000 et. seq.) in accordance with Section 15321, Chapter 3, Title 14, California Code of Regulations).

Cleanup & Abatement Order
Order No.

Order

IT IS HEREBY ORDERED that pursuant to the California Water Code, Section 13304, the discharger shall:

1. By January 15, 1990, submit a comprehensive site characterization workplan to the Regional Board's Executive Officer for review and approval, describing in detail a groundwater investigation proposal capable of determining the full extent of any groundwater contamination originating from the facility.

2. By January 15, 1990, submit a facility audit to supplement information already provided to the Board. This audit must consist of, at a minimum, a written chronology and site plan showing all past and present use, storage and disposal of chemicals, including accidental spills, and a history of past pracitices and activities with respect to waste storage and offsite disposal. An appropriately scaled map with clear labelling of facility details including location, size and contents of all above and underground tanks and associated piping system shall be included with this audit report.

3. Implementation of the approved site characterization workplan shall begin no later than one month after its approval by the Executive Officer. The final report describing the analytical results and conclusions must be submitted to the Board no later than 90 days after workplan approval.

4. In order to insure that all work at the facility is conducted in a timely manner, monthly reports of progress are required. The first progress report under this schedule is due to this Board by February 18, 1990. The reports must include, but not be limited to, the following information.

   a. a discussion of all completed and ongoing activities during the reporting period;

   b. a discussion of proposed work activities for the next reporting period;

   c. an updated time schedule for completion of all additional work needed, and

   d. the results of any soil and/ or groundwater monitoring or testing completed.

Cleanup & Abatement Order
Order No. 89 -04

This Order in no way limits the authority of the Regional Board, as contained in the California Water Code, to require additional investigation and cleanup pertinent to this project.

This Order may be revised by the Executive Officer as additional information from the project becomes available.

Failure to comply with the terms and conditions of this Order may result in imposition of civil liability, either by the Regional Board or judicially by the Superior Court, in accordance with Section 13350 et. seq., of the California Water Code and/or referral to the Attorney General of the State of California for such legal action as he may deem appropriate.

Robert P. Ghirelli

Robert P. Ghirelli. D. Env.
Executive Officer

12/18/89
Date

Exhibit 2

STATE OF CALIFORNIA
GEORGE DEUKMEJIAN, *Governor*

STATE WATER RESOURCES CONTROL BOARD
PAUL R. BONDERSON BUILDING
901 P STREET
P.O. BOX 100
SACRAMENTO, CALIFORNIA 95801
(916) 322-5942

March 16, 1990

Mr. Michael L. Hickock, Esq.
Pettit & Martin
Thirty-Third Floor
355 South Grand Avenue
Los Angeles, CA 90071

Dear Mr. Hickock:

RE: IN THE MATTER OF HR TEXTRON FACILITY, CLEANUP AND ABATEMENT ORDER NO. 89-104

This is in reply to your letter of February 28, 1990 confirming our telephone conversation of the previous day. I agreed to look into two items.

I have looked into the matter of when the Regional Board's order becomes final. You assert that in accordance with Title 23, California Code of Regulations (CCR), Section 3655, the Regional Board's order -- assuming the Board goes along with the staff's recommendation -- does not become final until 30 days after entry of the order. However, that regulation does not apply to this matter since it concerns water rights proceedings. The Regional Board's order is final immediately unless a petition is filed within 30 days pursuant to Title 23, CCR, Section 2050.

I have spoken with the Regional Board staff regarding the recommendation to the Regional Board that it grant only two weeks beyond the hearing date of March 26, 1990 for the first deadline. At this point they prefer, to wait and see what information, if any, is presented at the hearing to justify a longer deadline. They feel that there has been excessive delay in this matter already.

Regarding the well requirements, staff indicates that three are required, to a depth of 20 feet below water surface, or approximately 200-220 feet. As to required sampling, a one-time VOC's analysis is all that will be initially required. This may change, however, depending on the results.

Exhibit 1

If you have any questions regarding this matter, please feel free to contact me at (916) 322-5942.

Sincerely,

Jorge A. León
Staff Counsel

cc: Hank Yacoub
Los Angeles Regional Board

Exhibit 3

TECHNICAL EVALUATION OF UNDERGROUND TANK RELEASE

HR TEXTRON PACOIMA FACILITY

Prepared for:
HR Textron
25200 West Rye Canyon Road
Valencia, CA 91355

Prepared by:
ERM-West
1920 Main Street, Suite 600
Irvine, CA 92714

January 1990

REVIEW OF ANALYTICAL DATA

Analytical Results from Soils

The extent of chemicals released into the soil from the tank forms a roughly cylindrical volume with a estimated radius of approximately 25 feet and which extends from the base of the tank excavation to an underlying clay layer from approximately 46.5 to 52.5 feet below the ground surface.[3] The lateral and vertical extent of the chemical release has been well-defined, and to such an extent that remediation will begin in the near future.[3,5,6,7]

The investigative program for the chemical release was performed by L&A and consisted of the drilling and sampling and chemical analyses of soil samples from 13 boreholes.

The "fingerprint" of the chemical release from the tank exhibits two consistent distinguishing characteristics. The first characteristic is concentrations of TPH (from EPA Test Method 418.1) in the range of 1,000 to 20,000 mg/kg. The second characteristic is a certain suite of volatile organic constituents from EPA Test Methods 8240 or 8010) that are consistently an order of magnitude less, in the range of 10 to 200 mg/kg, than the total petroleum hydrocarbons concentrations. The VOCs consist primarily of 1,1,1-trichloroethane (TCA), with the occasional presence of low concentrations (usually less than 5 mg/kg) of toluene, tetrachloroethylene (PERC), trichloroethylene (TCE), xylene, benzene, and dichloroethane (DCA).

This fingerprint is clearly seen in the reported concentrations for soil samples in boreholes LB-102 and LB-1 that were drilled through the central portion of the chemical release. Laboratory analyses of soil samples taken above the 50-foot clay layer show this pattern of TPH and VOCs; however, soil samples taken below the clay layer show only background levels (less than 10 mg/kg) of TPH.

During the 13 borehole investigative program, soil samples were obtained and analyzed primarily for VOCs, TPH, and less frequently oil and grease, chromium and lead. The specific distribution of sample analyses is:

- VOCs (EPA Methods 8240 or 8010) - 146 samples;
- TPH (EPA Method 418.1) - 145 samples;
- Oil and Grease (EPA Method 413.2) - 75 samples; and
- chromium and lead (CAC Title 22, Wet Method/EPA Method 6010 and 7241) - 45 samples.

The samples are distributed equally above and below the major clay layer from 49.5 to 52.5 feet that forms the bottom of the chemical release. As described previously, the samples above the clay layer show a roughly cylindrical volume, while samples below the clay layer show TPH concentrations at background levels. Specifically, the samples below the

Exhibit 4

COPY

HEARING BEFORE THE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

107 SOUTH BROADWAY
LOS ANGELES, CALIFORNIA

MONDAY, APRIL 23, 1990

9:30 A.M.

Reported By:

CECILY KRAWCZYK

Karyn Abbott & Associates, Inc.
Certified Shorthand Reporters
714 West Olympic Boulevard, Suite 1112
Los Angeles, California 90015
(213) 749-1234

HEARING BEFORE THE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

107 SOUTH BROADWAY
LOS ANGELES, CALIFORNIA

MONDAY, APRIL 23, 1990

9:30 A.M.

A P P E A R A N C E S :

HEARING OFFICER:	CHARLES C. VERNON, CHAIRMAN
BOARD MEMBERS:	LARRY ZARIAN, VICE CHAIRMAN NAN J. DRAKE CLARK DRANE PAUL D. FLOWERS JAMES H. GROSSMAN RALPH B. HELM HENRY MORGAN DAN W. WALKER ROBERT P. GHIRELLI, EXECUTIVE OFFICER RICHARD A. HARRIS, ASSISTANT EXECUTIVE OFFICER DOLORES PAQUET, EXECUTIVE ASSISTANT JORGE LEON, ATTORNEY
SECTION CHIEF:	HANK H. YACOUB, TOXICS SECTION
STAFF:	PHILIP B. CHANDLER EJIGU G. SOLOMON
ALSO PRESENT:	MELVIN BLEVINS, SAN FERNANDO VALLEY WATERMASTER JOHN F. MANN, JR., U.L.A.R.A. WATERMASTER

A P P E A R A N C E S (CONTINUED):

FOR HR TEXTRON:

PETTIT & MARTIN
BY: MICHAEL HICKOK, ESQ.
355 SOUTH GRAND AVENUE
THIRTY-THIRD FLOOR
LOS ANGELES, CA 90071

DAVID B. DUNBAR,
ERM-WEST, INCORPORATED
ISAAC R. KAPLAN,
GLOBAL GEOCHEMISTRY CORP.
JOHN W. HEDGES
HR TEXTRON

SPECIFIC VERSION OF THIS PLAN, EVEN IF I WANTED TO, I DON'T HAVE A WHOLE SIX-INCH HIGH STACK OF DRAWINGS ON THE PLAN.

WE HAVE PROPOSED A VACUUM EXTRACTION SYSTEM TO REMEDIATE BOTH THE HYDROCARBONS AND THE VOLATILE ORGANICS WITHIN THE PLUME. THE SYSTEM HAS BEEN DESIGNED WITH A CENTRAL EXTRACTION WELL AND FOR INJECTION WELLS TO ENHANCE THE REMEDIATION OF THE PLUME THAT HAS BEEN DETERMINED AND WHICH I HAVE DESCRIBED IN MY TESTIMONY.

THE VOLATILE ORGANICS ARE RELATIVELY AMENABLE TO THIS TYPE OF EXTRACTION BY THE VARIATION THAT THEY ARE SO MOBILE. THESE WOULD BE -- OUR ESTIMATE IS WITHIN SIX MONTHS OF THE IMPLEMENTATION OF THE SYSTEM.

THE TOTAL PETROLEUM HYDROCARBONS ARE SLIGHTLY LESS AMENABLE TO THIS TYPE OF REMEDIATION, IN PART BECAUSE THEY ARE SO HEAVY AND THEY TEND TO STICK TO THE SOIL AND THEY DON'T MIGRATE NEAR THESE EXTENTS. WE PROPOSE TO BEGIN AIR EXTRACTION AND ENHANCE IT AS NEED BE WITH EITHER HEATED AIR OR SOME ENVIRONMENTALLY SAFE SOLVENTS TO HELP WASH THESE HYDROCARBONS OFF THE SOIL. AS THEY TEND TO MOVE THROUGH THE SOIL, THEY LEAVE A RATHER LARGE TRACE AS THEY PASS THROUGH.

JUST TO ASSURE YOURSELVES AND THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, VAPORS OF THIS SYSTEM WILL BE TREATED EITHER BY A CARBON OR CARBON IN ADDITION TO SOME BIODEGRADATION. THIS TYPE OF SYSTEM ONCE IT GETS

UNDERWAY, PUTS AN IMMEDIATE PRESSURE VACUUM ON THE SOIL, WILL AFFECT BOTH THE T.P.H. AND THE V.O.C.'S IMMEDIATELY, ESPECIALLY THE MORE MOBILE V.O.C.'S; AND WILL ESSENTIALLY PREVENT, WHILE IT IS IN OPERATION, ANY FURTHER MIGRATION OF THESE CHEMICALS THROUGH THE CLAY LAYER APPROXIMATELY 50 FEET.

THE PLAN THAT WE HAVE PROVIDED AND THAT WE INTEND TO WORK OUT WITH STAFF INCLUDES INVESTIGATION OF ADDITIONAL SITE CHARACTERIZATION ABOVE THE CLAY LAYER, WHICH IS CURRENTLY HALFWAY DONE FROM THIS WEEKEND. THE REMEDIATION ITSELF -- WE PLAN TO WORK QUITE CLOSELY WITH STAFF TO PROVIDE ALL DATA TO THEM AND TO WORK WITH THEM PROVIDING AN ADDITIONAL SITE CLOSURE PLAN WHICH WILL HELP ADDRESS THEIR CONCERN AS ADDRESSED IN THE C.A.O.

AND, AGAIN, AS DISCUSSED EARLIER HERE, THE BEST WAY TO LOOK ONCE AND FOR ALL AT ANY OF THE INDICATIONS OF V.O.C.'S AND THE EXTENT OF THAT AND THE T.P.H. BOTH IN IT AND IN THE IMMEDIATE VICINITY OF THE CLAY LAYER, IS THAT AFTER APPROXIMATELY SIX MONTHS FROM THE VOLATILE ORGANICS, THOSE IMPORTANT ONES WILL BE REMOVED FROM THE SOIL TO LOOK AT COLLECTING ADDITIONAL DATA BENEATH THE CLAY LAYER, AND SITTING DOWN WITH THAT DATA -- I WILL SIT DOWN WITH MY CLIENT, AND WE WILL ALSO SIT DOWN WITH THE BOARD'S STAFF -- AND LOOK AT THAT DATA AND SEE IF THINGS HAVE CHANGED RADICALLY AND IF THERE IS ANY INDICATION THAT GROUNDWATER MONITORING IS REQUIRED, BASED ON THE DATA AVAILABLE. RIGHT NOW, THAT'S BEST

DONE AFTER CONFIRMATION SAMPLING AFTER CLOSURE.

I WOULD LIKE TO SUMMARIZE THAT, AGAIN, BASED ON THE AVAILABLE EVIDENCE THAT I HAVE REVIEWED -- AND I HAVE REVIEWED ALL OF THE AVAILABLE DATA FOR THE SITE. IT IS MY PROFESSIONAL OPINION THAT THE CONTAMINANTS, BOTH PETROLEUM HYDROCARBONS AND VOLATILE ORGANICS RELEASED BY THE TANK, HAVE NOT IMPACTED THE GROUNDWATER BELOW THE SITE.

MR. ZARIAN: ANY QUESTIONS OF MR. DUNBAR?

MR. DRANE: YES.

MR. ZARIAN: YES, MR. DRANE.

MR. DRANE: I'M NOT A TECHNICAL PERSON, BUT YOU KNOW THERE ARE SOME SPREADING PONDS TO THE NORTH OF YOU NEXT TO HANSON DAM GOLF COURSE, AND THEN THERE IS SOME SOUTH WHERE THE HOLLYWOOD FREEWAY AND THE GOLDEN STATE FREEWAY COME TOGETHER. IS THAT A CAUSE OF THE LACK OF THE COMPLEXITY OR THE OPPOSITE, OF THIS PROBLEM COULD CAUSE?

MR. DUNBAR: LET ME ASK A QUESTION. SHOULD I ADDRESS --

MR. ZARIAN: SURE.

MR. DUNBAR: IT IS A CAUSE OF COMPLEXITY IN ATTEMPTING TO DETERMINE THE PRECISE DEPTH TO GROUNDWATER, AND TENDS TO ADD IN THE IMMEDIATE VICINITY OF THOSE SPREADING GROUNDS. WE HAVE A LARGE DEGREE OF FLUCTUATION IN THE GROUNDWATER LEVELS. I THINK, HOWEVER, THE SITE ITSELF, THE SPECIFIC CONCERN IS A LACK OF WELLS AT THE SITE AND

I, THEREFORE, SUGGESTED -- IN FACT, LAST WEEK. AND THIS WAS BROUGHT UP ON FRIDAY AT A MEETING WITH DR. GHIRELLI AND HIS STAFF -- THAT ONE MIGHT UNDERTAKE A VERY CAREFUL DRILLING INTO THE LAYERS BENEATH THE CLAY DOWN TO POSSIBLY 100 FEET OR THEREABOUTS, AND VERY CAREFUL DRILLING, THAT IS, GROUTING. WE SUGGEST A WHOLE PROTOCOL -- AND I WOULD BE HAPPY TO READ IT TO YOU IF YOU WISH ME TO DO SO. OTHERWISE, I WILL PROCEED.

MR. VERNON: NO. I THINK PROCEED.

DR. KAPLAN: -- AND THAT ANALYSES BE TAKEN AND GREAT CARE THAT ALL SAMPLES BE ANALYZED IN DUPLICATE SO THAT THERE IS NO POSSIBILITY OF LAB CONTAMINATION, WHICH WE SUSPECT IN SOME CASES TO HAVE OCCURRED IN THE ANALYSIS OF THESE MATERIALS. AND THAT BASED ON THAT, WE REVIEW THE INFORMATION AND DECIDE IF IT LOOKS LIKE A CONTAMINANT BREAKTHROUGH HAS OCCURRED, AND IF IT IS A SERIOUS BREAKTHROUGH, THEN I THINK TEXTRON WOULD HAVE TO FACE A DECISION, VOLUNTARY OR OTHERWISE, ABOUT DRILLING TO THE GROUNDWATER.

IF IT IS SHOWN THAT WE DO NOT SEE ANY CONTAMINANT BREAKTHROUGH THROUGH THE CLAY LAYER, THEN IT WOULD INDICATE TO ME THAT THE PROBABILITY OF IT HAVING GONE INTO THE WATER IS VERY SMALL.

NOW, I HAVE TWO ISSUES. ONE IS I WOULD LIKE TO ASK A QUESTION, AND THAT IS A QUESTION THAT IS NOT SIMPLE FOR ME TO ANSWER. AND IT IS POSSIBLE THAT MR. YACOUB

AND HIS STAFF MAY HAVE AN ANSWER. AND THAT IS: WERE SMALL AMOUNTS OF CONTAMINANTS FOUND IN THE GROUNDWATER, WHAT MECHANISM, WHAT CHEMICAL PROCEDURES COULD BE ESTABLISHED TO DETERMINE THAT THEY ARE FROM THE SOURCE IMMEDIATELY OVERLYING THE GROUNDWATER, THAT IS, FROM THE SOIL OVERLYING IT?

THERE ARE SOME THINGS THAT I MYSELF, HAVING DONE VERY SOPHISTICATED CHEMICAL WORK, BELIEVE I COULD TELL. BUT IF THE CONCENTRATIONS ARE VERY SMALL, IT IS EXTREMELY DIFFICULT TO CONFIRM THAT.

NOW, LASTLY, I MET MR. YACOUB. I HEARD HIM TALK LAST TIME BECAUSE I SAT IN ON THE TESTIMONY AND MET HIM ON FRIDAY. I BELIEVE THAT THE STAFF OF THE REGIONAL WATER BOARD CERTAINLY HAS A DUTY, AND I CERTAINLY UNDERSTAND HIS POINT OF VIEW. LIVING IN SAN FERNANDO VALLEY, I WOULD CERTAINLY NOT LIKE MY WATER TO BE CONTAMINATED.

HOWEVER -- AND I UNDERSTAND HIS POINT OF VIEW ALSO OF THE QUESTION THAT THERE MAY WELL BE GAPS IN THE CLAY LAYERS THAT WE DON'T KNOW ABOUT. THE QUESTION THEN IS; WHAT ASSURANCE DOES ONE HAVE THAT BREAKTHROUGH HAS NOT OCCURRED? THIS IS A PROBABILITY QUESTION. I CANNOT ANSWER AND WOULD NOT LAY MY NECK OUT ON THE CHOPPING BLOCK TO SAY I AM 100 PERCENT SURE THAT THERE IS NO POSSIBILITY OF BREAKTHROUGH.

ON THE OTHER HAND, FACED WITH EVIDENCE THAT IF THE SEDIMENT UNDERNEATH THE CLAY LAYER CONTAINED NO

CONTAMINANTS, I WOULD SAY THE PROBABILITY WOULD BE EXTREMELY HIGH IF SUCH AN OCCURRENCE OCCURRED.

THANK YOU.

MR. VERNON: YES. THANK YOU VERY MUCH, DR. KAPLAN. YOU HAVE HELPED US IN TWO WAYS.

I MIGHT JUST ANNOUNCE THAT WE HOPE TO BREAK FOR LUNCH AT 12:30 IN ORDER TO MAINTAIN OUR AFTERNOON SCHEDULE. THAT IS JUST FOR EVERYONE'S INFORMATION.

I ALSO REQUEST THAT ANY QUESTIONS OF BOARD'S STAFF, IF THEY ARE NECESSARY TO THE BOARD DECISION, BE ANSWERED AT THE TIME THAT STAFF AGAIN COMES BACK ON SO WE DON'T HAVE TO GO BACK AND FORTH.

DO WE HAVE ANY QUESTIONS OF DR. KAPLAN AT THIS TIME? ANY BOARD QUESTIONS?

THANK YOU VERY MUCH --

MR. HELM: ONE QUESTION, MR. CHAIRMAN.

YOU TALK ABOUT THE EVIDENCE THAT YOU REVIEWED TO COME TO YOUR CONCLUSIONS. DID YOU HAVE WHAT YOU CONSIDER TO BE SUFFICIENT EVIDENCE? IF YOU WERE TO UNDERTAKE THAT STUDY, WOULD YOU CONSIDER THAT INFORMATION FURNISHED YOU WAS ALL THAT YOU WOULD HAVE SOUGHT TO MAKE YOUR DETERMINATION?

DR. KAPLAN: MR. HELM, THE CONCLUSION I REACH ONLY IS THAT I BELIEVE THE PAST SAMPLING AND ANALYSIS RESULTED IN ARTIFACTS. THAT'S THE ONLY CONCLUSION I'VE REACHED. I HAVE NOT REACHED ANY CONCLUSION AS TO CONTAMINATION OR

BREAKTHROUGH.

WHAT I AM SUGGESTING -- AND, PLEASE, IF YOU RECALL MY TESTIMONY HERE -- IS THAT WE HAVE ESTABLISHED THAT RIGOROUSLY. THAT'S ALL I AM SUGGESTING.

MR. VERNON: I DO THINK WE WOULD INSIST UPON THAT ANYWAY, WHATEVER DEVELOPED.

ANY QUESTIONS OF DR. KAPLAN?

THANKS VERY MUCH.

JOHN HEDGES.

MR. HEDGES: THANK YOU, MR. CHAIRMAN AND MEMBERS OF THE BOARD.

MY NAME IS JOHN HEDGES. I LIVE AT 2 -- I'M SORRY. THE COMPANY IS AT 20500 WEST RYE CANYON ROAD. I AM A MANAGER AND ADMINISTER AT HR TEXTRON.

THE FIRST THING I WOULD LIKE TO MENTION IS THAT WE HAVE NEVER ANNOUNCED OR TAKEN THE POSITION THAT WE HAVE REFUSED TO DRILL TO GROUNDWATER. WHAT WE HAVE CONSISTENTLY SAID IS A DECISION TO DRILL TO GROUNDWATER WITH THE INFORMATION THAT WE HAVE IS PREMATURE. OUR FOCUS HAS BEEN ON REMEDIATION. WE'VE HAD PREVIOUS EXPERIENCE IN THESE MATTERS, AND WHEN WE HAVE LAUNCHED OUT ON TOO AGGRESSIVE AN INVESTIGATION CRITERIA, WE HAVE BEEN BURNED. WE HAVE HAD CROSS-CONTAMINATION ON OTHER SIDES. WE HAVE HAD CROSS-CONTAMINATION IN THE GROUNDWATER. WE HAVE FOCUSED ON THE GROUNDWATER FREQUENTLY, MUCH TO OUR CHAGRIN, AND WE HAVE TAKEN

REALLY, THAT'S WHERE WE ENDED UP.

SO OUR PERCEPTION IS -- OUR HOPE IS THAT IT'S GOING TO TAKE APPROXIMATELY $350,000 TO DO THE REMEDIATION. WE'VE SPENT A HALF A MILLION DOLLARS DOING SOIL INVESTIGATION. WE PERCEIVE THAT IT'S GOING TO BE ANOTHER $500,000 TO $600,000 TO DO ADDITIONAL GROUNDWATER INVESTIGATION. I DON'T THINK THAT WHAT IT COSTS OTHER PEOPLE IN THE AREA IS SIGNIFICANT. I THINK WHAT IT COSTS US IS SIGNIFICANT, GIVEN THE KIND OF RELEASE THAT WE HAVE AND THE KIND OF THREAT THAT WE HAVE.

I THANK YOU FOR YOUR HELP, AND I'M LOOKING FORWARD TO -- AGAIN, WE ARE ALL LOOKING FORWARD -- OUR COMPANY -- TO GETTING ON WITH REMEDIATION. WE ARE HOPEFUL THAT THIS CLEANUP AND ABATEMENT ORDER -- I DON'T KNOW THE PROPER ADMINISTRATION OF HOW YOU ALL WOULD ADMINISTER THIS THING. EITHER IT CAN BE HELD IN ABEYANCE OR WITHDRAWN. IT HAS NEVER BEEN OUR INTENTION, HOWEVER, TO REFUSE TO DRILL. I WOULD JUST LIKE -- IF I CAN ANALOGIZE IT, RATHER THAN HAVING OPEN-HEART SURGERY, I WOULD RATHER GO THROUGH SOME LESS ONEROUS PROCEDURES FROM MY POINT OF VIEW, AND IDENTIFY WHAT THE SCOPE OF OUR PROBLEM IS WITHOUT GOING TO ULTIMATE MAXIMUM AND MAXIMUM RISK, FOR US AT LEAST.

OF COURSE, I UNDERSTAND THE GROUNDWATER IS UNDER STRESS. YOU ALL HAVE A DIFFERENT FOCUS. YOU ARE LEADING THE PUBLIC POLICY AND LEADING THE ENVIRONMENTAL MARCH

AN EXAMPLE IN THE FUTURE TO EACH AND EVERY COMPANY THAT COMES IN FRONT OF US TO TAKE THIS MATTER TO LITIGATION UNTIL THE COWS COME HOME, AND WE'LL NEVER BE EFFECTUATING ANY TYPE OF A CLEANUP.

WE'RE DEALING HERE WITH SPECIFICS. I THINK THE STAFF RECOMMENDATION SHOULD CARRY. AND, YOUR HONOR, IT WOULD BE MY MOTION THAT WE CONCUR WITH STAFF RECOMMENDATION TO, NUMBER ONE, RATIFY THE ISSUANCE OF CLEANUP AND ABATEMENT ORDER NO. 89-104, WHICH CALLS FOR GROUNDWATER INVESTIGATION AT THIS SITE, AND DENY THE HRT REQUEST FOR ITS WITHDRAWAL; AND, NUMBER TWO, DIRECT THE EXECUTIVE OFFICER TO GRANT A TWO-WEEK EXTENSION FROM THE DATE OF THIS HEARING FOR HRT TO FULLY COMPLY WITH CLEANUP AND ABATEMENT ORDER OR BE SUBJECT TO APPROPRIATE ENFORCEMENT ACTIONS INCLUDING A COMPLAINT FILED FOR ADMINISTRATIVE CIVIL LIABILITY UNDER SECTION 13268 OF THE WATER CODE.

MR. FLOWERS: MR. CHAIRMAN, I WILL SECOND THAT MOTION.

MR. VERNON: WELL SAID, MR. WALKER. THAT WAS EXCELLENT. I KIND OF LIKE THAT "YOUR HONOR" BUSINESS.

MR. ZARIAN: MR. CHAIRMAN, HE WAS REFERRING THAT TO ME.

MR. VERNON: AND I WOULD LIKE ONE CLARIFICATION BEFORE WE VOTE ON THE MATTER. WE MAY HAVE SOME FURTHER DISCUSSION.

THE SECOND POINT ON THE TWO-WEEK PERIOD AND SO ON, AS I UNDERSTAND FROM TALKING TO DR. GHIRELLI, THIS IS THE APPLICATION OF WHAT MR. WALKER REFERRED TO AS ARRIVING AT A REASONABLE PLAN.

DR. GHIRELLI: RIGHT.

MR. VERNON: NOW, DO WE HAVE DISCUSSION ON THE MOTION?

ALL IN FAVOR OF THE MOTION? MAY WE HAVE A ROLL CALL VOTE.

MS. PAQUET: MS. DRAKE?

MS. DRAKE: YES.

MS. PAQUET: MR. DRANE?

MR. DRANE: AYE.

MS. PAQUET: MR. FLOWERS?

MR. FLOWERS: YES.

MS. PAQUET: MR. GROSSMAN?

MR. GROSSMAN: YES.

MS. PAQUET: MR. HELM?

MR. HELM: YES.

MS. PAQUET: MR. MORGAN?

MR. MORGAN: AYE.

MS. PAQUET: MR. WALKER?

MR. WALKER: YES.

MS. PAQUET: MR. ZARIAN?

MR. ZARIAN: AYE.

MS. PAQUET: MR. VERNON?

MR. VERNON: YES.

MS. PAQUET: MOTION CARRIED.

MR. VERNON: MOTION CARRIES.

MR. HICKOK: MR. CHAIRMAN, I DO NOT WISH TO REARGUE ANYTHING EXCEPT TO SUGGEST THAT I BELIEVE THERE IS A 30-DAY PERIOD OF TIME TO SEEK REVIEW, AND IT SEEMS ANOMALOUS TO ME TO HAVE A TWO-WEEK EXTENSION FOR THE DEADLINE RATHER THAN AN EXTENSION FOR THE FULL PERIOD TO SEEK REDRESS.

SO WE WOULD RESPECTFULLY REQUEST THAT YOU AMEND YOUR ACTION TO GIVE 30 DAYS' EXTENSION SO THAT WE DON'T UNNECESSARILY STRESS STAFF ON ALL SIDES GOING THROUGH ANY OTHER ACTION AT THIS STAGE.

MR. WALKER: THAT COULD BE ADMINISTRATIVELY DONE, I'M SURE.

MR. VERNON: LET'S HEAR FROM MR. LEON, THEN, AND SEE WHAT HE WANTS US TO DO.

MR. LEON: THAT WOULD BE FINE. IT'S CERTAINLY WITHIN THE BOARD'S DISCRETION.

MR. VERNON: CAN WE DO THAT AS AN ADMINISTRATIVE DIRECTION TO STAFF AT THIS POINT, HAVING PASSED A MOTION?

MR. LEON: NO. YOU HAVE TO REOPEN THE MOTION.

MR. ZARIAN: MR. CHAIRMAN, I MOVE THAT THE TIME PERIOD BE EXTENDED TO 30 DAYS RATHER THAN TWO WEEKS.

MR. WALKER: I SECOND THAT.

MR. VERNON: CALL FOR THE QUESTION. ALL IN FAVOR?

VOICES: AYE.

MR. HICKOK: THANK YOU, MR. CHAIRMAN.

(WHEREUPON, THE HEARING WAS CONCLUDED AT 1:45 P.M.)

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10/31/90

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I. Kaplan
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STATE OF CALIFORNIA

WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of HR Textron Inc. re Cleanup and Abatement Order 89-104	)	STATE BOARD FILE NO. A-684
	)	REPLY TO REGIONAL BOARD'S RESPONSE

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I. INTRODUCTION.

The Regional Board defends Order 89-104 by asserting a series of possible explanations for how contaminants from a limited release from Textron's underground tanks could have migrated to groundwater. Significantly, the Response fails to refute by evidentiary facts the technical data and findings of probability identified by Textron.

The Regional Board's Response to the Petition identifies various speculative and theoretically possible transport mechanisms for the migration to groundwater to have occurred: (1) a postulated 24 year period of time in which the "leakage" migrated downward; (2) VOCs measured below the release; (3) vapor transport; (4) migration through possible discontinuities in the clay layer; (5) seepage through that clay layer; and (6) historical fluctuations in ground water depths. However, no substantial evidence exists to establish the existence of any of these theoretical possibilities raised by the staff. Therefore the test of probability has not been established and no basis exists for an order to include a requirement for groundwater monitoring.

Accordingly, the State Board, pursuant to its statutory mandate to uphold Regional Board action only if it is "appropriate and proper," should find that the groundwater monitoring Order is "inappropriate and improper" and rescind the Order. This action should be taken as the Regional Board has failed to demonstrate that a finding of probable migration to groundwater is supported by substantial evidence on the

record as a whole. It should be noted that in granting Textron's application for a preliminary injunction, the Los Angeles Superior Court determined, on the same administrative record now before the State Board, that "the evidence in the record is not adequate to support the conclusion that the TPH and VOCs from this release have, or probably will, migrate to groundwater notwithstanding the remediation procedures now in process."

II. SIGNIFICANT FACTS IGNORED BY THE REGIONAL BOARD.

A. Actual Basis For Regional Board Action.

While erroneously arguing for an alternative "probability or threat" legal standard under Water Code Section 13304, the Regional Board's response fails to acknowledge the standard it actually applied to affirm Order 89-104. At pages 14 through 16 of its Petition, Textron explained the Regional Board's actual rationale with specific reference to the April 23, 1990 transcript [pp. 108 and 131]. The Regional Board expressly based its action on the testimony of Dr. John Mann to the effect that the only way to disprove the possibility of groundwater contamination was to sample groundwater. That approach is far more extreme than either a probability or threat standard, but it was clearly the Regional Board's expressed rationale.

Despite the clear record evidence that the Regional Board adopted Dr. Mann's patently erroneous legal standard,

the Regional Board's Response does not address that inappropriate and improper action. However, the Regional Board's action must be challenged as it was based strictly on the agency's desire for certainty as to the conditions within the groundwater. In other words, the Regional Board is acting on the premise that the only way to know that migration to groundwater has not occurred is to impose the onerous requirement to drill to groundwater. However, Water Code Section 13304 does not automatically impose the requirement that groundwater monitoring follows any underground tank release. Rather, the clear and plain meaning of the statute is to require necessary remedial action only upon a finding of "probability" of such contaminant migration. Accordingly, the Order cannot be upheld on the basis of the Regional Board's inappropriate and improper application of its governing statute.

B. The Legal Standard Under Water Code Section 13304 Is Probability.

In granting the preliminary injunction, the Superior Court unequivocally found the governing legal standard to be probability and not mere threat:

> Water Code § 13304 provides for remedial orders when the water has been or probably will be contaminated. The oral record of the hearing in this matter will reflect some discussion of whether some other standard

would be preferable (possibility, significant possibility, threat, danger, etc.), but there is no doubt that the legislatively mandated standard applicable here is probability and not some other standard.

Emphasis original, Minute Order.[1]

The Court reiterated its statutory interpretation at page 8 of the Minute Order:

The difficulty posed by this case is the obvious paramount importance of preventing contamination of water supplies, which has resulted in a tendency in the record and at oral argument to evaluate this matter as if some lower standard such as "significant possibility," "potential danger," "possible threat" or some other similar formulation applied. The legislature, however, has set the standard as probability, and not some lesser standard.

Emphasis original.

---

[1]A copy of the Minute Order is attached hereto as Exhibit "1". Textron respectfully requests that the State Board administratively notice the June 17, 1990 Minute Order.

Although the Regional Board continues to argue in its Response for the alternative "threat" standard, this standard was expressly rejected by the Court.

In its Response, the Regional Board argues (pages 13-14) that

> The regional boards should not have to prove "probability" in all cases. Rather, each case should be decided on its independent facts using the more flexible standard that the Legislature adopted in 1980. A rigid standard could tie the regional boards' hands when they need to investigate discharges that threaten pollution but where the evidence does not clearly convince everyone that pollution is probable.

This statement succinctly summarizes the fallacy in the Regional Board's position. In the amendment to the Water Code, the Legislature modified the burden of proof that the Regional Board had to meet before it could impose a cleanup and abatement order to remedy pollution. Previously, the Regional Boards had the burden of showing actual pollution before a remedy could be enforced. However, in changing the statute, the Legislature did not leave it to the agency to determine on a case-by-case basis whether a remedial order would be authorized. Instead, it adopted a balanced approach that still required the regional boards to meet a burden of

proof for their action, and that burden requires a finding of an actual discharge, or a probability of such discharge, into the groundwaters of the State, coupled with the actual, or threatened, creation of a condition of pollution or nuisance. Water Code Section 13304. The Regional Board's argument is not supported by the clear meaning of the statute, and a reviewing court has so found.

1. The Regional Board Admitted The Standard To Be Probability In The Preliminary Injunction Proceeding.

The Regional Board in its Response contradicts its prior admissions that "probability" is the governing standard. In the preliminary injunction proceeding, the Regional Board admitted the governing standard under Water Code Section 13304 to be "probability."

> The Regional Board took the position that:
>
> The one issue here is whether there is sufficient evidence that pollutants discharged by Textron have either reached or probably will reach the underlying groundwater and thus whether the Regional Board has properly required Textron to conduct a groundwater investigation.
>
> Memorandum in Opposition to Preliminary Injunction, page 2. (Exhibit "2" attached hereto.)

The "threat" concept was not mentioned.

Then, consistent with that prior admission, later at page 12 of that same Memorandum, the Regional Board stated that:

> The only question is whether those pollutants already have been or "probably will be" discharged into the groundwater.

Nowhere in the Response filed with the State Board has the Regional Board admitted that its position on the governing legal standard in that document is inconsistent with its written position before the Superior Court.

2. The Court Found That None Of The Regional Board's Arguments Supporting the Order Were Persuasive.

The Superior Court considered each of the asserted arguments for probability listed on page 16 of the Regional Board's response and found none to be persuasive. Textron adopts the position of the Superior Court.

a. 24-Year Time Frame And Clay Permeability.

Among the list of Regional Board arguments for probability are a potential 24 years for migration and downward travel of contaminants not blocked due to possible clay barrier permeability. [Response, p. 16.]

The Court acknowledged these arguments at page 7 of the Minute Order (Exhibit 1 hereto):

> The theory is that in view of the lapse of time since release and the nature of the subsurface soil at the site, the contaminants have probably already reached, or will eventually reach, the groundwater.

However, the Court then explained as follows why these factors do not demonstrate probable contamination:

> These three factors, one of time and two of permeability, do raise a suspicion or danger of groundwater contamination and standing alone were likely sufficient to support a finding of probability and test borings. Now that the data yielded by the test borings proves inconsistent with migration from the release in question, the data from the test borings cannot properly be ignored.
>
> Minute Order, Exhibit 1, p. 8.

The Court thus found that the time and permeability factors did not demonstrate probable migration to groundwater when viewed with soil sampling data. Further, there is no evidence presented of the probability that the underground tanks leaked from the time they are placed into service. The reasonable expectation is that the tanks do not leak upon first use.

b. Contamination Between Surface And Bottom Of Clay Layer.

Because soil sampling data demonstrated retardation of contamination at the clay layer at approximately 50 feet, it is unclear why the Regional Board contends at page 16 of its response that contamination at and above that clay constitutes evidence of probable migration to groundwater. The Court did not view that data as showing probable migration to groundwater when issuing the injunction, although it was aware of the contention. Evidence of TPH and VOCs below the clay layer could be from several possible sources including migration, cross contamination, laboratory error or background conditions. Of these possibilities, the least likely is the possibility pursued by the Regional Board, migration, for the reasons stated in the record.

c. VOC And TPH Contamination Below Clay Layer.

Of the six factors listed at page 16 of the Regional Board's Response, the presence of VOC and TPH sampling results below the clay layer was viewed by the Court as the strongest evidence cited by the Regional Board. [Minute Order, Exhibit 1, p. 4.] However, the Court's analysis of the record relating to that data concluded that there was no probability of groundwater contamination. As to both VOC and TPH results below the clay layer, the Court concluded at page 6 of the Minute Order that:

> The evidence in the record of pollutants in test borings at levels below the clay formation is thus consistent with explanations other than migration from the release in question (background or naturally occurring, migration from some other source, artifact of laboratory procedures), but not consistent on any theory that has been articulated in this record with migration from the release in question.

The bases for that conclusion were revealed in more detail within that Minute Order as to both VOC and TPH below the clay layer.

At page 23 of its Response, the Regional Board refers to a VOC sampling result as deep as 78 feet, despite the explanation at page 7 of Textron's Petition that said reading was declared to be an "incidental laboratory contamination" by the responsible laboratory. With respect to that deepest VOC result, the Superior Court found that:

> There was no evidence that methylene chloride, a VOC, was ever used in the manufacturing process at this site (nor, to be sure, was there evidence to the contrary). There was evidence, however, that methylene chloride is used in laboratory procedures of the type used to

test the samples here and was in fact used in the laboratory that tested the samples here in question. While there was evidence that VOCs migrate faster than TPH, there was no evidence that methylene chloride migrates faster (or otherwise differently) than other VOCs. There was evidence that the tanks that leaked were used for waste storage and that a variety of compounds within the VOC category were mixed together stored in the tanks.

Minute Order, Exhibit 1, p. 6.

As to TPH below the clay layer, the Superior Court found that:

The evidence was uncontradicted that VOCs migrate downward faster than TPH. The test bore that found TPH beneath the clay level at a depth of 110 feet, however, found no VOC at this location. If TPH had migrated <u>from the release in question</u> to the depth of 110 feet, VOC should have been found there also according to the evidence in this record. (The VOCs were mixed in with the TPH and the VOCs would have reached at least as far and farther than the TPH). It was undisputed that the test bore drilled 400

feet away from the site of the leaking tanks was too far from the site to have been contaminated by the release in question, yet it yielded similar readings for TPH. The test borings found no continuous plume path below the level of the clay formation, although this might possibly be explained by a meandering plume path. The combination of no VOCs with the TPH plus similar TPH readings at the 400 foot distant bore can be explained by background or naturally occurring hydrocarbons, or by pollution migrating from another source. On the evidence in this record, however, these two phenomena are not consistent with migration from this release, especially in the absence of an identified continuous plume path below the clay formation.

Minute Order, Exhibit 1, pp. 4-5.

The Court's analysis of the record as to below-clay data set forth above is neither acknowledged nor shown to be erroneous by the Regional Board's Response.

d. Possible Historical Groundwater Fluctuation.

The final factor listed at page 16 of the Regional Board's response related to possible historical groundwater

fluctuation. The Board acknowledged that the location of groundwater is uncertain. The only information presented to the Board is a working hypothesis that groundwater may be 150 to 170 feet below surface. That highly speculative factor was understandably not discussed by the Court in its Minute Order because the Regional Board's Legal Counsel conceded it to be only a possibility during the Hearing on the preliminary injunction:

> THE COURT: So your theory now is that the groundwater came up higher and flushed out the pollutants?
>
> MR. NOBLE: This isn't my theory now. I mean, there are all these possibilities. We simply don't know all of this. That's one of the problems.
>
> Superior Court Transcript, Exhibit 6, pages 15-16.

In short, the Regional Board is now relying on a factor conceded in Court by its attorney to be nothing more than a theoretical possibility. The Superior Court has, therefore, specifically considered each argument now relied upon by the Regional Board and has found none to be persuasive.

C. "Vapor Phase" Transport Is Not Supported by the Administrative Record.

It is interesting to note that the Regional Board did not argue the "vapor phase" transport theory before the

Superior Court in addressing the Court's specific question to identify the record evidence that demonstrated the necessary probability of migration to groundwater. This theoretical possibility (discussed more fully below and in the ERM-West Report accompanying this Reply) was raised as the gavel went down on Textron's hearing before the Regional Board but no evidence was presented or exists to support the hypothesis. Indeed there is substantial evidence in the record from the opinion of experts and literature on the subject which contradicts the hypothesis. The Regional Board did not cite this possible explanation as the basis for its Order.

More importantly, as set forth in the ERM-West Report submitted herewith as Exhibit 3, vapor phase transport could potentially account for downward migration only in extremely unusual situations where vapors are so dense that they fall instead of rise after volatilization. Since there is no evidence of any such phenomenon at work at the Textron site, there is no probability established that vapor phase is at work at the site to transport contamination. Also, the absence of any pattern of residue from such alleged transport in soil beneath the clay layer undercuts the Regional Board's reliance on this possibility.

D. Significance Of New Clay Layer Data.

After the conclusion of the hearings before the Regional Board but before the preliminary injunction hearing, in commencement of soil remediation activity, Textron

performed additional tests on the soil removed during the placement of injection and extraction boreholes to a point within the clay layer at the approximate depth of 50 feet. Textron has provided a copy of the report on the sampling data to the Regional Board and has additionally requested of the State Board that this report be made part of this record. In addition, the report of that sampling data was submitted to the Superior Court.

In summary, the data demonstrates that the clay layer has not become saturated and, therefore, continues to act as a barrier to contaminant migration. These data verify the conclusions reached from prior Textron field investigations that the clay layer is continuous and acts as an effective barrier to migration.

The Regional Board has failed to address the significance of these sampling results that were taken during the course of confirmation testing as part of the ongoing remediation efforts Textron is currently engaged in at the Pacoima site. In fact, it is significant that based on the record before it, the Regional Board has approved the commencement of remediation. The Regional Board's Staff and Textron are in the process of negotiation of a remediation plan. At a long planned meeting which took place on the 28th of September, tentative agreements were reached between the Staff and Textron with final details to be arranged.

Textron, as an environmentally responsible corporate partner of this State, encouraged the Regional Board to permit it to proceed with remediation. The on-going confirmation testing also reflects Textron's position that it has never said "no" to groundwater monitoring, only that such an extraordinary action is premature and should not be pursued pending identification of evidence that groundwater has probably been contaminated by the release. No substantial evidence has been developed to date despite extensive investigation that supports the hypothesis of groundwater contamination. Textron has offered to review its position as additional information becomes available.

It should be noted here that the Regional Board also presents for the first time an argument that the soil investigation conducted to determine the nature and extent of the release and its resulting contamination was insufficient. This argument clearly reflects the Regional Board's strain at defending the Order, as certainly the Regional Board did not cite that argument as the basis for the Order at the hearing, nor has it prevented remediation from proceeding. The investigation was complete and systematic, was conducted properly, and was effective at addressing the problem to be solved. Data produced during the course of the investigation

fully supports the appropriateness of the plan, design and scope of the investigation.[2]

E. The Status Of Remediation Efforts Is Irrelevant To the Issue Before the State Board As To Whether the Order Should Be Upheld.

A condition of the preliminary injunction was that Textron comply with reasonable Regional Board directives concerning remediation and additional monitoring and testing at the site. [Exhibit 1, pp. 4-5.] In fact, the Superior Court has retained jurisdiction to hear disputes over the reasonableness of such directives if the parties need such further direction from the Court. To date, the Court's assistance has not been requested by either party. The meeting which took place on the 28th of September was cordial and productive. Textron anticipates early agreement on all phases of remediation and is working toward that objective.

Moreover, the comments regarding the remediation efforts do not advance the issues before the State Board in any way. It appears as though counsel for the Regional Board is attempting to interject an element of "bad faith" conduct on the part of Textron. This effort is unfair and expressly contradicts the statements of the Regional Board's Executive Director at the hearing. Textron's counsel directly put the

---

[2]Textron objects to the Regional Board's assertions (page 6) that the release occurred on a landfill. Textron has denied this and it is not substantiated by investigation.

question of Textron's good faith to the Executive Officer of the Regional Board:

> ...it is my understanding that the [good faith] issue was directly addressed with the staff. And the staff agreed that this was not some kind of bad faith case, that Textron was acting out of principle and that any inference at the last hearing that Textron is a bad faith party is not one the staff intended.
>
> Mr. Ghirelli, is that fair --
>
> (4/23/90 Transcript, p.16)

The Executive Officer's unequivocal response was "Yes." (Id.) The interjection of the bad faith issue is unfair and unsupported by any record evidence.

III. THE REGIONAL BOARD'S GROUNDWATER MONITORING ORDER SHOULD NOT BE UPHELD BASED ON THE RECORD AS A WHOLE BEFORE THE BOARD.

A. The State Board Must Determine Whether The Order is Appropriate and Proper on the Record Before It, and In So Finding, Must Determine Whether the Regional Board's Findings Are Supported By Substantial Evidence on The Record As a Whole.

In granting Textron's preliminary injunction, Judge Zebrowski confirmed that the standard of review to be applied

to the Regional Board's Order was whether substantial evidence on the record as a whole supported the Board's action. In reviewing the evidence before him, and following oral argument during which the Regional Board was closely examined about the factual foundation for the Order, the Court determined that substantial evidence on the record as a whole of a probable migration of contaminants to threaten groundwater was missing. The record before the Board is the same record that persuaded Judge Zebrowski that groundwater monitoring was not mandated by the statutory requirements of Water Code Section 13304. Textron adopts the reasoning of Judge Zebrowski establishing lack of substantial evidence to support the Order.

Water Code Section 13320 (c) sets forth the standard of review by the State Board of the Regional Board's action:

> The state board may find the regional board action or inaction to be appropriate and proper. Upon finding that the action of the regional board, or the failure of the regional board to act, was inappropriate or improper, the state board may...direct that the appropriate action be taken by the regional board, *** refer the matter to any other state agency having jurisdiction, *** take the appropriate action itself, or *** do any combination of the foregoing. In taking any such action, the state board is

vested with all the powers of the regional boards under this division.

In interpreting its powers under the enabling statute, the State Board had stated:

> While the State Board's scope of review of Regional Board action is similar to the independent review standard of a court, the findings made by the Regional Board must be supported by substantial evidence in the record.
>
> In re Exxon Company, U.S.A., et al., Order No. 85-7 (August 22, 1985).

The Board's application of this important and universally recognized standard of review is a crucial element in the administrative enforcement of the Act. In vesting the Board with the penultimate power of review, the Legislature has entrusted the Board to enforce the significant statutory powers conferred by the Act in a fair-minded and even-handed manner.

That the Board has so carried out such an important mandate is evidenced by its decision in Exxon Company. There, the Board wrestled with the problem of finding responsible parties who could effectuate a cleanup of an underground storage tank release that unquestionably polluted a groundwater recharge pond servicing the adjacent residential and commercial area. The Board declined to enforce a Regional

Board Order that had named as responsible parties the logical corporate respondents, on the ground that the record as a whole failed to show "a reasonable basis on which to name each party." As the Board concluded, "[T]here must be substantial evidence to support a finding of responsibility for each party named. This means credible and reasonable evidence which indicates the named party has responsibility."

As will be demonstrated below, the record as whole does not contain substantial evidence to support the Regional Board's order of groundwater monitoring.

B. The Record Fails To Substantiate A "Probable" Threat Of Migration Of Contaminants To Groundwater And Therefore Section 13304 Does Not Give The Regional Board Statutory Authority To Order Textron To Engage In Groundwater Drilling And Monitoring.

As noted in the petition, probability involves a finding of a likelihood of a migration to groundwater. Bastion v. San Luis Obispo County (1988) 199 Cal.App.3d 520, 533 [245 Cal.Rptr.78] (review denied). In Bastion, the court rejected the plaintiff's claim on the grounds that he had alleged only that "the harm which followed from [Hall's] conduct was at most foreseeable, not probable." In Bains v. Western Pacific R.R. Co. (1976) 56 Cal.App.3d 902 [128 Cal.Rptr. 778], the court also distinguished the legal standard of "probability" from that of "possibility". The

court required a finding "...that danger is likely to result therefore...or that it is highly probable that harm will result." 56 Cal.App.3d at 907. In declining to find liability, the court determined that the facts before it showed at most that an event was foreseeable or possible, but not probable.

Similarly, the Regional Board did not, and could not, find a "probability" of groundwater migration based on the record before this Board. In fact, as set forth in the Petition (pages 20-21), the Board never made a finding of "probability" of migration to groundwater, but rather relied on the "prove-the-negative/we need certainty" standard that had been articulated by Dr. Mann.

The "probability" standard is also supported by the Legislative history of Section 13304. In a June 11, 1980 letter from William R. Attwater to the Legislative Committee charged with review of the proposed amendments, Mr. Attwater answered the concerns raised by Robert Monogan, President of the California Manufacturers Association (Exhibits 4 and 5, respectively). In his letter, Mr. Attwater confirmed that

> "The Regional Boards have the authority to issue an order directing a person to clean up and abate or take other necessary remedial action only in the following two circumstances:

1. If waste is discharged in violation of any waste discharge requirement or other order issued by the Regional Board; or

2. If, in the absence of waste discharge requirements, a person causes or permits any waste to be discharged or deposited where it is or probably will be discharged into the waters of the State, and creates or threatens to create a condition of pollution or nuisance."

In an example of Section 13304's reach, Mr. Attwater offered the illustration of a mine that was inoperative during the dry season, but "when the rainy season arrives, acid wastes at the mine will combine with runoff and in fact reach the stream and cause pollution." Thus, in justifying the new remedial powers, the Board relied on what appears to be a certain result of contamination to illustrate what "probable" meant.

The technical data that has been painstakingly analyzed in this proceeding -- data and findings that have been confirmed in the course of remediation efforts -- simply do not support a finding of "probability" as required by the clear statutory language and its interpretation. The case BKK Corporation, State Board Order No. WQ-86-13, relied upon by the Regional Board, does not alter this conclusion, as it is completely distinguishable on its facts. First, in BKK, there

was a violation of a waste discharge requirement that independently justified the order. Second, in sharp contrast to the present case, contaminant migration to groundwater was established. The BKK case does not support the issuance of an order based solely on a "condition of pollution or nuisance" without regard to the probability of groundwater migration.

C. The Record Evidence Is Insufficient To Support A Finding Of Probability.

1. The Regional Board Did Not Make The Requisite Finding.

As noted, the Regional Board has failed to make any express finding of "probability" as contemplated by the statute. In fact, the Response cites Regional Board Staff findings which do not have any standing, as they have not been made findings of the Regional Board. As the Petition notes (page 20-21), the Regional Board adopted the views of Dr. Mann who stated, essentially, that nothing short of drilling to groundwater would satisfy a need to determine with certainty that the contaminants "did not get to the water." The plain language of Section 13304 does not require drilling to groundwater in every instance of an underground storage tank leak, and this Board must not adopt the urgings of the Regional Board to so find.

2. The Superior Court's Analysis of the Record Is Adopted By Textron And Is Correct.

As explained above, the six arguments asserted in support of probable migration to groundwater are listed on page 16 of the Regional Board's Response. The insufficiency of each of those arguments to demonstrate probable migration to groundwater is revealed by review of the administrative record and the supplemental report of ERM-West. However, before those arguments are addressed, some discussion of sampling procedures is warranted.

a. Sampling Procedures.

In a variety of contexts, the Regional Board Response (pp. 4-5; 14-15; and 18) asserts that the soil sampling data are flawed as the result of faulty sampling procedures causing false non-detectable results in soil below the clay layer. Textron vigorously denies this assertion, as it is unsupported by any evidence in the record.

The faulty sampling argument was asserted for the first time by Regional Board Staff near the conclusion of the April 1990 Regional Board hearing (pp. 120-122) only after it was too late for Textron to respond. The fact that no mention of this sampling issue was made in the Staff's pre-hearing written submission or in the Staff's opening comments before Textron's opportunity to be heard effectively denied Textron any opportunity to respond. Accordingly, this issue is

specifically discussed at pages 8-12, and at Appendix A of the ERM-West report filed herewith.

The criticism by Regional Board Staff of sample collection procedures is based on a contention that field and laboratory logs reveal a failure to follow prescribed protocols. That claim is shown to be erroneous in the ERM-West report.

b. Timing Of Release.

The first argument for probable migration to groundwater listed at page 16 of the Regional Board's Response is that "leakage has had up to 24 years to migrate downward." In fact, the time of the initial release of contaminants is unknown.

At pages 2-3 of the Response, the Regional Board states that the Textron Tanks were installed in 1966 and that the leakage was not discovered until 1984. The record includes no evidence indicating when the initial release occurred.

The possible leakages for "up to 24 years" (Response, p. 16) is predicated on an assumption that the release could have occurred at the time of initial tank installation. However, there is no evidence that such instantaneous leakage occurred, and practical sense suggests that it probably happened later.

In any event, uncertainty of timing of the release does not establish any probability of migration to

groundwater, especially in light of the sampling data showing contaminant retardation at the clay level.

Any other conclusion would mean that groundwater sampling would be required in virtually all underground tank cases without regard to soil sampling results because the time of initial release is normally unknown when leaks are discovered. That is not true under Water Code Section 13304, and the Superior Court correctly found that the unknown time of release is not a justification for Order 89-104.

c. Contamination Above Clay Layer.

The Regional Board's second argument, page 16 of the Response, is that "significant concentrations of liquid, dissolved, or absorbed phase VOCs have been measured from the surface to inside the last fine-gained horizon." The fact of significant contamination between the surface and the top of the clay layer is not disputed in this case. Indeed, Textron has presented evidence of a classical plume typical of a tank release extending down and into the clay but not beyond the clay layer. (Dunbar Testimony, 4/23/90 Hearing, pages 37-38). However, the presence of such contamination does not evidence probable migration to groundwater because of the retardation at the clay layer. In short, the presence of contaminants above the clay in no way establishes probable migration beyond it to groundwater.

d. Vapor Transport.

Like the sampling error argument discussed above, the vapor phase transport argument asserted at page 16 of the Response was withheld until after Textron's time to be heard had lapsed. Accordingly, that argument is also addressed in the ERM-West report filed herewith.

As explained at pages 2-6 of that report, the theory of vapor transport is well known. However, in the normal case, vapors migrate upward. Such typical upward migration could not cause migration down to groundwater in this case.

The abnormal phenomena of downward vapor transport can occur only when contaminant concentrations are sufficiently high to generate vapors of high density. While such downward vapor transport is possible under unusual circumstances in some cases, it is highly improbable in this case and is inconsistent with the technical data.

That conclusion is supported by the absence of the widespread residual soil contamination indicative of vapor transport. The absence of any such pattern below the clay layer confirms the improbability of downward vapor transport in this case. Rather, the more probable explanation for the few, sporadic VOCs reported below the clay was laboratory anomaly or minor cross-contamination recovered at the time of sampling.

e. TPH Below Clay.

The Regional Board also argues at page 16 of its Response that the discovery of random low-level TPH below the clay layer is evidence of probable migration. It is not for clear reasons established by the administrative record. (See also Petition, Exhibit A; Response to Staff Findings, Exhibit "B", made part of the administrative record.)

First, a release from a tank produces a discernable plume pattern with concentrations diminishing as vertical and lateral dispersion occurs. As explained to the Regional Board, there is no such pattern in this case below the clay. (Dunbar Testimony, 4/23/90 transcript, pages 38-40.)

Second, it is well-established that VOCs migrate faster than TPH when both are present in a plume like the one existing above the clay in this case. If TPH migration occurred below the clay, it would be found in the presence of the VOCs migrating with it. (Dunbar Testimony, 4/23/90 transcript, page 45.) The absence of VOCs along with TPH below the clay means that migration of TPH below the clay is not probable.

Despite that undisputed testimony about the TPH fingerprinting analysis showing some of the TPH found below the clay to be caused by minor cross-contamination recovered during sampling, the Regional Board Response erroneously contends that the fingerprinting analysis evidences TPH

migration below the clay. That contention is completely unsupported by the record.

The Regional Board Response also erroneously contends that Dr. Ian Kaplan's testimony (4/23/90 pages 68-70) of fingerprinting from one sampling location below the former location of the tanks contradicted general testimony by David Dunbar concerning all TPH below the clay. At page 6 of its Response, the Regional Board contends that Mr. Dunbar's testimony at page 39 of the April 23, 1990 transcript attributed all below-clay TPH to be solely attributable to background in contradiction with Dr. Kaplan's cross-contamination analysis. In fact, Mr. Dunbar's testimony discussed both background and cross-contamination:

> There are sporadic, and let's say 5 out of 70 of the soil samples beneath the clay layer show levels of T.P.H., total petroleum hydrocarbons, approximately 20 to 30 parts per million, not in the 500 to 20,000 range in the plume above the layer but approximately 20 to 30. These are sporadic. These are spikes that we believe are due to cross-contamination during sampling and may, in fact, even represent background conditions. (4/23/90 Transcript, p. 39).

The Regional Board's claim of inconsistency between those two

experts testifying on behalf of Textron is, therefore, based on an erroneous characterization of the record.

f. Failure Of Clay Layer To Retard Migration.

Despite extensive soil sampling data showing the only significant concentrations of contaminants to exist at or above the clay layer existing at approximately 50 feet, the Regional Board argues at page 16 that "downward travel of contaminants has not been effectively blocked." The efficacy of the clay layer to retard migration is explained at pages 6-12 of the ERM-West report filed herewith.

The Regional Board offers two theories for why the clay layer has not acted as a retardant. The first argument is that the clay layer may be discontinuous. As explained by ERM-West, the clay was found in all 11 of the initial 13 borings where sampling was performed within the range where the clay would be discovered. Subsequently, clay was found in each of five recent, additional samples taken to investigate the clay. Thus, the weight of the sampling evidence shows that the clay layer is continuous below the tanks. Any contrary conclusion can be premised only on speculation. To the extent that the Regional Board's argument for discontinuity is based on an alleged admission in an early Textron report clarified after subsequent sampling or generalized testimony about a claimed regional "cut-and-fill" phenomena, the argument is shown by the ERM-West report not to have merit.

The Regional Board's second argument that the clay layer has not retarded migration is predicated upon the possibility of seepage through the clay. Such seepage is shown by the most recent sampling data discussed in the ERM-West report (p. 10) not to have occurred because that layer has not been saturated. The Regional Board's argument that the clay impermeability is not sufficient to qualify it as a permanent barrier misses the point because Textron is relying only upon temporary retardation while soil remediation is implemented.

In summary, the Regional Board's two arguments for possible ineffectiveness of the clay to temporarily retard migration are only speculative possibilities shown to be unlikely by site-specific sampling data.

g. Groundwater Fluctuation.

As discussed above, the Regional Board's attorney admitted to the Superior Court that groundwater contamination caused by possible fluctuation of it up to the depth of contamination is nothing more than a theory in this case. That admission is shown by the ERM-West report submitted herewith to be well founded for several reasons.

First, that theory is based upon high groundwater levels depicted on a 1944 regional map without backup data for the map. The inability for either Textron or the Regional Board to critically analyze the purported data base for that

map precludes that Board from predicating Order 89-104 on the old map.

Second, as explained above, it is unknown how soon leakage occurred after the 1964 tank installation. There is, therefore, no evidence that groundwater fluctuated up to a shallow depth at a time when contamination was at that depth. The fluctuation theory is entirely speculative.

While speculative, the fluctuation theory is also contrary to sampling data for the site. The only reliable data concerning depth to groundwater at the site is from Textron sampling to 120 feet without encountering groundwater. All that is known about actual groundwater depth is that it is below that level. Also, the absence of any pattern of contaminant dispersion left in soil at and below the hypothetical high fluctuation point shows the theory to be unlikely at this site.

h. The Regional Board's Six Factors Do Not Satisfy Probability Required Under Section 13304.

The Regional Board has artfully couched its counterpoint arguments as "substantial evidence" to uphold the Order. As discussed, these arguments do not displace the record evidence of the data and the reasonable conclusions drawn therefrom. Just as the Regional Board's "policy considerations" cannot substitute for the statutorily mandated "probability" standard the Legislature devised, the Regional

Board's proffered "expert opinion" on what the data show cannot substitute for substantial evidence.

IV. THE STATE BOARD SHOULD DECLINE TO UPHOLD THE ORDER AS IT IS BASED ON IMPROPER RULE-MAKING.

The Regional Board appears to argue that the State Board should not consider improper rule-making action due to the pending petition of the California Manufacturers Association before the Office of Administrative Law. It is clear that parallel proceedings may challenge improper rule-making activities of an administrative agency where the aggrieved party has standing to challenge the action. See Grier v. Kizer (Case No. 2d Civil No. B036081, 4/2/90, 1990 Cal.App. Lexis 323) (order of administrative agency was overturned in civil action where it had been successfully challenged in a parallel proceeding before the Office of Administrative Law.) Accordingly, for the reasons set forth in the petition, the Order should be rescinded due to the improper rule-making it reflects in establishing the standard of automatic groundwater testing for underground tank releases.

V. THE ORDER MAY ALSO BE CHALLENGED ON DUE PROCESS GROUNDS.

The Regional Board argues that Textron has failed to produce evidence of disparate treatment. As noted in the Petition, Textron identified seven cases in which the Regional Board did not impose a groundwater monitoring order. The Regional Board has failed to address this contention and has merely tried to deflect the argument by ignoring the supporting evidence.

VI, CONCLUSION.

For the reasons set forth herein, and in the Petition and accompanying administrative record, Textron respectfully submits that Order 89-104 should be rescinded as it is not supported by the statutory requirements of Section 13304.

DATED: October 4, 1990

Respectfully submitted,

PETTIT & MARTIN
MICHAEL L. HICKOK

BALLARD, ROSENBERG & GOLPER
LINDA AUERBACH ALLDERDICE

BY _____
Linda Auerbach Allderdice
Attorneys for Petitioner
HR TEXTRON INC.

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK _____

HONORABLE JUDGE PRO TEM | _____

Deputy Sheriff | NONE Reporter

1. (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

Counsel for Plaintiff

vs
Regional Water Quality Control Board for the Los Angeles Region

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

In this matter heretofore submitted on June 12, 1990, the court announces its decision as follows:

ORDER ON APPLICATION FOR PRELIMINARY INJUNCTION

1. The "underground rule-making" argument: This argument is rejected as superfluous because it amounts to nothing more than another way of stating the argument that a remedial action was ordered without meeting the probability standard. Moreover, there was no showing that drilling to groundwater is always required even without regard to the specific circumstances, although it could be argued that this conclusion logically flows from a decision to require remedial action simply on the basis of a general desire to gather more information.

2. The Equal Protection/Due Process argument: This argument is rejected because of insufficient showing that other parties not ordered to drill to groundwater were similarly situated in comparison to plaintiff. There has not even been any identification of relevant indices of similarity in this context.

(continued on page 2)

☐ It is stipulated (not stipulated) that Commissioner _____ may hear of this matter as Judge Pro Tem (by moving party/responding party).

☐ TRANSFERRED TO/FROM DEPARTMENT ..... ☐ Court disqualifies itself ☐ 170.6 CCP affidavit filed

☐ OFF CALENDAR ☐ On court's own motion ☐ No Appearance ☐ At request of moving party ☐ By stipulation

☐ CONTINUED TO ..... IN DEPT. ..... AT ..... A.M. P.M.

☐ On court's own motion ☐ Stip. to be filed ☐ On oral/written stipulation. ☐ OSC Discharged

☐ REQUEST OF ☐ Moving party ☐ Respondent(s) ☐ Per Ex Parte Order of _____

☐ TRO to remain in full force and effect ☐ TRO dissolved

☐ MOTION: ☐ granted as prayed ☐ denied ☐ with/without prejudice ☐ argued and taken under submission

☐ DEMURRER: ☐ sustained/ ☐ overruled ☐ with/without leave to amend ☐ _____ days to amend/answer

☐ JUDGMENT ☐ ORDER TO BE PREPARED BY: ☐ Moving party ☐ Responding party ☐ Clerk

☐ NOTICE: ☐ Waived ☐ By moving party ☐ By respondent(s)

☐ PETITIONER(S) IS/ARE SWORN AND TESTIFIES/TESTIFY

☐ PETITION IS GRANTED (AS AMENDED) ☐ ORDER/JUDGMENT IS SIGNED AND FILED.

MINUTES ENTERED
JUN 13 1990
COUNTY CLERK

DEPT. 85

B-225
76M 2138 (REV 3-87) 3-89

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK _____

HONORABLE JUDGE PRO TEM | _____

Deputy Sheriff | NONE Reporter (Parties and counsel checked if present)

1a.

BC 001 733
HR Textron Inc.,

vs
Regional Water Quality Control
Board for the Los Angeles Region

Counsel for Plaintiff

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 1)

3. Irreparable injury: Since this is an injunctive proceeding, the imminence of irreparable injury is an issue. In view of the immunities enjoyed by the State, any monetary injury suffered by plaintiff would be irreparable.

The fact that plaintiff's injury might be monetary only is therefore not a basis to deny equitable relief. In addition, plaintiff faces the potential of increased liability from groundwater contamination not along a naturally occurring plume path, but rather following the proposed well bore drilled to groundwater. Again, given the immunities enjoyed by the State, that liability would fall wholly on plaintiff and would be irreparable even if plaintiff later prevails.

4. Likelihood of success: Water Code §13304 provides for remedial orders when the water has been or probably will be contaminated. The oral record of the hearing in this matter will reflect discussion of whether some other standard would be preferable (possibility, significant possibility, threat, danger, etc.), but there is no doubt that the legislatively mandated standard applicable here is probability and not some other standard.

(continued on page 3)

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☐ MOTION: ☐ granted as prayed ☐ denied ☐ with/without prejudice ☐ argued and taken under submission

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DEPT. 85

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76M 213E (REV. 3-87) 3-89

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK _____

HONORABLE JUDGE PRO TEM | _____

Deputy Sheriff | NONE Reporter

1b. (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

Counsel for Plaintiff

vs
Regional Water Quality Control Board for the Los Angeles Region

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 2)

In this case, it is probable that the groundwater will be contaminated if nothing is done. The Board thus has good grounds for a remedial order, and this is not disputed. (The record reflects that remedial efforts are already underway). The Board has also ordered, however, that plaintiff drill to groundwater in order to test the groundwater for contamination. This order to drill to groundwater can be justified only if the groundwater has already been contaminated by this release, or if the groundwater "probably" will be contaminated notwithstanding the remediation measures now in process.

When plaintiff's petition for a writ of mandate (directed to the Board to set aside any order which might finally result from the Board's proceedings) is finally tried, the issue will be whether there is substantial evidence in the record to support a finding that the groundwater probably has been, or probably will be, contaminated from this release. Although the Regional Board did not expressly find such a probability, that is the legal requirement and hence such a finding is implied.

(continued on page 4)

☐ It is stipulated (not stipulated) that Commissioner _____ may hear of this matter as Judge Pro Tem (by moving party/responding party).

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☐ OFF CALENDAR ☐ On court's own motion ☐ No Appearance ☐ At request of moving party ☐ By stipulation
☐ CONTINUED TO _____ IN DEPT. _____ AT _____ AM PM
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☐ REQUEST OF ☐ Moving party ☐ Respondent(s) ☐ Per Ex Parte Order of _____
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☐ MOTION: ☐ granted as prayed ☐ denied ☐ with/without prejudice ☐ argued and taken under submission
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SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK _____

HONORABLE JUDGE PRO TEM | _____

Deputy Sheriff | NONE Reporter (Parties and counsel checked if present)

lc.

BC 001 733
HR Textron Inc.,

Counsel for Plaintiff

vs
Regional Water Quality Control Board for the Los Angeles Region

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 3)

The Board cited 1) the indeterminate lapse of time since leakage, 2) lack of knowledge of the continuous or discontinuous nature of the clay formation, 3) the evidence of the permeable nature of the soil beneath the clay formation, and 4) the existence of pollutants beneath the clay formation as the substantial evidence of probability of groundwater contamination upon which the Board now relies.

a) Pollutants beneath the clay formation: The evidence of pollutants beneath the clay formation is the strongest and most tangible evidence in favor of a probability of groundwater contamination; it will therefore be considered first. The evidence was uncontradicted that VOCs migrate downward faster than TPH. The test bore that found TPH beneath the clay level at a depth of 110 feet, however, found no VOC at this location. If TPH had migrated from the release in question to the depth of 110 feet, VOC should have been found there also according to the evidence in this record. (The VOCs were mixed in with the TPH and the VOCs would have reached at least as far and farther than the TPH). It was undisputed that the test bore drilled 400 feet away from the site of the leaking tanks was too far from the site to have been contaminated by the release in question, yet it yielded similar readings for TPH.

(continued on page 5)

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7AM 213E (REV 3-87) 3-89

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK _____

HONORABLE JUDGE PRO TEM | _____

ld. Deputy Sheriff | NONE Reporter

(Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

Counsel for Plaintiff

vs
Regional Water Quality Control Board for the Los Angeles Region

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 4)

The test borings found no continuous plume path below the level of the clay formation, although this might possibly be explained by a meandering plume path. The combination of no VOCs with the TPH plus similar TPH readings at the 400 foot distant bore can be explained by background or naturally occurring hydrocarbons, or by pollution migrating from another source. On the evidence in this record, however, these two phenomena are not consistent with migration from this release, especially in the absence of an identified continuous plume path below the clay formation.

There was no evidence that methylene chloride, a VOC, was ever used in the manufacturing process at this site (nor, to be sure, was there evidence to the contrary). There was evidence, however, that methylene chloride is used in laboratory procedures of the type used to test the samples here and was in fact used in the laboratory that tested the samples here in question. While there was evidence that VOCs migrate faster than TPH, there was no evidence that methylene chloride migrates faster (or otherwise differently) than other VOCs. There was evidence that the tanks that leaked were used for waste storage and that a variety of compounds within the VOC category were mixed together stored in the tanks.

(continued on page 6)

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NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 5)

Implicit in the Board's finding of probability of contamination of the groundwater from the release in question is a finding that the methylene chloride found below the clay formation was not an artifact of the laboratory testing procedure, but rather that this chemical migrated downward from the release in question. There was no explanation, however, for how this methylene chloride could have separated from all the other VOCs in the plume and migrated alone. The evidence is consistent with laboratory contamination, but not with separate migration of methylene chloride, especially in the absence of an identified continuous plume path below the clay formation.

The evidence in the record of pollutants in test borings at levels below the level of the clay formation is thus consistent with explanations other than migration from the release in question (background or naturally occurring, migration from some other source, artifact of laboratory procedures), but not consistent on any theory that has been articulated in this record with migration from the release in question.

(continued on page 7)

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☐ OFF CALENDAR ☐ On court's own motion ☐ No Appearance ☐ At request of moving party ☐ By stipulation
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MINUTES ENTERED
JUN 13 1990

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK

HONORABLE JUDGE PRO TEM |

Deputy Sheriff | NONE Reporter

lf. Parties and counsel checked if present

BC 001 733
HR Textron Inc.,

Counsel for Plaintiff

vs
Regional Water Quality Control
Board for the Los Angeles Region

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 6)

b) The other three categories of evidence cited in satisfaction of the "substantial evidence" requirement: The Board also cites lack of precise knowledge of the nature of the clay lens, the permeability of the soil below the lens, and the time elapsed since the leak in satisfaction of the substantial evidence requirement (on the issue of eventual likelihood of success on the merits in an eventual mandate trial). These three categories of evidence are considered together because they are similar in concept. The theory is that in view of the lapse of time since release and the nature of the subsurface soil at the site, the contaminants have probably already reached, or will eventually reach, the groundwater.

If the substantial evidence test were still applied, as it once was, according to the "isolation" theory (isolating the evidence in favor of the administrative decision and disregarding the rest), a closer question might be raised whether substantial evidence is present. The modern standard, however, is substantial evidence in light of the whole record. When the record reflects test boring data that is not consistent with migration to groundwater from the release in question, but which is consistent with alternative explanations, a finding that there is substantial evidence of probability of groundwater

(continued on page 8)

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COUNTY CLERK
DEPT

B-225

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK _____

HONORABLE JUDGE PRO TEM | _____

Deputy Sheriff | NONE Reporter

lg. (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

Counsel for Plaintiff

vs

Counsel for Defendant

Regional Water Quality Control
Board for the Los Angeles Region

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 7)

contamination from the release in question would be tantamount to a per se rule requiring groundwater testing in cases of leakage. Groundwater testing would then be required even though the test boring data was inconsistent with a probability of migration to groundwater simply because of the suspicion or possibility, and not probability, of migration to groundwater.

These three factors, one of time and two of permeability, do raise a suspicion or danger of groundwater contamination and standing alone were likely sufficient to support a finding of probability and the requirement of test borings. Now that the data yielded by the test borings proves inconsistent with migration from the release in question, the data from the test borings cannot properly simply be ignored.

c) The probability standard: The difficulty posed by this case is the obvious paramount importance of preventing contamination of water supplies, which has resulted in a tendency in the record and at oral argument to evaluate this matter as if some lower standard such as "significant possibility", "potential danger", "possible threat", or some similar formulation applied. The legislature, however, has set the standard as that of probability, and not some lesser standard.

(continued on page 9)

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(Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

vs
Regional Water Quality Control
Board for the Los Angeles Region

Counsel for Plaintiff

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 8)

Whatever the personal views of the Board or court, and whatever personal convictions involved individuals may have about the importance of protecting the water supply, it is the standard set by the legislature that must be applied and not some other standard.

d) The substantial evidence test: "Substantial evidence" has been defined as that adequate to support a conclusion (even though a court, were it to apply an independent judgment standard, might reach a different conclusion after weighing all the evidence). See, California Administrative Mandamus (CEB 1989) §4.161. Here the necessary conclusion to support the Board's order in that the spill has, or probably will, migrate to groundwater. For the reasons noted above, the evidence in the record is not adequate to support the conclusion that the TPH and VOCs from this release have, or probably will, migrate to groundwater notwithstanding the remediation procedures now in process.

e) Conclusion on likelihood issue: Based on the foregoing, the court concludes that it is likely that plaintiff would be successful at a mandamus trial in demonstrating that the record here does not contain substantial evidence that the contaminants from this release have, or probably will, reach the groundwater.

(continued on page 10)

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B-225

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

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HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK _____

HONORABLE JUDGE PRO TEM | _____

Deputy Sheriff | NONE Reporter

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HR Textron Inc.,

Counsel for Plaintiff

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Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 9)

5. Other equitable considerations: As conceded by the Board, drilling to groundwater, testing and finding contamination would not determine who was responsible for the contamination. The Board acknowledged that underlying the site in question is an aquifer that underlies much of the San Fernando Valley. Without identifying a plume path from this release to the groundwater, the question of who caused any contamination which might be found will remain open (unless possibly types of chemicals can be traced, which has not been shown likely here). The Board has stated that it does not necessarily intend to hold plaintiff responsible for all contamination found precisely because of this continuing causation uncertainty. This state of affairs makes it at least doubtful that any immediate remediation steps would be undertaken even if wells were drilled to groundwater. This situation militates in favor or preserving plaintiff's opportunity to present its case in full.

6. Order:

a) A preliminary injunction is granted enjoining the Board from enforcing those provisions of Order 89-104 which require drilling to, testing and monitoring the groundwater.

(continued on page 11)

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SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK _____

HONORABLE JUDGE PRO TEM | _____

lj. Deputy Sheriff | NONE Reporter

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BC 001 733
HR Textron Inc.,

vs
Regional Water Quality Control
Board for the Los Angeles Region

Counsel for Plaintiff

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 10)

b) As a condition of this injunction, plaintiff is to proceed with remediation efforts forthwith as they are approved by the Board. To the extent continuation or upgrading of remediation efforts requires submission of plans and proposals by plaintiff, plaintiff shall expedite the submission of such plans and proposals.

c) As a further condition of this injunction, plaintiff is to conduct such further reasonable monitoring and testing as the Board may reasonably require. In the event of dispute about the reasonableness of a Board requirement, the matter may be presented during ex parte hours upon 72 hours notice.

d) The Board is expressly advised that this order may be modified upon a showing of adequate evidence to support a conclusion that the contamination has probably already reached groundwater, or that the contamination will probably reach groundwater notwithstanding the remediation efforts underway.

(continued on page 12)

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MINUTES ENTERED
13 1990
COUNTY CLERK

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SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK

HONORABLE JUDGE PRO TEM |

Deputy Sheriff | NONE Reporter

lk. (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

vs
Regional Water Quality Control
Board for the Los Angeles Region

Counsel for Plaintiff

Counsel for Defendant

NATURE OF PROCEEDINGS.

ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION

(continued from page 11)

e) Nothing in this order is intended to affect or restrict in any way any efforts the Board may have undertaken, or might in the future undertake, to audit the quality of the groundwater on a regional basis. Should any such effort be underway, or be undertaken in the future, plaintiff in this action shall not by reason of this order have any special dispensation from what the law might require or permit in such a circumstance.

f) Plaintiff to file a preliminary injunction bond in the amount of $50,000.

g) Plaintiff to prepare order, submit it to Board counsel for approval as to form, and submit it to the court for signature.

(continued on page 13)

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B-225

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES **DEPT.** 85

DATE June 13, 1990

HONORABLE JOHN ZEBROWSKI JUDGE | S. MCCALL DEPUTY CLERK

HONORABLE JUDGE PRO TEM |

Deputy Sheriff | NONE Reporter

11. (Parties and counsel checked if present)

BC 001 733
HR Textron Inc.,

vs
Regional Water Quality Control
Board for the Los Angeles Region

Counsel for Plaintiff

Counsel for Defendant

NATURE OF PROCEEDINGS. **ORDER TO SHOW CAUSE RE PRELIMINARY INJUNCTION**

(continued from page 12)

A copy of this minute order is sent via U. S. Mail this date to counsel for all appearing parties as shown:

PETIT & MARTIN
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R. H. CONNETT, Assistant Attorney General
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3580 Wilshire Boulevard
Los Angeles, California 90010

(page 13 of 13)

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DEPT. 85

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SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

HR TEXTRON, INC., Plaintiff/Petitioner, v. REGIONAL WATER QUALITY CONTROL BOARD FOR THE LOS ANGELES REGION, Defendant/Respondent.	Case No. BC 001733 REQUEST FOR LEAVE FOR MEMORANDUM EXCEEDING 15 PAGES; MEMORANDUM OF POINTS AND AUTHORITIES IN OPPOSITION TO PRELIMINARY INJUNCTION DATE: JUNE 12, 1990 TIME: 9:00 a.m. DEPT: 85

Defendant/Respondent Regional Water Quality Control Board for the Los Angeles Region respectfully requests leave of the Court to file the accompanying Memorandum of Points and Authorities in Opposition to Preliminary Injunction in excess of 15 pages. The length of this document is necessitated by the nature of the case and the issues raised in Plaintiff/Petitioner Textron's Memorandum and Supplemental Memorandum. Just as we did not object to that first filing in excess of 15 pages, attorney

for plaintiff/petitioner has agreed not to object to this overlength filing.

MEMORANDUM OF POINTS AND AUTHORITIES IN OPPOSITION TO PRELIMINARY INJUNCTION

I

INTRODUCTION

This is a relatively simple, one-issue legal case based on a technical and complex factual disagreement between expert witnesses. It involves a manufacturing plant located on land underlain by a groundwater basin which is a major source of drinking water in Southern California. Plant operations admittedly leaked pollutants into the soil, possibly over a period as long as 20 years. The Regional Water Quality Control Board ("Regional Board") has ordered the manufacturer, Textron, to conduct an investigation of the underlying groundwater to find out if it has been contaminated by those pollutants migrating through the soil. The Regional Board made this order pursuant to Water Code section 13304, which authorizes it to require remedial action by anyone discharging or permitting the discharge of waste "where it is, or probably will be, discharged into the waters of the state". The one issue here is whether there is sufficient evidence that pollutants discharged by Textron have either reached or probably will reach the underlying groundwater and thus whether the Regional Board has properly required Textron to conduct a groundwater investigation.

The only direct evidence of whether those pollutants actually have reached the groundwater would be determined by the

reasons that the Regional Board's decision and factual findings are entitled to substantial weight and must be presumed correct.

2. Reasonable Factual Basis in the Record

Water Code section 13304(a) provides, in relevant part:

> "Any person . . . who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board cleanup such waste or abate the effects thereof or, in the case of threatened pollution or nuisance, take other necessary remedial action . . . ."

There is no question that VOC and TPH pollutants reaching the groundwater constitutes a condition of pollution. The only question is whether those pollutants already have been or "probably will be" discharged into the groundwater. Plaintiff Textron contends they have not and probably will not. (Textron's P&As, pp. 20-21.) On the contrary, there is a reasonable factual basis in the record for concluding just the opposite, and therefore a reasonable factual basis for the Regional Board's order and groundwater testing requirement. As to this central issue, therefore, there is no likelihood of plaintiff Textron prevailing on the merits.

As drawn from the Statement of Facts, *supra*, the record shows that the groundwater level is presently no higher than 150 feet below the surface. The lowest Textron soil sample was taken

TECHNICAL EVALUATION OF RWQCB'S AUGUST 31, 1990 RESPONSE

Prepared For

HR Textron

Prepared By

ERM-West, Inc.
1920 Main Street, Suite 600
Irvine, CA 92714

October 1990

TABLE OF CONTENTS

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Introduction	1
Vapor Phase Transport	2
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Continuity of the Clay Layer	8
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INTRODUCTION

ERM-West, Inc. has been retained by HR Textron to provide environmental consulting services for HR Textron's Pacoima facility. These services are in three areas: (1) assist in performing remediation of shallow soil containing volatile organic chemicals (VOCs) and petroleum hydrocarbons, (2) review the administrative record concerning actions at the facility regarding Cleanup and Abatement Order 89-104 (CAO), and (3) provide technical opinions on migration of contaminants from an underground tank release at the HR Textron facility at 10445 Glenoaks Boulevard, Pacoima, California.

This document addresses the technical issues raised in the August 31, 1990 Response of the Los Angeles Region Water Quality Control Board (RWQCB) to the petition filed by HR Textron with the State Water Resources Control Board (State File No. A-684). The issues raised by the RWQCB are summarized on page 16 of the Response:

> Therefore: (a) leakage has had up to 24 years to migrate downward, (b) significant concentrations of liquid, dissolved or adsorbed phase VOCs have been measured from the surface to inside the last fine-grained horizon, (c) low levels of VOCs represent gas phase transport in the underlying coarse-grained intervals, (d) petroleum hydrocarbons, tracking from surface discharge to the lowest depths drilled, represent residual waste, (e) downward travel of contaminants has not been effectively, and (f) ground water fluctuations place the water table historically higher.

Issues (b) through (f) are discussed below, while item (a), the possible time of the tank release is discussed separately.

Much of the detailed technical support concerning these issues is contained in the Technical Evaluations submitted by ERM-West, Inc. in January and March 1990. Additional technical discussion is contained in testimony by various experts at the RWQCB Hearing on this matter.

VAPOR PHASE TRANSPORT

In the RWQCB analysis of extent of contamination, the August 1990 Staff findings mention (2d, page 5) that there is a "tendency of VOCs to volatilize and migrate as dense gases,..." and later state (page 16) that "(c) low levels of VOCs represent gas phase transport in the underlying [below 50 feet] coarse-grained intervals,..."

This was a new transport mechanism argument raised by the RWQCB Staff at the April 1990 hearing transcript. VOCs generally occur as a "halo" around liquid or solid phase releases containing VOCs into soil. The VOCs do occur as an associated vapor phase because they are generally less soluble in the released liquid than in air.

In the January 1990 Technical Evaluation by ERM-West, Inc., the phenomena related to finger migration of non-aqueous phase VOCs through soil was discussed. Reference 13 (Hern and Melancon, 1986) to the January 1990 Technical Evaluation addresses the volatilization process (page 45):

> Volatilization of chemical vapor to the atmosphere is an extremely complex process controlled by soil, chemical and atmospheric influences. As a general rule, however, chemicals with a large value of Henry's Constant Kh [VOCs] are more volatile than those with a low Kh and tend to be relatively independent of atmospheric conditions. Since volatilization takes place in the vapor phase, processes which limit vapor diffusion, such as increased adsorption and increased water content, can decrease the amount of volatilization. Conversely, processes which increase vapor diffusion such as increased temperature and increased total concentration will increase the amount of volatilization.

Since the atmosphere contains a low concentration of VOCs, the natural tendency of VOCs is to migrate through the soil air toward the ground

surface once released into soil. This tendency is the basis for using soil gas surveys at a relatively shallow depth to detect deeper releases of VOCs detected identical to those released at the HR Textron site. Soil gas surveys are a proven reconnaissance tool for detecting releases of VOCs.

For vapor phase migration to occur independently, the vapor phase must be sufficiently concentrated to create a much denser than air phase. At those concentrations, some partitioning to the soil water as well as adsorption onto natural organic carbon and hydrocarbons must occur. This condition would leave a detectable residue of VOCs bound to the soil along the migration pathway beneath the clayey layer. No pattern of VOCs in soil to substantiate an independent vapor migration process was detected below the clayey layer using accepted engineering practice for soil sampling and required EPA methodology for laboratory analysis (Appendix A).

Theoretically under special conditions, VOCs can migrate independently as a vapor, but the required conditions for independent dense vapor migration include the subsequent creation of liquid and adsorbed phases in the soil by the descending vapor (i.e., dense vapor migration will leave significant concentrations of liquid and adsorbed VOCs on the soil). According to Devitt et al, 1987 (Soil Gas Sensing for Detection and Mapping of Volatile Organics, page 109), the following are required conditions for dense vertical vapor migration:

> The volatile components of the oil material will...sink through the soil air if the partial pressure of the vapor is sufficiently high and if the vapor is denser than air. The rate of migration will be a function of the soil resistance to vapor flow, of the amount which is redissolved into the liquid phase, and of the amount which is adsorbed or degraded.

According to Reference 8 in the January 1990 Technical Evaluation (Dragun, 1988, pages 263-264), diffusion is the dominant mechanism for vapor migration:

Diffusion in this text is defined as the average rate of migration or velocity of a chemical in air. Diffusion can be caused by three different gradients. First, diffusion can be caused by a concentration gradient. Chemicals should migrate from regions of higher concentration to regions of lower concentration; the greater the difference, the greater the diffusion rate. Diffusion which is primarily dependent upon concentration gradient is known as concentration diffusion or ordinary diffusion. (Emphasis added)

Second, diffusion can be caused by a total pressure gradient. For example, helium and other light elements will concentrate in the upper portions of the earth's atmosphere due to diffusion driven by pressure differences in the atmosphere; these gases respond to the pressure gradient created by gravity, but they do not respond directly to gravity. Diffusion which is primarily dependent on a pressure gradient is known as pressure diffusion.

Third, diffusion can be caused by temperature differences. In a gas mixture, the lighter components will concentrate near the warmer zone. If the temperature gradient is maintained, the gases will continue to separate until concentration diffusion balances thermal diffusion. Diffusion which is primarily dependent upon thermal gradients is known as thermal diffusion.

Concentration diffusion, pressure diffusion and thermal diffusion affect the velocity of a chemical in the atmosphere. However, it is important to note that, under normal circumstances in soil systems, only concentration diffusion is important. (Emphasis added)

Since the lowest concentration condition is ultimately the atmosphere above the ground surface, the most probable pathway for migration of VOCs is toward the ground surface. This trend of VOC migration is the property

that reconnaissance soil gas survey techniques utilize to detect the presence of VOCs whose molecular weight is greater than the molecular weight of air.

On pages 270 through 272 in Dragun (1988), soil properties affecting diffusion and volatilization are discussed. The diffusion rate for vapor phase VOCs in soil are affected by four soil properties:

- Physical reduction in the volume of air available through which diffusion may occur due to the physical presence of soil particles, the tortuous path which VOC molecules must follow and the presence of some blocked off areas in the soil which contain air space unavailable for diffusion;

- The physical presence of soil moisture which further reduces the air volume in the soil through which VOCs may migrate;

- Adsorption sites in the soil (primarily associated with organic matter and clay particles) which slow the migration rate by binding VOC molecules to the soil (more effective if soil conditions are dry); and

- Presence of dissolved higher molecular weight organics (like the TPH constituents present in the tank release) increase the solubility of VOCs in soil water.

Independent vapor phase transport is an unlikely mechanism. If it did occur, concentrations of the vapors would have to be high enough where partitioning into the soil water phase plus adsorption onto the soil would have to occur.

The data set provided from the analyses below the 50-foot clay layer are most consistent with the conclusion that the materials from the tank release have not migrated below the 50-foot clay layer. These readings that have been attributed by the RWQCB to migration through the clay layer have instead been shown to be naturally occurring background, cross-contamination or laboratory error. The new analytical data generated from

borings installed by ERM-West, Inc. from drive samples through a section of the 50-foot clay directly below the release reveal that the TPH and VOCs from the tank release have not to date penetrated the 50-foot clay to coarse-grained materials below (Appendix B).

PETROLEUM HYDROCARBONS

Concentrations of total petroleum hydrocarbons (TPH) have been reported in nearly every soil sample obtained at the site. Significant concentrations have been reported in the cylindrical plume of contamination above the 50-foot clay layer. Low concentrations of TPH (less than approximately 20 ppm and in some cases less than the laboratory detection limit) were found in a background boring 400 feet away from the site, in soil above the 50-foot clay layer away from the cylindrical plume, and in soil below the 50-foot clay layer.

Of special interest are the concentrations of TPH reported below the 50-foot clay layer. As noted in the Mr. Dunbar's testimony, these TPH concentrations represent naturally occurring background concentrations of TPH, or cross-contamination (in the case of spikes of TPH in excess of approximately 10 ppm).

There are three potential mechanisms for the occurrence of TPH below the clay layer: (1) as naturally occurring background, (2) as the result of cross-contamination during drilling and sampling, and (3) the migration of contaminants through the clay layer. The first two mechanisms are strongly supported by the data collected at the site for four reasons. A detailed discussion of the technical support is in pages. 11-13 of Exhibit B of March 1990 Response to Staff Findings, and in the testimony of Professor Ian Kaplan and Mr. David Dunbar before the Regional Board in April 1990, as summarized below:

(1) TPH concentrations are at low levels, almost all between 2 and 10 ppm, consistent with the range of concentrations found in the background boring 400 feet away.

(2) There is no discernable spatial trend, either vertically or laterally to the values of TPH in soil samples beneath the clay layer. This is in direct contradiction to the clear vertical and lateral trends in TPH above the clay layer that define the cylindrical plume.

(3) TPH concentrations below the clay layer are three orders of magnitude lower (from 1 to 32 ppm below compared to 1,200 to 20,000 ppm in the tank release) than those above the clay layer attributable to the tank release.

(4) No valid VOCs were associated with the TPH detected in any of the soil samples below the clay layer. The presence of VOCs is a distinguishing characteristic in the TPH values above the clay layer that are part of the tank release. These VOCs migrate faster through soil than do TPH, and would be found in conjunction with any TPH that had migrated through the 50-foot clay layer.

The Regional Water Quality Control Board has proposed that fingerprinting analyses that show a correlation between a sample containing below the clay layer with hydrocarbons from a sample from the contaminant release above the clay layer implies migration of TPH through the clay layer (August 1990 pages 6 and 15). For the reasons discussed above, and confirmed through testimony by Professor Ian Kaplan who performed the fingerprinting, this correlation does not imply migration through the clay layer, but instead indicates cross-contamination in the samples composited and analyzed below the 50-foot clay layer. Cross-contamination could have occurred with extremely small particles of relatively high TPH concentration particles. VOCs in a high TPH particle transported downward through the drilling process would likely be removed through volatilization. This cross-contamination material would have been either removed through sampling or immobilized through the grouting process.

Although the hollow-stem auger drilling and sampling process does provide appreciable protection against cross-contamination, such protection is not complete. The degree of concern about cross-

contamination is reflected in the strenuous decontamination procedures employed during drilling and sampling.

For these reasons the RWQCB's contention (pages. 15 and 16 of the RWB Petition) that the TPH found below the clay layer represents residual waste from TPH migration (through retardation of TPH on soil particles) through the clay layer and the sandy layers below is not consistent with the data and represents an unlikely interpretation.

CONTINUITY OF THE CLAY LAYER

A review of the site geology and hydrogeology provides key supporting information for continuity of the clay layer at 50 feet. The lithologic and stratigraphic characteristics of the soil profile based on soil information prior to the installation of the 1990 borings is summarized in the January 1990 (pages 3-4 and attached boring logs) and March 1990 (pages 2-4 and Table 1) Technical Evaluations by ERM-West, Inc. attached to petitions by HR Textron to the RWQCB.

Boring logs from one extraction well and four injection wells (Attachment A) were provided to the RWQCB on July 31, 1990. With the completion of these borings, there are now 18 borings in the immediate vicinity of the tank release, 16 of which penetrated through and/or into the 50-foot clay layer. ERM-West, Inc.'s current evaluation of the data concerning the clayey layer is consistent with the interpretation from the Technical Evaluations:

"... fine-grained layer consisting of a fine sandy, silty clay was found at depths of 46.5± to 52.5± feet below grade. Thickness of this fine-grained layer ranges from 2 to 4 feet."

Since the clayey layer is described in 13 borings that penetrate to 50 feet (Table 1 and new data in Appendix B), and since the area described by the borings is approximately 70 feet by 50 feet encompassing the former location of the tank, the clay layer is therefore justifiably interpreted as continuous beneath the area of the tank release.

The RWQCB contentions in support of their hypothesis that "the downward travel of contaminants has not been effectively blocked" are generally divided in two parts: (1) that the clay barrier is not continuous beneath the site, and (2) that the clay layer does not retard migration of contaminants. These contentions are addressed separately below.

The RWQCB has contended that the alluvial materials of the unsaturated zone include both coarse-grained materials (primarily sands and gravels) and fine-grained materials (including sandy and clayey silt to sandy and silty clays), and that the upper 50 feet seem to represent channel deposits, while the lower 50 feet may represent fan deposits. Regardless of the depositional environment, the 50-foot clay layer is representative of the alluvial materials described by the RWQCB, and as shown in the January and March 1990 Technical Evaluations, is continuous beneath the site.

The RWQCB has contended (pages 17-18) that early interpretations of the 50-foot clay layer by Leighton & Associates as a clay lens imply that the clay layer is discontinuous. However, as additional data concerning the subsurface soil conditions was collected, Leighton & Associates revised their interpretation of the 50-foot clay layer to that of one being continuous beneath the site (Leighton & Associates, 1989). As additional data was collected by ERM-West, Inc., this later interpretation was confirmed. It is a common and accepted professional engineering practice to update interpretations of subsurface conditions as additional data are obtained.

The RWQCB has stated that varying descriptions of the 50-foot clay layer between several boreholes imply a discontinuity, or a "window" in the clay layer. The RWQCB does not cite specific borehole locations and/or lithologic descriptions in question. However, we have reviewed the descriptions of the subsurface lithology as presented in the Leighton & Associates and ERM-West, Inc. investigations (as discussed in the Technical Evaluations, Transcripts and Table 1 herein) and find them entirely consistent with a 50-foot clay layer that is continuous beneath the site.

The RWQCB has stated that the possibility that the 50-foot clay layer may not meet the permeability requirements of a Subchapter 15 landfill liner implies that the material will not act as a barrier to contaminant migration. The 50-foot clay layer material is not intended to act as a landfill barrier, but instead as a retardant to contaminant migration while remediation takes effect. The RWQCB confirmed the retardation potential of the 50-foot clay layer in their most recent Petition.

The RWQCB (August 1990, page 18) has stated that the penetration by contaminants of the uppermost clay layer at the approximate 20 to 23 feet depth interval implies that the 50-foot clay layer, which is similar in characteristics, will not serve as a significant barrier. Movement of contaminants through a low permeability clay layer is a function of elapsed time and the volume of contaminants. In the case of the 25-foot clay layer, there has been sufficient time for a large enough volume of contaminants to reach, saturate and then move through the uppermost clay layer.

While the contaminants have reached the 50-foot clay layer, there has not been sufficient time for the contaminants to fully penetrate and saturate the 50-foot clay layer, much less migrate through into the coarse-grained materials below. The distribution of contaminants that correspond to this process have been described by the earlier Leighton & Associates investigations (1988, 1989), and confirmed by the recent ERM-West, Inc. investigations (Appendix B), performed as part of the remediation program, demonstrated that contaminants have penetrated into, but have not saturated nor moved through the 50-foot clay layer. The ongoing remediation efforts are designed to remove the contaminants prior to the potential migration of contaminants through the 50-foot clay layer.

Finally, the RWQCB (August 1990, page 18) has contended that the reported varying thickness of the 50-foot clay layer implies that the 50-foot clay layer is not a barrier to contaminant migration. The thickness of the 50-foot clay layer as reported in boreholes sampled using a 5-foot sampling interval represents a <u>minimum</u> thickness. In any case, as demonstrated in the preceding discussions, the attached Table 1, our Technical Evaluations, our

transcripts), the soil samples from boreholes at the site show a continuous 50-foot clay layer beneath the area of the tank release.

Finally, the RWQCB (August 1990, page 19) has contended that the presence of VOCs and/or TPH in the coarse-grained material beneath the 50-foot clay layer, combined with the contentions described above, indicate that the 50-foot clay layer does not function to retard migration of contaminants. As described in Appendix B, these VOCs and TPH values are due to cross-contamination, laboratory error, or for the large majority of the TPH values, to naturally occurring background.

The RWQCB has hypothesized that (1) improper sampling and analytical procedures have resulted in invalid and erratic results (see pages. 5, 15 and 18), and (2) that cross-contamination and/or laboratory error cannot be cited as evidence to discount anomalous data values. Attachment A to this evaluation provides a specific of review of the sample recovery and sample handling procedures used during the project, and demonstrates that accepted engineering procedures were used and that the results provide both representative and valid data.

A detailed discussion of supporting evidence for laboratory error and cross-contamination as the causes for the anomalous VOCs reported below the clay layer is on pages, 4-7 of March 1990 Technical Evaluation. For example,

- VOCs were reported in only a total of five widely and sporadically distributed samples from four boreholes (LB-3, LB-100, LB-103, and LB-103A) beneath the clay layer;

- 1,1,1-TCA was detected at 68 feet in borehole LB-3, but not reported above this interval to the clay layer at 50-feet, nor in any samples below 68 feet. The borehole was completed to a depth of 68 feet and left to stand open through the clay layer overnight. The first sample obtained the following morning was a drive sample at 68 feet .

- The analytical laboratory has confirmed (see January 11, 1990 letter from Ensco-CRL in the January 1990 Technical Evaluation) that the methylene chloride detected in samples below the clay layer is caused by "incidental laboratory contamination". The EPA laboratory procedure specifically notes the possibility of incidental laboratory contamination in this analysis.

Cross-contamination during drilling, sampling and/or analysis is commonly accepted concern in the engineering profession. The use of hollow-stem auger techniques for sampling and specified analytical techniques provide appreciable, but not complete, protection against cross-contamination. It is because of much more frequent occurrences of cross-contamination in the past that comprehensive decontamination procedures have been developed to attempt to minimize the risk.

Laboratory protocol requires that the extraction procedure at the for EPA Methods 8010, 8020, 8240, and 418.1 require extraction and analysis within 14 days. The RWQCB contends (August 1990, pg 18) that soil samples were "subjected to lengthy holding times at the laboratory..." ERM-West reviewed the laboratory data sheets to determine when the analyses were conducted, and all sample analyses were analyzed within the 14-day requirement.

In summary, the various RWQCB hypotheses concerning the discontinuity of the 50-foot clay layer and its inability to act as a retardant to contaminant migration are unlikely and not supported by the available chemical data.

DEPTH TO GROUND WATER

The recent RWQCB Reply Petition has cited "historical ground water fluctuations from 95 to 200 feet below ground surface" (pages 4, 15 and 16) in conjunction with the presence of TPH in soil samples below the 50-foot clay layer (that indicate the migration of TPH through the 50-foot clay layer) as mutually supporting hypotheses implying a threat to ground water.

The issue of historical fluctuations in the depth to ground water has been addressed in detail in Exhibit B (Technical Evaluations) of the March 20, 1990 Reply Petition. In summary, the historical fluctuations, and especially the high-water levels of 95 feet below ground surface noted in 1944 are historical extrapolations of data from monitoring wells (since destroyed), the closest of which is approximately one half mile to over one mile south and east of the site.

The present depth to ground water at the site is unknown; however, the lack of ground water in the deepest borehole at the site (122 feet below land surface) supports a minimum depth of approximately 125 feet. We note that in his testimony Mr. Mel Blevins, ULARA Water Master, appearing as an expert for the RWQCB, stated his current working hypothesis (based again on extrapolations without field data) that the current estimated depth to ground water of 150 to 170 feet.

The most recently indicated occurrence of elevated ground water levels was in 1969, five years the tank was installed. This fluctuation would have placed ground water at or about the same level as that in 1944 - at an estimated 95-foot depth. This highest postulated ground water level of 95 feet below ground surface leaves an approximately 45-foot interval between 50-foot clay layer.

The RWQCB contention that historical ground water fluctuations may have placed ground water in contact with residual waste material and presented a threat to ground water is improbable and not supported by the evidence. As discussed earlier, the TPH cited by the RWQCB below the clay layer is not representative of migration of TPH through the 50-foot clay layer into the sandy layer below.

TABLE 1 - THICKNESS AND DESCRIPTION OF THE CLAY LAYER IN BORING LOG DATA

BORING NUMBER	DATE	TOTAL DEPTH (FEET)	THICKNESS OF CLAY LAYER	DEPTH AND SOIL DESCRIPTION
TH-1	4/29/86	38	NP*	
TH-2	4/29/86	120	1.5 FEET	50-51.5 feet: "Yellowish brown sandy to silty clay." Minimum thickness because the log was limited to descriptions at 5-foot intervals.
LB-1	5/30/85	50	NP*	Drilled at a 23-degree slant. Vertical penetration was 46 feet. Sample at "50" feet was not described in the log.
LB-2	5/30/85	50	ND**	Sampled at 10-foot intervals. Soils at 39 feet were described as brown silty sand. Sample at 50 feet was not described in the log.
LB-3#	1/6/88	110	4 FEET	46 feet: "Yellowish brown silty clay...grades to a dense, massive, firm, [reddish brown] low plasticity clay..." 48 feet: "Clay: Reddish brown, dense, firm, as above."
LB-4	1/8/88	108	2.4 FEET	45 feet: "Sand...overlying a dark reddish brown, massive, dense, low plasicity clay w/ scattered granules and pebbles, dry, no odor." 48 feet: "Dark reddish brown, firm, dense, low plasticity clay, sandy w/ scattered pebbles and occasional cobble, dry, no odor."
LB-100	9/13/88	116	4.5 FEET	46.5-48 feet: "Dk reddish brown clay, tr. crse sand & granules, massive texture, cohesive, dense, sl damp." 48-49 feet: "Dk brn clay, tr. crse sand, massive, cohesive, dense..." 49-49.5 feet: "Above grades into Dk brn sandy clay, sl. damp." 49.5-51 feet: "Dk brn crse sandy clay, tr granules, sl. damp."

* NP= Not Penetrated. These borings were terminated before the clay was encountered.

**ND= Not Described. In these borings, the clay layer was not described.

#LB-3, LB-103 and LB-103A were all completed within 5 feet of each other.
Total clay thickness at this location is probably five feet (46-51 feet).

TABLE 1 - THICKNESS AND DESCRIPTION OF THE CLAY LAYER IN BORING LOG DATA (continued)

BORING NUMBER	DATE	TOTAL DEPTH (FEET)	THICKNESS OF CLAY LAYER	DEPTH AND SOIL DESCRIPTION
LB-101	9/15/88	122	3 FEET	46-47.5 feet: "Reddish brn silty clay, tr crse sand & granules, dense, massive, sl. damp to dry." 47.5-49 feet: "Reddish brn sandy clay, tr. granules & pbls, dense but only mod. cohesive, damp, pble zone at base."
LB-102	9/19/88	90	3.5 FEET	47.5-49 feet: "Sand...grades into a dense clay - red brown, sm rk frag..." 49-50.5 feet: "Clay - Red brwn, dense, sm rk frag, qtz, feld, friable, moist." 51-52.5 feet: "Clay - Red-brwn, dense, sm rk frag, qtz, feld, friable..."
LB-102A	9/23/88	121	ND**	Sampled and described only below 90 feet.
LB-103#	9/13/88	70	12 INCHES	50 feet: "Dense, cohesive clay."
LB-103A#	9/21/88	70	1.5 FEET	48 feet: "Clay, red-brwn, dense, minor amounts of sm rk frag, qtz, feld silt, sl. damp, no odor."
LB-104 (Background)	10/3/88	115	ND**	Drilled 400 feet to the north and sampled at 10-foot intervals. No clay was described in this boring at 50 feet.

**ND= Not Described. In these borings, the clay layer was not described.

#LB-3, LB-103 and LB-103A were all completed within 5 feet of each other. Total clay thickness at this location is probably five feet (46-51 feet).

APPENDIX A

FIELD SAMPLING PROTOCOLS

FIELD SAMPLING PROTOCOLS

Field sampling protocols and procedures have been described in the Leighton & Associates reports (March 1988, page 16 and February 1989, Appendix C). The field work is also described on the boring logs from those investigations. Soil sampling procedures as described generally followed ASTM D 1586-84, the engineering standard for penetration tests and split-barrel sampling of soils. Soil descriptions in the boring logs followed ASTM D 2488, the visual-manual engineering procedure for description and identification of soils. The vast majority of soil samples were collected by Leighton & Associates, and were analyzed for chemical constituents according to accepted and approved engineering practice.

In their August 31, 1990 response, the RWQCB contends that the sampling protocols and procedures used by Leighton & Associates in their field sampling efforts below the 50-foot clay layer were inappropriate (pages 5, 14, 15, 17 and 18). Page 5 specifically refers to "significant disturbance of samples during acquisition and handling" without specifying the sample intervals.

Two samples from Boring LB-3 below 100 feet and samples from 45, 65 and 105 feet in Boring LB-4 were indicated directly in the boring logs as repacked samples generally from continuously sampled zones between drive sample runs. Repacked samples are not normally analyzed for VOC concentrations except as a matter of interest because the concentrations are not considered reliable. TPH analyses for repacked samples are more reliable than VOC data because the TPH constituents are not volatile compounds.

Current standard engineering practice for collecting soil samples for VOC analysis requires that a full six-inch tube of soil be recovered, sealed to avoid loss of VOCs and transported at four degrees Centigrade to the laboratory under chain-of-custody forms. A full six inches of soil is important to minimize physical disruption of the sample during transport which could result in some loss of VOCs to the vapor phase. VOC analyses

on soil samples transported in less than full tubes provide useful, but not conclusive, data.

Leighton & Associates describes their procedures as following all of the current standard engineering protocols except that nine of the sample intervals were analyzed with less than six inches of recovery. The boring logs provide data on sample recovery. The following are sample intervals where less than six inches of recovery are indicated:

- Boring LB-3 at 68, 73, 78, 83, and 98 feet;
- Boring LB-4 at 38 and 73 feet; and
- Boring LB-101 at 15, 88.5 and 101 feet.

Due to the very coarse-grained nature of the sand and gravel deposits below the 50-foot clay layer, sample recovery greater than six inches on 45 out of 57 samples is a very good record. Proper field procedures were employed by Leighton & Associates for collecting soil samples for VOC analysis, where exceptions to proper procedures occurred, the field geologist noted the information on the boring logs. The data provides an accurate representation of the TPH and VOC concentrations as well as the lithology below the 50-foot clay layer.

Based on repacking and less than optimal recovery, 12 of the 57 samples collected for VOC analysis by Leighton & Associates below the 50-foot clay layer are questionable. Seven of those 12 soil samples are from Boring LB-3 below 65 feet and the remaining soil samples are scattered vertically in Borings LB-4 and LB-101. Samples collected immediately below the clay layer in all borings are valid based on following proper and accepted soil sampling procedures.

The RWQCB stated (August 1990, pg 5) that there was "an inability of HRT's sampling method to include gas phase" and "lack of direct measurement of gas phase VOCs which contributed to the negative analytical results." These statements were presented for the first time at the April 1990 RWQCB hearing. No factual basis for these statements were presented because soil sampling specifically to detect vapor phase VOCs is not a standard practice.

Soil sampling for the purpose of collecting undisturbed or minimally disturbed samples of the gas phase is a recent experimental exercise. The application has not been standardized for EPA or ASTM protocol because direct extraction and laboratory analysis from soil collected by following the protocols discussed above yields a sample that is in approximate equilibrium with any vapor phases. The field protocol followed by Leighton & Associates (1988, 1989) is a proven method for obtaining and preserving representative soil samples for VOC analysis.

APPENDIX B

MAY 1990 PROGRESS REPORT

ATTACHMENT

FIELD ACTIVITIES

This document describes the field methods employed to install the vapor extraction system at HR Textron's facility located at 10445 Glenoaks Boulevard, Pacoima, California. Field activities involved the installation of soil borings and extraction/injection wells and sampling of the soil.

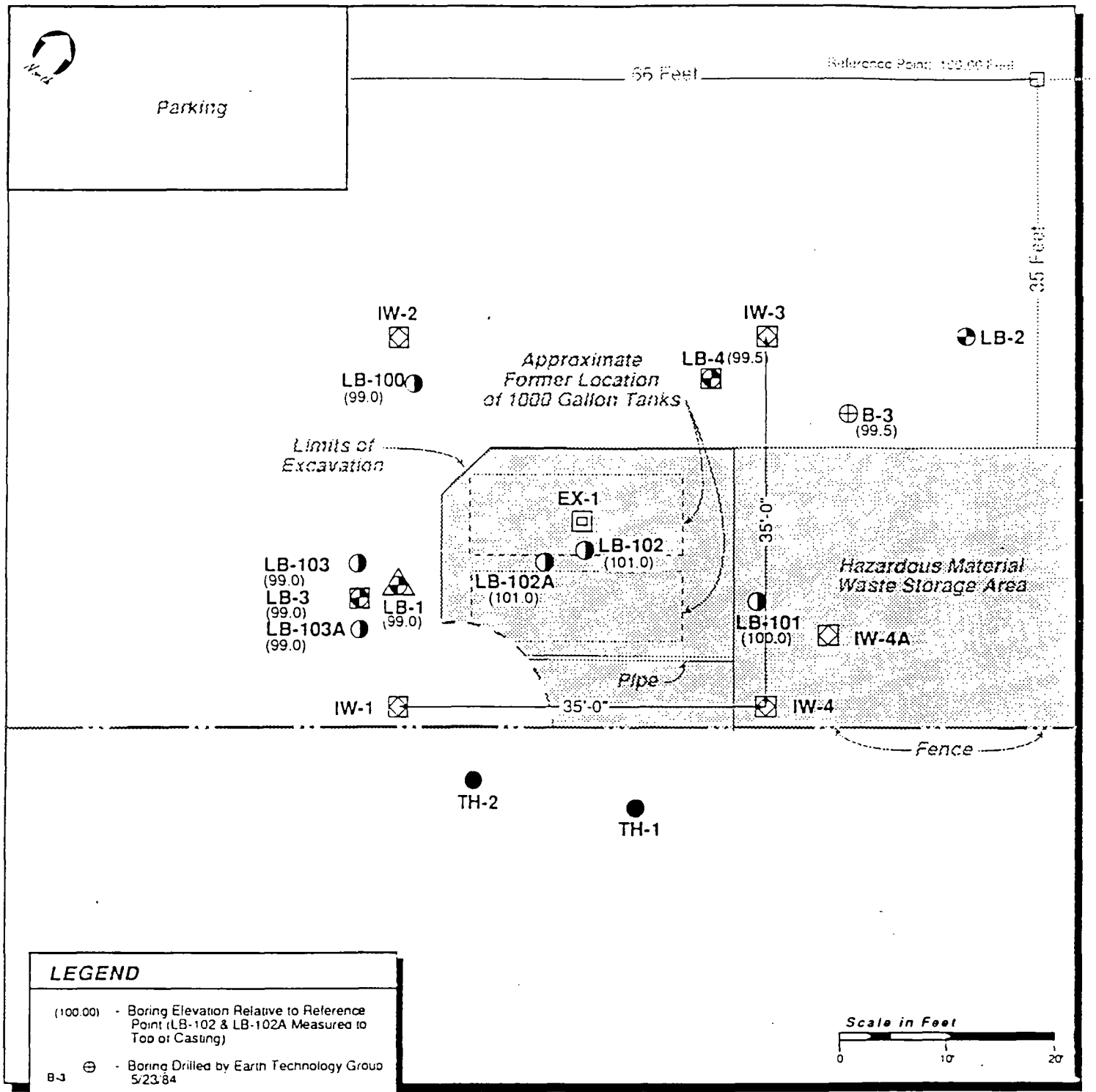
Soil data was obtained through the installation and sampling of five soil borings, four of which were converted to air injection wells. One boring in the center of the former tank excavation was converted to a vapor extraction well. Boring and well locations are presented on Figure 1.

Installation and Sampling of Soil Borings

Soil borings were installed using a CME-55 truck-mounted drilling rig equipped with 10-inch continuous-flight hollow-stem augers. Soil borings converted to wells were installed to a depth of up to 52 feet below grade, depending on the thickness of the clay layer at approximately 50 feet. Relatively undisturbed soil samples were collected from all borings at 5-foot intervals except as noted in the boring logs. Soil samples were collected by pounding a California modified split-spoon sampler ahead of the augers with a 140-pound hammer dropped from a height of 30 inches.

Soil sample tubes were examined in 6-inch sections for classification and lithologic description. Soil samples and drill cuttings were visually inspected and classified according to the Unified Soil Classification System (USCS). A boring log was generated at each location which records vertical variations in lithology, moisture content, color, texture, odor and organic vapor concentration of the soil. Boring logs from this investigation are included in Appendix A.

A portion of the soil from each sample interval was selected for headspace measurement of soil organic vapor concentration. The sample was extruded into a Zip-lock bag, sealed and allowed to equilibrate in the sunlight for approximately 15 minutes. The organic vapor concentration in the sample headspace was then measured with a photoionization detector calibrated to benzene. The organic vapor concentration of the soil was recorded on the boring log.



WELL LOCATIONS FOR VAPOR EXTRACTION SYSTEM HR TEXTRON FACILITY PACOIMA, CALIFORNIA

Soil samples for chemical analysis were collected in 2-inch diameter by 6-inch brass tubes. The sample tubes were covered at each end with Teflon® film and air-tight plastic caps. Each sample was labeled indicating sample number, depth, time, job number, and client. Following sample labeling, the samples were immediately placed in a Zip-lock bag and enclosed in an iced cooler for transport to the analytical laboratory. Chain of Custody forms were completed in the field and accompanied the samples to the analytical laboratory.

Injection/Extraction Well Design and Construction

Of the five soil borings installed during these field activities, four were converted to vapor wells in accordance with the investigation workplan. A boulder was encountered at 42.5 feet below grade at IW-4, and that well was completed to 40 feet. In general the wells were constructed using 4" diameter schedule 40 polyvinyl chloride (PVC) blank well casing and 40 feet of 0.03-inch slotted PVC well screen.

Well casing and screen were installed through the hollow stem augers. As the augers were removed, the annular space between the borehole wall and the well screen was backfilled with a medium aquarium grade sand filter pack compatible with screen perforation size. The sand pack extended approximately one foot above the well screen. A one- to two-foot thick bentonite pellet well seal was placed directly above the sand pack and hydrated with approximately three gallons of tap water.

The remainder of the annular space was filled with Volclay grout to approximately 1 to 2 feet below grade. A PVC slip cap was placed over the well orifice, and the well head was enclosed in a utility box at IW-1, IW-2 and IW-3 to provide well security and to prevent surface water infiltration. IW-4 was finished to grade with concrete because it was located on the hazardous materials pad. EX-1 was left open to two feet below grade and covered with the tarpaulin that normally covers the excavated area (to prevent infiltration of precipitation) where the underground tanks were located. A well construction diagram is provided with each boring log in Appendix A.

Installation of IW-4A

Since IW-4 could not be completed to the design depth of 50 feet, an air rotary drilling rig was used to complete a nearby well to 50 feet. The air rotary rig operates using compressed air to drive a hammer bit, and the air stream carries cuttings to the ground surface within an 8-inch diameter steel casing. The air stream was enhanced with

soap foam to improve the air viscosity to lift sticky clay cuttings to the surface.

IW-4A was installed on May 11-12, 1990 at the location shown on the boring log sketch for IW-4. This well was installed using 40 feet of 4" diameter schedule 40 polyvinyl chloride (PVC) blank well casing and 10 feet of 0.03-inch slotted PVC well screen. Well casing and screen were installed through the steel casing. As the casing was removed, the annular space between the borehole wall and the PVC was backfilled with a medium aquarium grade sand filter pack compatible with screen perforation size. The sand pack extended to 10.25 feet below the top of the concrete pad. A one-foot thick bentonite pellet well seal was placed directly above the sand pack and hydrated with approximately three gallons of tap water.

The remainder of the annular space was filled with Volclay grout to 2.5 feet below grade. IW-4A was finished to grade with concrete because it was located on the hazardous materials pad. A PVC locking snap-cap was installed at the surface to provide security for the injection well.

Analytical Results

Total Petroleum Hydrocarbons

In borehole EX-1 (which was installed through the cylindrical plume) the concentrations of total petroleum hydrocarbons (TPH) in soil samples taken in the interval from land surface to the top of the 50-foot clay layer ranged from approximately 1,000 to 20,000 parts per million (ppm) with most concentrations above 8,000 ppm.

Immediately above the 50-foot clay layer these elevated soil concentrations dropped to 900 ppm. Within the clay layer itself, concentrations of TPH were reported at 400 ppm in the upper portion and at non-detectable levels in the lower portion of the clay.

In the four boreholes installed and sampled outside the cylindrical plume (IW-1 through IW-4) TPH concentrations were at the non-detectable level. The only exception to this was trace levels of TPH (less than 20 ppm) at 15 and 20 feet depth in one borehole. All soil samples below these two were reported as non-detectable for TPH.

Volatile Organic Compounds

In borehole EX-1 the concentrations of volatile organic compounds (VOCs) in soil samples taken in the interval from land surface to the

top of the 50-foot clay layer ranged from approximately 2,000 to 40,000 parts per billion (ppb).

Immediately above the 50-foot clay layer these elevated soil concentrations dropped to 1000 ppb. Within the clay layer itself, concentrations of VOCs were reported at 500 ppb in the upper portion and at trace levels (40 ppb) in the lower portion of the clay.

In the four boreholes installed and sampled outside the cylindrical plume (IW-1 through IW-4) VOC concentrations were at the non-detectable level except for trace levels (less than 10 ppb) in the uppermost portion of the clay layer itself. The only exception to this was trace levels of VOC (less than 10 ppb) at depths less than 30 feet in one borehole.

Benzene, Toluene, Ethylbenzene and Xylene

In borehole EX-1 the concentrations of benzene, toluene, ethylbenzene and xylene (BTEX) in soil samples taken in the interval from land surface to the top of the 50-foot clay layer ranged from approximately 50 to 21,000 parts per billion (ppb).

Immediately above the 50-foot clay layer and within the clay layer itself these elevated soil concentrations dropped to non-detectable levels.

APPENDIX A

BORING LOGS

Environmental Resources Management

Drilling Log

Project HR Textron Owner

Location Pacoima W.O. Number 873.01

Well Number EX-1 Total Depth 52.5 Diameter 10"

Surface Elevation Water Level: Initial 24-hrs.

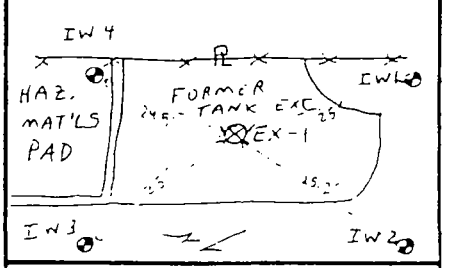
Screen: Dia. 4" Length 40' PVC Slot Size .03

Casing: Dia. 4" Length 10' Type PVC

Drilling Company Spectrum Explor Drilling Method HSA

Driller Terry Sump Log By BGS Date Drilled 4-22-90

Sketch Map



Notes
PVC slipcap on top of casing.
Borehole covered by tarp.

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
0	SW Fill			BROWN SILTY FINE TO COARSE SAND FILL, sl. moist
2				PID (cuttings) = 0.0 ppm
4				
6				PID (cuttings) = 0.0 ppm
8				
10				
12	SW			Native soil encountered at approximately 12 feet
14			5 6 8 12/18	cobbly 12.5 to 15 feet
16	ML		4 6 8 13/18	LIGHT BROWN FINE TO COARSE SAND, sl. moist, loose, grades into LIGHT GRAY SILTY FINE TO MED SAND, sl moist PID=395ppm
18	SP			LIGHT GRAY SANDY SILT, sl. moist, some clayey thin layers, primarily very fine to fine sand, mod. stiff PID=458ppm
20	ML		4 6 7 15/18	gray-green below 20 feet PID = 417 ppm
22				
24	CL		5 10 15 18/18	BROWN SILTY SANDY CLAY, sl. moist, stiff, fine to med. sand, some thin layers of clayey sandy silt. PID peak in breathing zone > 50ppm PID = 162ppm

Environmental Resources Management

Drilling Log

Project: HR Textron Owner:
Location: Pacoima W.O. Number: 823.01
Well Number: EX-1 Total Depth: Diameter:
Surface Elevation: Water Level: Initial: 24-hrs.:
Screen: Dia.: Length: Slot Size:
Casing: Dia.: Length: Type:
Drilling Company: Drilling Method:
Driller: Log By: BGS Date Drilled: 4-22-90

Sketch Map: See p.1

Notes:

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
25	CL		7 15 17 / 5/18	PID = 353 ppm
27				
29	ML			GRAY CLAYEY SANDY SILT, sl. moist, mod dense, fine to med. sand, less clay more sand toward base
31	SP		4 7 10 / 18/18	LIGHT GRAY FINE TO MEDIUM SAND, tr. moisture, tr. silt PID = 432 ppm
33				
35			6 9 15 / 14/18	light brown, tr. coarse sand below 35 feet PID = 466 ppm
37	SW			LIGHT GRAY FINE TO COARSE SAND, dry, tr. silt, tr. to some gravel, very dense PID = 376 ppm
39			17 30 50 / 17/18	
41			33 52 55 / 18/18	with gravel below 41 feet PID = 1121 ppm
43	SW/GW		55 100/3 / 3/9	LIGHT GRAY SAND AND GRAVEL, dry, very dense, fine to coarse sand, subang to subrounded. Gravel is angular to subrounded PID = 663 ppm
45			100/6 / 6/6	
47	CL			RED BROWN SILTY CLAY WITH SAND, sl. moist, tr. to some gravel, sand med to coarse, hard PID = 95 ppm
49			5 8 20 / 18/18	

Environmental Resources Management

Drilling Log

Project HR Textron Owner

Location Pacoima W.O. Number 823.01

Well Number EX-1 Total Depth Diameter

Surface Elevation Water Level: Initial 24-hrs.

Screen: Dia. Length Slot Size

Casing: Dia. Length Type

Drilling Company Drilling Method

Driller Log By BGS Date Drilled 4-22-90

Sketch Map

Notes

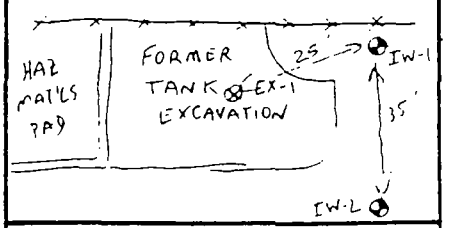
Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
50	CL		7 25 54 15/18	with some sand, 50 - 51 feet PID = 184 ppm
52			9 24 10/12	increasing sand content 51.5 - 52.5 feet PID = 13.3 ppm
54				End of Boring 52.5 feet

Environmental Resources Management

Drilling Log

Project: HR Textron Owner:
Location: Pacoima W.O. Number: 873.02
Well Number: IW-1 Total Depth: 50.5' Diameter: 10"
Surface Elevation: Water Level: Initial: 24-hrs.:
Screen: Dia. 4" Length 40' PVC Slot Size .03
Casing: Dia. 4" Length 9' PVC Type:
Drilling Company: Spectrum Explor Drilling Method: HSA
Driller: Terry Sump Log By: BGS Date Drilled: 4-21-90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
0				1.5" Asphalt
	SM			DARK BROWN SILTY SAND FILL WITH GRAVEL, sl. moist.
2				cobbles 2.5 to 3 feet
4				GRAY MEDIUM TO COARSE SAND, dry, mod. dense, tr. fine gravel PID = 0 ppm
6	SP		5 6 10 / 14/18	
8				
10			15 18 20 / 15/18	dense below 10 feet PID = 0 ppm
12				
14				
16			5 9 12 / 12/18	trace med. sand, no gravel 15-16 feet PID = 0 ppm mod. dense below 15 feet
18				
20	CL		2 3 4 / 15/18	RED BROWN SANDY SILTY CLAY, sl. moist, mod. stiff, fine to med. sand, some thin layers of clayey sandy silt PID = 0 ppm
22				
24				

Environmental Resources Management

Drilling Log

Project: UP Textron — Owner:

Location: Pacoima — W.O. Number: 873.02

Well Number: IW-1 — Total Depth: — Diameter:

Surface Elevation: — Water Level: Initial: — 24-hrs.:

Screen: Dia.: — Length: — Slot Size:

Casing: Dia.: — Length: — Type:

Drilling Company: — Drilling Method:

Driller: — Log By: BGS — Date Drilled: 4-21-90

Sketch Map

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
25	CL		6 15 22 18/18	less silt, tr. organic matter scattered in soil matrix below 25 feet PID = 0ppm
27				
29				
31	SW		4 8 12 15/18	clay becomes sandier below 30.5 feet LIGHT BROWN SILTY FINE TO COARSE SAND, dry, dense, tr. very coarse sand PID = 0ppm
33				
35			6 13 20 18/18	red brown sandy silt and silty fine sand 35-35.4 feet brown very fine to med sand with trace moisture below 35.4 feet PID = 0ppm
37				
39				
41			13 25 43 18/18	brown silty v. fine to coarse sand with tr. igneous cobbles below 40.5 feet PID = 1.0ppm Lost nylon measuring tape attached to a steel handle at 41 feet during well construction with gravel below 43 feet
43				
45			41 52 50/5 11/18	PID = 1.0ppm
47			43 55 50/4 18/18	RED BROWN SANDY SILTY CLAY, sl. moist, hard, primarily med. to coarse sand PID = 1.0ppm
49	CL			
50	ML		14 24 50/5 11/18	RED BROWN SANDY CLAYEY SILT, sl. moist, fine to coarse sand End of Boring 50.5 feet

Environmental Resources Management

Drilling Log

Project HR-Textron Pacioma Owner HR Textron

Location Pacoima W.O. Number 873.02

Well Number IW2 Total Depth 49' Diameter 10"

Surface Elevation ____ Water Level: Initial ____ 24-hrs. ____

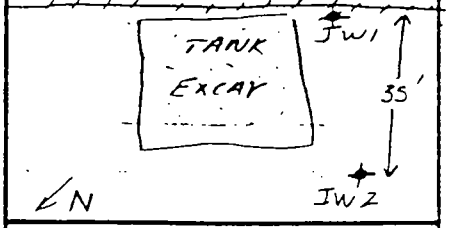
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Grea Log By RLL Date Drilled 4/6/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Well Construction	Blow Count / Sample Number	Description/Soil Classification (Color, Texture, Structures)
0940 HRS				~2 in. of Asphalt at surface
0				
2	SW w/ gravel	PVC		Gravelly sand, lt. grey-tan, granule, m-v.c. grained, moist, angular, 70% quartz, 15% dk. lithics, 5% mafic minerals, no odors.
4				
6			5 15 20 IW2 5 5-6	As above, sample IW2/5.5-6 taken at 0912 HRS. Rec. 14/18" Physical test sample not feasible at this depth. PID = Ø ppm headspace at 6'.
8				Sand w/ some granule gravel, as above, some cobbles, granitic.
10			6 12 19 IW2 10 5-11	
12	ML			Sandy Clayey SILT, dk. brn-reddish brn, sl moist, m-c. grained sand, med. dense, no odors/staining Sample IW2/10.5-11 taken at 0925 HRS. Sample IW2/11-11.5 taken at 0925 HRS for physical tests. PID = Ø ppm headspace at 11'.
14				
16			6 7 13 IW2 15 5-16	Sandy SILT w/some clay, brn-reddish brn, sl. moist, f. gr. sand, med. stiff, no odors/stains. PID = Ø ppm headspace Sample IW2/15.5-16 taken at 0940HRS. Sample IW2/16-16.5 taken at 0940HRS for physical tests.
18				
20	SM		11 11 10 IW2 20 5-21	Clayey Silty SAND, v f-f grained, grading to Sandy Silty Clay at 21.8', brn, moist, med stiff, some black organic material, no odors/stains. PID = 1.Ø ppm headspace. Sample IW2/20 5-21 taken at 1022 HRS. Sample IW2/21-21.5 taken at 1022 HRS for physical tests.
22	CL			
24	w/ gravel SW		12 18 IW2	Some gravel (granules) in cuttings at ~23'.

Environmental Resources Management

Drilling Log

Project HR Tex - Pacoima Owner HR Textron

Location Pacoima W.O. Number

Well Number IW2 Total Depth 49' Diameter 10"

Surface Elevation Water Level: Initial 24-hrs.

Screen: Dia. Length Slot Size

Casing: Dia. Length Type

Drilling Company Spectrum Drilling Method HSA

Driller Greg Log By RLL Date Drilled 4/21/90

Sketch Map

See P 1

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
28	ML			Sample IW2/25.5-26 taken at 1022 HRS. Sample 26-26.5 taken at 1022 HRS for physical tests. Very slow drilling.
30	SM		6 14 15 IW2 30.5-31	Silty SAND, lt. brn-buff, f-m. grained, quartzose, med. dense, sl. moist, no odors/stains. Rec. 16/18". PID = 0.3 ppm headspace at 31'. Samples IW2/30.5 and IW2/30.5-31 (physical) taken at 1045 HRS.
32				Slow drilling.
34				SAND w/ some gravel (granitic, weathered), angular to subrounded, granule-pebble, f-v.c. grained, brn-grey brn, med. dense, no odors/stains. Sand contains abundant angular plagioclase from weathered granitic gravel. Samples IW2/35.5-36 and IW2/36-36.5 (physical tests) taken at 1116 HRS. PID = NR ppm headspace at 36'.
36	SW		25 29 27 IW2 35.5-36	
38 (1200 HRS)	w/ gravel			
40			37 40 45 IW2 40.5-41	As above, poorly sorted, f-v.c. grained, abundant quartz, feldspar (granitic sand). Sample IW2/40.5-41 and IW2/41-41.5 (physical) taken at 1244 HRS. Rec. 16/18" PID = 1.6 ppm headspace at 41'.
42 (Down For Rig Repair 1245-1410 HRS)				
44 (1500 HRS)				
46	ML		34 71 14 IW2 45.5-46	As above to 46.2'. Sandy SILT, v.f-f. grained, brn-reddish brn, dry, med. dense, no odors/stains. 580A = 1.0 ppm headspace at 45.5'. Rec. 16/18". Samples IW2/45.5-46 and IW2/46-46.5 (physical tests) taken at 1525 HRS.
48	ML/CL		12 26 48 IW2 47.5-48	Grading to Sandy Clayey SILT at 47.0', stiff, dry, white mottles (altered feldspar), some rare gravel, no odors/stains Samples IW2/47.5-48 and IW2/48-48.5 taken at 1511 HRS. Rec. 17/18"
50				
52				

Environmental Resources Management

Drilling Log

Project: Hi Textron Pacoima — Owner: HR Textron

Location: Pacoima — W.O. Number: 873.02

Well Number: IW-3 — Total Depth: ____ — Diameter: 10"

Surface Elevation: ____ — Water Level: Initial: ____ — 24-hrs.: ____

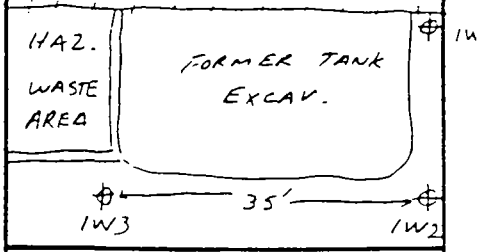
Screen: Dia.: 4" — Length: 40' — Slot Size: ____

Casing: Dia.: ____ — Length: ____ — Type: ____

Drilling Company: Spectrum Expl. — Drilling Method: HSA

Driller: Glen Lawler — Log By: RLL — Date Drilled: 4/28/90

Sketch Map



Notes: Set Bentonite Seal at bottom of borehole. Casing starts at 49' 11"

0815 HRS

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
0				~3in asphalt at surface.
2	SW w/ gravel			Upper 1-2 feet dk-grey, odorous Gravelly SAND, granule-pebble, f-v.c. grained, sl. moist, brn-grey, no odors/stains.
4				
6			3 14 20 IW3 5.5-6	As above, loose, weak odor, ~15% lithics, mafics, 85% quartz, plagioclase, k-spar. Pebbles granitic, volcanic(?) Sample IW3/5.5-6 taken at 0830 HRS. Rec. 12/18". PID =
8				-17" 0 ppm headspace.
10	SM/SC		4 9 12 IW3 10.1-10.6	Clayey, silty, SAND w/ trace granule gravel, brn-greenish brn, loose-med. dense, m-v.c. grained, sl moist, weak odor(?). Sample IW3/10.1-10.6 taken at 0840 HRS. Rec. 16/18". PID reading not taken Sample IW3/10.6-11.1. Abundant Chlorite.
12				
14				Dioritic and gneissic pebbles in cuttings.
16			4 7 8 IW3 15.1-15.6	As above without gravel, sl moist, no odors/stains Samples IW3/15.6-16.1 and IW3/15.1-15.6 (Physical Tests) taken at 0855 HRS. Rec. 11/18"
18	CL			PID = 0 ppm headspace. Increasing clay content in cuttings
20			5 13 22 IW3 20.5-21	Silty CLAY w/ trace v.f. sand and rare gravel, dry-sl. moist, med stiff-stiff, brn, no odors/stains. Samples IW3/20.5-21 and IW3/21.0-21.5 (physical tests) taken at 920 HRS. Rec. 16/18".
22				PID = 0 ppm headspace.
24	SC/ML		5 15 IW3	Clayey Silty SAND, v.f-f. grained, dry-sl. moist brn, med. stiff. no odors/

Environmental Resources Management

Drilling Log

Project HR Textron - Pacoima Owner HR Textron

Location Pacoima W.O. Number 873.02

Well Number IW3 Total Depth _____ Diameter 10"

Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Greg Log By RLL Date Drilled 4/28/90

Sketch Map

See P.1

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
28	CL/ML			Increasing clay content, mafic granule - pebbles (diorite?)
30	SW		7, 11, 10 IW3 30.5-31	SAND w/ rare granule gravel, f-v.c grained, sl. moist, buff - lt. brn, loose - med. dense, no odors/stains Samples IW3/30.5-31 and IW3/31-31.5 (physical tests) taken at 1005 HRS Rec. 16/18". PID = 0 ppm headspace. Sand is quartzitic. Thin silty layer at ~33-34'
32				
34	ML			
36	SW		12, 18, 21 IW3 35.7-35.9	As above, m-v.c. grained. Samples IW3/35.3-35.8 and IW3/35.8-36.4 taken at 1035 HRS Rec. 15/18". PID = 0 ppm headspace.
38				Increasing gravel
40	GW		43, 50/3" IW3 40-40.5	Sandy Gravel, pebble - cobble, m.-v.c. grained, dry - sl. moist, buff, quartzitic, loose - med. dense, no odors. Gravel clast > 2in dia in sample tube. Rec. 9/9" Sample IW3/40.0-40.5 taken at 1105 HRS. PID = 0 ppm headspace. Gravel is pegmatite clast, 40% quartz, 60% feldspar.
42				
44				
46	ML		32, 60, 27 IW3 45.5-46	GRAVEL, as above to 46.2'
48	ML/SM		10, 24, 12 IW3 48-48.5	SILT w/ some clay, dk. brn w/ some black organic mottling, dry, med. stiff, no odors Rec. 16/18" Samples IW3/45.5-46 and IW3/46-46.5' (physical tests) taken at 1140 HRS. PID = 0 ppm headspace. Becoming sandy at ~47', with abundant organic matter. Sample IW3/48-48.5 taken at 1250 HRS. Rec. 15/18" PID = 0 ppm headspace
50	SW		17, 29, 36 IW3	Gravelly SAND at 49.7', m-v.c. grained, angular, quartzitic, no odors/stains. Rec. 16/18" PID = Not taken. Samples IW3/49.5-50 and
52				

Environmental Resources Management

Drilling Log

Project HR Textron Owner

Location Pacoima W.O. Number 873.02

Well Number IW-4 Total Depth 42.75' Diameter 10"

Surface Elevation Water Level: Initial 24-hrs.

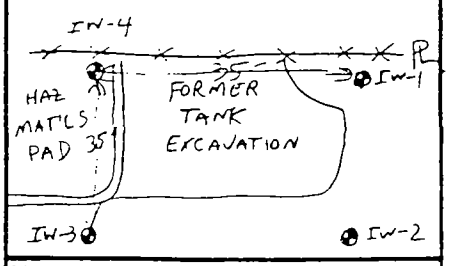
Screen: Dia. 4" Length 20' PVC Slot Size 0.03

Casing: Dia. 4" Length 9' Type PVC

Drilling Company Spectrum Explor. Drilling Method HSA

Driller Greg Lawler Log By BGS Date Drilled 4/28-29/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
0				7-inches concrete at surface
2	SW			BROWN-GRAY GRAVELLY SAND, sl. moist, fine to very coarse sand, pebbles to boulders, mod. dense
4				Note: Cave-in to 3.5 feet during well construction
6			5-4 5 7 13/18	gray and no gravel below 5 feet PID = 0ppm
8	GW			GRAY SANDY GRAVEL, sl. moist, dense, pebble to boulder, tr. brick and glass, sand layer 8.5 to 9 feet
10	SW		11 22 18 15/18	GRAY GRAVELLY SAND, sl. moist, fine to v. coarse sand, pebble size gravel PID = 0ppm
12				gravel layer 12.5 to 13 feet
14	GW			GRAY SANDY GRAVEL, sl. moist, very dense, pebble to boulder, coarse sand PID = 0ppm
16			9 16 50/3 9/16	
18	SW			GRAY GRAVELLY SAND, sl. moist, fine to v. coarse sand, pebble size gravel, mild rig chatter 18 to 18.5 feet
20	ML		3-4 7 15/18	RED BROWN SANDY CLAYEY SILT, moist, med dense, v. fine to tr. med sand PID = 0ppm
22				
24				

Environmental Resources Management

Drilling Log

Project HR Textron Owner

Location Paxima W.O. Number 873.02

Well Number EW-4 Total Depth Diameter

Surface Elevation Water Level: Initial 24-hrs.

Screen: Dia. Length Slot Size

Casing: Dia. Length Type

Drilling Company Drilling Method

Driller Log By BGS Date Drilled 4/28-29/98

Sketch Map

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
25	ML		8 12 15 :1/18	with sand 25 to 26 feet PID = 0 ppm
27	CL			RED BROWN SILTY CLAY WITH SAND, moist, stiff, very fine to med sand
29	SM			LIGHT BROWN SILTY FINE SAND, sl. moist, mod. dense, tr. med sand, tr. clay 30 to 30.5 feet
31			5 10 8 :2/18	PID = 0 ppm
33				LIGHT GRAY FINE TO MEDIUM SAND, dry, dense, tr. very coarse sand
35	SP		8 18 22 :3/18	PID = 0 ppm
37				
39	SW			LIGHT BROWN V. FINE TO V. COARSE SAND WITH GRAVEL, sl. moist, very dense, rounded to subang pebbles, sig chatter, no sample for PID
41			48 50/4 :5/10	boulder at 42.5 feet.
43				End of Boring 42.75 feet
45				

ENVIRONMENTAL RESOURCES MANAGEMENT
ERM-WEST

FIELD WELL COMPLETION FORM

Job Name: HR Textron Owner: 5-11-90
Location: Pacoima Job #: 873.02
Logged By: BGS Reviewed By: _____ Project Manager: BGS
Well Number: IW-4A Driller: Don Arrington
Spectrum Exploration
Equipment
_____ Inch Hollow Stem Auger
8 Inch ~~Rotary/Hawk~~ Air Rotary Hours Drilled: _____
Gallons of Water Used During Drilling: _____ Gallons: _____
Method of Decontamination Prior to Drilling: _____

DEVELOPMENT

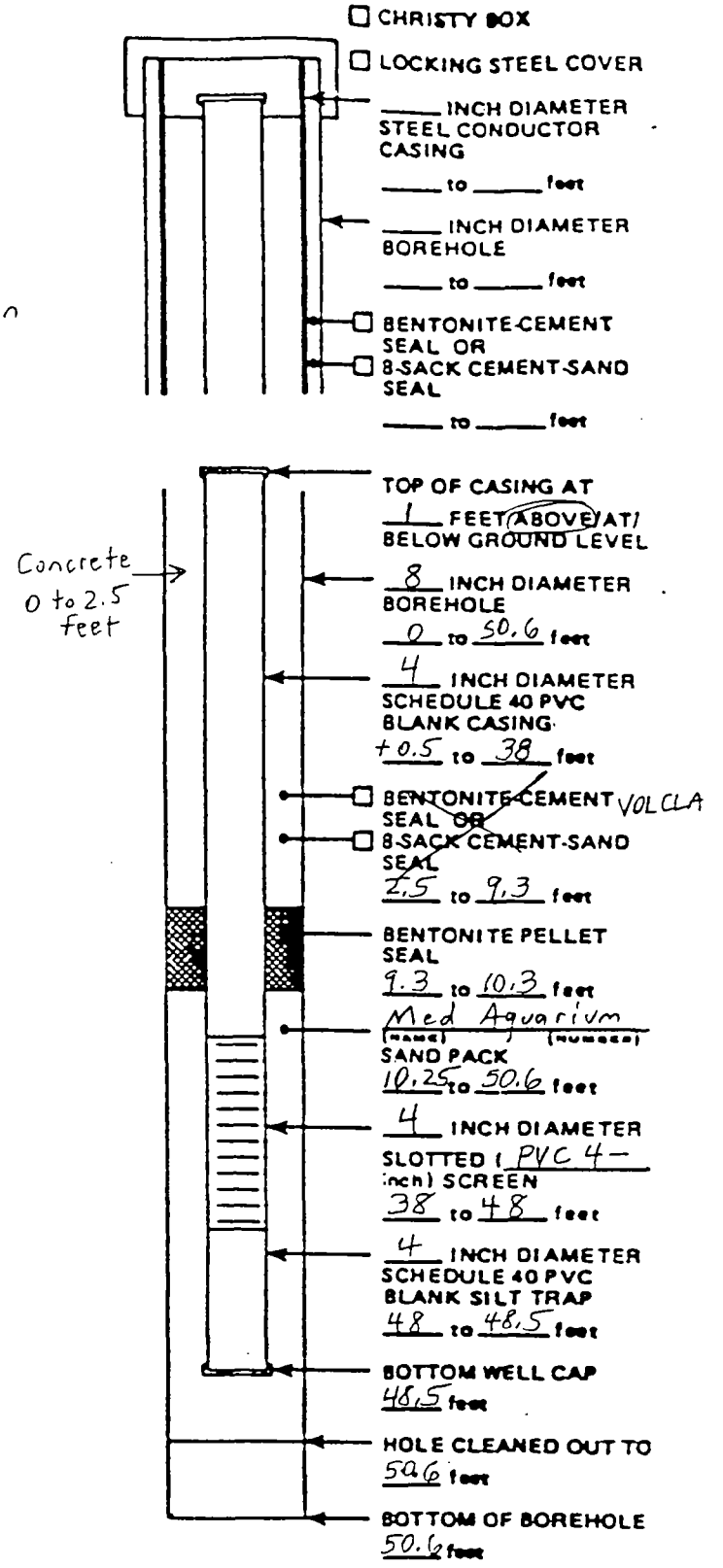
Method of Development: _____
Development Began Date: _____ Time: _____

Yield: GPM	Time: From: To	Date:
Yield: GPM	Time: From: To	Date:
Yield: GPM	Time: From: To	Date:
Yield: GPM	Time: From: To	Date:

Total Water Removed During Development: _____ Gallons
Description of Turbidity at End of Development: ☐ Clear ☐ Slightly cloudy ☐ Mod. Turbid ☐ Very Muddy
Odor of Water: _____
Water Discharged To: ☐ Ground Surface ☐ Storm Sewers ☐ Drums ☐ Tank Truck ☐ Storage Tank ☐ Other
Depth to Water After Development: _____ Feet

MATERIALS USED

9 Sacks of Medium Aquarium Sand
2 Sacks of _____ Cement
_____ Gallons of Grout Used
_____ Sacks of Powdered Bentonite
50 Pounds of Bentonite Pellets
38.5 Feet of 4 Inch PVC Blank Casing
10 Feet of .03 Inch PVC Slotted Screen
_____ Feet of _____ Inch Steel Conductor Casing
_____ Yard³ Cement-Sand (Redi-Mix) Ordered
_____ Yard³ Cement-Sand (Redi-Mix) Used
Concrete Pumper Used? X No ____ Yes
Name _____



NOT TO SCALE

ADDITIONAL INFORMATION: _____
NOTE! Cuttings from bottom of boring were SILTY SANDY CLAY

GLOBAL
*GEO*CHEMISTRY
CORPORATION

6919 ETON AVENUE • CANOGA PARK • CALIFORNIA 91303-2194

TELEX: 4720127
FAX: (818) 992-8940
(818) 992-4103

MAY 15 1990

Client: ERM-WEST,INC.

WO#:4965
Project:HR Textron
873.01
Date:05-04-90

Sample Matrix: Soil
Collector: Client
Receiving Date: 04/23/90
Analysis Date: 04/27/90

Method: EPA 418.1,8020
Sampling Date: 04/21,22/90
Extraction Date: 04/25/90
Completion Date: 05/03/90

Results:

EPA 418.1

GGC#	Sample I.D.		TPH Concentration ppm
Method Blank			ND
4965-1	EX-1	15.5-16	20955
4965-2	EX-1	17.5-18	8428
4965-3	EX-1	20.8-21.3	8540
4965-4	EX-1	24.5-25	1247
4965-5	EX-1	26.5-27	2075
4965-6	EX-1	31-31.5	10131
4965-7	EX-1	35.7-36.2	10182
4965-8	EX-1	40-40.5	12897
4965-9	EX-1	41.5-42	11937
4965-10	EX-1	43.2-43.7	11940
4965-11	EX-1	48-48.5	410
4965-12	EX-1	50.8-51.3	890
4965-13	EX-1	51.8-52.3	ND

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EPA 418.1

GGC#	Sample I.D.		TPH Concentration ppm
4965-14	IW-1	5.5-6	ND
4965-15	IW-1	10.5-11	ND
4965-16	IW-1	15.5-16	18
4965-17	IW-1	21-21.5	13
4965-18	IW-1	25.5-26	ND
4965-19	IW-1	30.3-30.8	ND
4965-20	IW-1	35.5-36	ND
4965-21	IW-1	40.5-41	ND
4965-22	IW-1	45.2-45.7	ND
4965-23	IW-1	48-48.5	ND
4965-24	IW-1	49.5-50	ND
4965-25	IW-2	5.5-6	ND
4965-26	IW-2	10.5-11	ND
4965-27	IW-2	16-16.5	ND
4965-28	IW-2	20.5-21	ND
4965-29	IW-2	25.5-26	ND
4965-30	IW-2	30.5-31	ND
4965-31	IW-2	35.5-36	ND
4965-32	IW-2	40.5-41	ND
4965-33	IW-2	45.5-46	ND
4965-34	IW-2	47.5-48	ND
Detection Limit:			5

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EPA 8020

GGC#	Sample I.D.	Benzene	Toluene	Ethyl Benzene	Total Xylenes
		Concentration ppb			
Method Blank		ND	ND	ND	ND
4965-1	EX-1 15.5-16	1825	843	1804	21179
4965-2	EX-1 17.5-18	623	715	677	10090
4965-3	EX-1 20.8-21.3	1223	1364	1001	13980
4965-4	EX-1 24.5-25	424	694	557	10095
4965-5	EX-1 26.5-27	896	1566	394	9132
4965-6	EX-1 31-31.5	462	1781	844	8625
4965-7	EX-1 35.7-36.2	451	1708	1757	15912
4965-8	EX-1 40-40.5	281	2174	1829	14583
4965-9	EX-1 41.5-42	463	1155	1288	9459
4965-10	EX-1 43.2-43.7	35	1154	902	8847
4965-11	EX-1 48-48.5	14	69	116	1865
4965-12	EX-1 50.8-51.3	67	52	176	1600
4965-13	EX-1 51.8-52.3	ND	ND	ND	ND
4965-14	IW-1 5.5-6	ND	ND	ND	ND
4965-15	IW-1 10.5-11	ND	ND	ND	ND
4965-16	IW-1 15.5-16	ND	ND	ND	ND
4965-17	IW-1 21-21.5	ND	ND	ND	ND
4965-18	IW-1 25.5-26	ND	ND	ND	ND

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EPA 8020

GGC#	Sample I.D.	Benzene	Toluene	Ethyl Benzene	Total Xylenes
		Concentration ppb			
4965-19	IW-1 30.3-30.8	ND	ND	ND	ND
4965-20	IW-1 35.5-36	ND	ND	ND	ND
4965-21	IW-1 40.5-41	ND	ND	ND	ND
4965-22	IW-1 45.2-45.7	ND	ND	ND	ND
4965-23	IW-1 48-48.5	ND	ND	ND	ND
4965-24	IW-1 49.5-50	ND	ND	ND	ND
4965-25	IW-2 5.5-6	ND	ND	ND	ND
4965-26	IW-2 10.5-11	ND	ND	ND	ND
4965-27	IW-2 16-16.5	ND	ND	ND	ND
4965-28	IW-2 20.5-21	ND	ND	ND	ND
4965-29	IW-2 25.5-26	ND	ND	ND	ND
4965-30	IW-2 30.5-31	ND	ND	ND	ND
4965-31	IW-2 35.5-36	ND	ND	ND	ND
4965-32	IW-2 40.5-41	ND	ND	ND	ND
4965-33	IW-2 45.5-46	ND	ND	ND	ND
4965-34	IW-2 47.5-48	ND	ND	ND	ND
Detection Limit:			5		

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Quality Control:
Duplicate:
EPA 418.1

GGC#	Sample I.D.	TPH Concentration ppm
4965-13	EX-1 51.8-52.3	ND
4965-13(D)	EX-1 51.8-52.3	ND
4965-16	IW-1 15.5-16	18
4965-16(D)	IW-1 15.5-16	13
4965-17	IW-1 21-21.5	13
4965-17(D)	IW-1 21-21.5	10

EPA 8020

GGC#	Sample I.D.	Benzene	Toluene	Ethyl Benzene	Total Xylenes
		Concentration ppb			
4965-2	EX-1 17.5-18	623	715	677	10090
4965-2(D)	EX-1 17.5-18	576	662	639	9128
4965-14	IW-1 5.5-6	ND	ND	ND	ND
4965-14(D)	IW-1 5.5-6	ND	ND	ND	ND
4965-27	IW-2 16-16.5	ND	ND	ND	ND
4965-27(D)	IW-2 16-16.5	ND	ND	ND	ND

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Spike
EPA 418.1

GGC#	Sample I.D.	TPH Recovery (%)
4965-20	IW-1 35.5-36	78
4965-30	IW-2 30.5-31	82

EPA 8020

GGC#	Sample I.D.	Benzene	Toluene Recovery	Ethyl Benzene (%)	Total Xylenes
4965-14	IW-1 5.5-6	76	78	79	81
4965-24	IW-1 49.5-50	79	81	81	84

Analyst Ru-Po Lee Supervisor Alan Jeffrey

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Client: ERM-WEST, INC.

WO#: 4965
Project: HR Textron
873.02
Date: 05-10-90

Sample Matrix: Soil
Collector: Client
Receiving Date: 04/30/90
Analysis Date: 05/05/90

Method: EPA 418.1,8020
Sampling Date: 04/28/90
Extraction Date: 05/03/90
Completion Date: 05/10/90

Results:

EPA 418.1

GGC#	Sample I.D.		TPH Concentration ppm
Method Blank			ND
4965-46	IW-3	5.5-6	ND
4965-47	IW-3	10.1-10.6	ND
4965-48	IW-3	15.6-16.1	ND
4965-49	IW-3	20.5-21	ND
4965-50	IW-3	25.1-25.6	ND
4965-51	IW-3	30.5-31	ND
4965-52	IW-3	35.3-35.8	ND
4965-53	IW-3	40.0-40.5	ND
4965-54	IW-3	45.5-46.0	ND
4965-55	IW-3	48.0-48.5	ND
4965-56	IW-3	49.5-50	ND
4965-57	IW-3	50-50.5	ND

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GGC#	Sample I.D.		TPH Concentration ppm
4965-58	IW-4	5.5-6	ND
4965-59	IW-4	10.5-11.0	ND
4965-60	IW-4	15.2-15.8	ND
4965-61	IW-4	20.8-21.3	ND
4965-62	IW-4	25.5-26.0	ND
4965-63	IW-4	30.0-30.5	ND
4965-64	IW-4	35.5-36	ND
4965-65	IW-4	40-40.5	ND
Detection Limit:			5

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EPA 8020

GGC#	Sample I.D.	Benzene	Toluene	Ethyl Benzene	Total Xylenes
		Concentration ppb			
Method Blank		ND	ND	ND	ND
4965-46	IW-3 5.5-6	ND	ND	ND	ND
4965-47	IW-3 10.1-10.6	ND	ND	ND	ND
4965-48	IW-3 15.6-16.1	ND	ND	ND	ND
4965-49	IW-3 20.5-21	ND	ND	ND	ND
4965-50	IW-3 25.1-25.6	ND	ND	ND	ND
4965-51	IW-3 30.5-31	ND	ND	ND	ND
4965-52	IW-3 35.3-35.8	ND	ND	ND	ND
4965-53	IW-3 40.0-40.5	ND	ND	ND	ND
4965-54	IW-3 45.5-46.0	ND	ND	ND	ND
4965-55	IW-3 48.0-48.5	ND	ND	ND	ND
4965-56	IW-3 49.5-50	ND	ND	ND	ND
4965-57	IW-3 50-50.5	ND	ND	ND	ND
4965-58	IW-4 5.5-6	ND	ND	ND	ND
4965-59	IW-4 10.5-11.0	ND	ND	ND	ND
4965-60	IW-4 15.2-15.8	ND	ND	ND	ND
4965-61	IW-4 20.8-21.3	ND	ND	ND	ND
4965-62	IW-4 25.5-26.0	ND	ND	ND	ND
4965-63	IW-4 30.0-30.5	ND	ND	ND	ND
4965-64	IW-4 35.5-36	ND	ND	ND	ND
4965-65	IW-4 40-40.5	ND	ND	ND	ND
Detection Limit:		5			

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Quality Control:
Duplicate:
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GGC#	Sample I.D.	TPH Concentration ppm
4965-50	IW-3 25.1-25.6	ND
4965-50(D)	IW-3 25.1-25.6	ND
4965-60	IW-4 15.2-15.8	ND
4965-60(D)	IW-4 15.2-15.8	ND

EPA 8020

GGC#	Sample I.D.	Benzene	Toluene	Ethyl Benzene	Total Xylenes
		Concentration ppb			
4965-50	IW-3 25.1-25.6	ND	ND	ND	ND
4965-50(D)	IW-3 25.1-25.6	ND	ND	ND	ND
4965-62	IW-4 25.5-26.0	ND	ND	ND	ND
4965-62(D)	IW-4 25.5-26.0	ND	ND	ND	ND

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Spike
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GGC#	Sample I.D.	TPH Recovery (%)
4965-50	IW-3 25.1-25.6	77

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GGC#	Sample I.D.	Benzene	Toluene Recovery (%)	Ethyl Benzene	Total Xylenes
4965-55	IW-3 48.0-48.5	72	76	80	82

Analyst Ric-Po Lee Supervisor Alan Jeffery

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Analytical Summary

Data 05-03-90

Client ERM-West, Inc. Samples collected: 04-23-90
Samples received: 04-24-90 Samples analysed: 05-01-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965	1	2	3
Client ID EX-1	15.5-16	17.5-18	20.8-21.3

Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	100	nd	nd	nd
Vinyl chloride	100	nd	nd	nd
Bromomethane	100	nd	nd	nd
Chloroethane	100	nd	nd	nd
Trichlorofluoromethane	50	nd	nd	nd
1,1-Dichloroethene	50	nd	nd	214
Dichloromethane	50	nd	nd	nd
Trans-1,2-Dichloroethene	50	nd	nd	nd
1,1-Dichloroethane	50	nd	nd	134
Chloroform	50	nd	nd	nd
1,1,1-Trichloroethane	50	861	2099	38500
1,2-Dichloroethane	50	83.9	227	3617
Carbon Tetrachloride	50	nd	nd	nd
Bromodichloromethane	50	nd	nd	nd
Cis-1,3-Dichloropropene	50	nd	nd	nd
Trans-1,3-Dichloropropene	50	nd	nd	nd
1,1,2-Trichloroethane	50	nd	nd	nd
Dibromochloromethane	50	nd	nd	nd
Tetrachloroethene	50	932	1014	4780
Chlorobenzene	50	nd	nd	nd
Bromoform	50	nd	nd	nd
1,1,2,2-Tetrachloroethane	50	nd	nd	720
1,2-Dichloropropane	50	nd	nd	nd
Trichloroethene	50	nd	nd	213
2-Chloroethyl Vinyl Ether	100	nd	nd	nd

Analyst _____ Supervisor _____

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Analytical Summary

Data 05-03-90

Client ERM-West, Inc. Samples collected:04-23-90
Samples received:04-24-90 Samples analysed: 05-01-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965		4	5	6
Client ID EX-1		24.5-25	26.5-27	31-31.5

Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	100	nd	nd	nd
Vinyl chloride	100	nd	nd	nd
Bromomethane	100	nd	nd	nd
Chloroethane	100	nd	nd	nd
Trichlorofluoromethane	50	nd	nd	nd
1,1-Dichloroethene	50	576	331	358
Dichloromethane	50	nd	nd	nd
Trans-1,2-Dichloroethene	50	nd	nd	nd
1,1-Dichloroethane	50	180	81.1	196
Chloroform	50	nd	nd	nd
1,1,1-Trichloroethane	50	17690	10790	33830
1,2-Dichloroethane	50	1830	1140	3568
Carbon Tetrachloride	50	nd	nd	nd
Bromodichloromethane	50	nd	nd	nd
Cis-1,3-Dichloropropene	50	nd	nd	nd
Trans-1,3-Dichloropropene	50	nd	nd	nd
1,1,2-Trichloroethane	50	nd	276	167
Dibromochloromethane	50	nd	nd	nd
Tetrachloroethene	50	1160	1025	3064
Chlorobenzene	50	nd	nd	nd
Bromoform	50	nd	nd	nd
1,1,2,2-Tetrachloroethane	50	125	nd	278
1,2-Dichloropropane	50	nd	nd	nd
Trichloroethene	50	72.8	63.1	130
2-Chloroethyl Vinyl Ether	100	nd	nd	nd

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Analytical Summary

Data 05-03-90

Client ERM-West, Inc. Samples collected: 04-23-90
Samples received: 04-24-90 Samples analysed: 05-02-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965		7	8	9
Client ID EX-1		35.7-36.2	40-40.5	41.5-42
Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	100	nd	nd	nd
Vinyl chloride	100	nd	nd	nd
Bromomethane	100	nd	nd	nd
Chloroethane	100	nd	nd	nd
Trichlorofluoromethane	50	nd	nd	nd
1,1-Dichloroethene	50	nd	70.7	nd
Dichloromethane	50	nd	nd	nd
Trans-1,2-Dichloroethene	50	nd	nd	nd
1,1-Dichloroethane	50	nd	nd	nd
Chloroform	50	nd	nd	nd
1,1,1-Trichloroethane	50	4565	7275	4518
1,2-Dichloroethane	50	451	780	483
Carbon Tetrachloride	50	nd	nd	nd
Bromodichloromethane	50	nd	nd	nd
Cis-1,3-Dichloropropene	50	nd	nd	nd
Trans-1,3-Dichloropropene	50	nd	nd	nd
1,1,2-Trichloroethane	50	nd	nd	nd
Dibromochloromethane	50	nd	nd	nd
Tetrachloroethene	50	nd	388	214
Chlorobenzene	50	nd	nd	nd
Bromoform	50	nd	nd	nd
1,1,2,2-Tetrachloroethane	50	nd	nd	61.0
1,2-Dichloropropane	50	nd	nd	nd
Trichloroethene	50	nd	nd	nd
2-Chloroethyl Vinyl Ether	100	nd	nd	nd

Analyst [signature] Supervisor [signature]

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Analytical Summary

Data 05-03-90

Client ERM-West, Inc. Samples collected:04-23-90
Samples received:04-24-90 Samples analysed: 05-02-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965		10	11
Client ID EX-1		35.7-36.2	40-40.5

Compounds	DL ug/kg	Found ug/kg	Found ug/kg
Chloromethane	100	nd	nd
Vinyl chloride	100	nd	nd
Bromomethane	100	nd	nd
Chloroethane	100	nd	nd
Trichlorofluoromethane	50	nd	nd
1,1-Dichloroethene	50	68.9	nd
Dichloromethane	50	nd	nd
Trans-1,2-Dichloroethene	50	nd	nd
1,1-Dichloroethane	50	nd	nd
Chloroform	50	nd	nd
1,1,1-Trichloroethane	50	12230	897
1,2-Dichloroethane	50	1298	107
Carbon Tetrachloride	50	nd	nd
Bromodichloromethane	50	nd	nd
Cis-1,3-Dichloropropene	50	nd	nd
Trans-1,3-Dichloropropene	50	nd	nd
1,1,2-Trichloroethane	50	161	nd
Dibromochloromethane	50	nd	nd
Tetrachloroethene	50	365	nd
Chlorobenzene	50	nd	nd
Bromoform	50	nd	nd
1,1,2,2-Tetrachloroethane	50	95.4	nd
1,2-Dichloropropane	50	nd	nd
Trichloroethene	50	nd	nd
2-Chloroethyl Vinyl Ether	100	nd	nd

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Analytical Summary

Data 05-03-90

Client ERM-West, Inc. Samples collected:04-23-90
Samples received:04-24-90 Samples analysed: 05-02-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965	12	13
Client ID EX-1	50.8-51.3	51.8-52.3

Compounds	DL ug/kg	Found ug/kg	Found ug/kg
Chloromethane	10	nd	nd
Vinyl chloride	10	nd	nd
Bromomethane	10	nd	nd
Chloroethane	10	nd	nd
Trichlorofluoromethane	5	nd	nd
1,1-Dichloroethene	5	7.1	nd
Dichloromethane	5	nd	nd
Trans-1,2-Dichloroethene	5	nd	nd
1,1-Dichloroethane	5	6.3	5.0
Chloroform	5	nd	nd
1,1,1-Trichloroethane	5	445	38.3
1,2-Dichloroethane	5	53.5	nd
Carbon Tetrachloride	5	nd	nd
Bromodichloromethane	5	nd	nd
Cis-1,3-Dichloropropene	5	nd	nd
Trans-1,3-Dichloropropene	5	nd	nd
1,1,2-Trichloroethane	5	7.7	nd
Dibromochloromethane	5	nd	nd
Tetrachloroethene	5	6.3	nd
Chlorobenzene	5	nd	nd
Bromoform	5	nd	nd
1,1,2,2-Tetrachloroethane	5	95.4	nd
1,2-Dichloropropane	5	nd	nd
Trichloroethene	5	nd	nd
2-Chloroethyl Vinyl Ether	10	nd	nd

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Analytical Summary

Data 05-01-90

Client ERM-West, Inc. Samples collected: 04-23-90
Samples received: 04-24-90 Samples analysed: 04-27-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965	14	15	16
Client ID IW-1	5.5-6	10.5-11	15.5-16

Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	10	nd	nd	nd
Vinyl chloride	10	nd	nd	nd
Bromomethane	10	nd	nd	nd
Chloroethane	10	nd	nd	nd
Trichlorofluoromethane	5	nd	nd	nd
1,1-Dichloroethene	5	5.0	nd	nd
Dichloromethane	5	nd	nd	nd
Trans-1,2-Dichloroethene	5	nd	nd	nd
1,1-Dichloroethane	5	nd	nd	nd
Chloroform	5	nd	nd	nd
1,1,1-Trichloroethane	5	nd	nd	nd
1,2-Dichloroethane	5	nd	nd	nd
Carbon Tetrachloride	5	nd	nd	nd
Bromodichloromethane	5	nd	nd	nd
Cis-1,3-Dichloropropene	5	nd	nd	nd
Trans-1,3-Dichloropropene	5	nd	nd	nd
1,1,2-Trichloroethane	5	nd	nd	nd
Dibromochloromethane	5	nd	nd	nd
Tetrachloroethene	5	nd	nd	nd
Chlorobenzene	5	nd	nd	nd
Bromoform	5	nd	nd	nd
1,1,2,2-Tetrachloroethane	5	nd	nd	nd
1,2-Dichloropropane	5	nd	nd	nd
Trichloroethene	5	nd	nd	nd
2-Chloroethyl Vinyl Ether	10	nd	nd	nd

Remarks: Dichloromethane is a common laboratory solvent and may appear as background contamination on the report. This is well within the EPA allowed limit of 5 times the DL.

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Analytical Summary

Data 05-01-90

Client ERM-West, Inc. Samples collected: 04-23-90
Samples received: 04-24-90 Samples analysed: 04-27-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965	17	18	19
Client ID IW-1	21-21.5	25.5-26	30.3-30.8

Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	10	nd	nd	nd
Vinyl chloride	10	nd	nd	nd
Bromomethane	10	nd	nd	nd
Chloroethane	10	nd	nd	nd
Trichlorofluoromethane	5	nd	nd	nd
1,1-Dichloroethene	5	nd	nd	nd
Dichloromethane	5	nd	nd	nd
Trans-1,2-Dichloroethene	5	nd	nd	nd
1,1-Dichloroethane	5	nd	nd	nd
Chloroform	5	nd	nd	nd
1,1,1-Trichloroethane	5	nd	6.0	6.5
1,2-Dichloroethane	5	nd	nd	nd
Carbon Tetrachloride	5	nd	nd	nd
Bromodichloromethane	5	nd	nd	nd
Cis-1,3-Dichloropropene	5	nd	nd	nd
Trans-1,3-Dichloropropene	5	nd	nd	nd
1,1,2-Trichloroethane	5	nd	nd	nd
Dibromochloromethane	5	nd	nd	nd
Tetrachloroethene	5	nd	nd	nd
Chlorobenzene	5	nd	nd	nd
Bromoform	5	nd	nd	nd
1,1,2,2-Tetrachloroethane	5	nd	nd	nd
1,2-Dichloropropane	5	nd	nd	nd
Trichloroethene	5	nd	nd	nd
2-Chloroethyl Vinyl Ether	10	nd	nd	nd

Remarks: Dichloromethane is a common laboratory solvent and may appear as background contamination on the report. This is well within the EPA allowed limit of 5 times the DL.

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Analytical Summary

Data 05-01-90

Client ERM-West, Inc. Samples collected:04-23-90
Samples received:04-24-90 Samples analysed: 04-29-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965	20	21	22
Client ID IW-1	35.5-36	25.5-26	30.3-30.8

Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	10	nd	nd	nd
Vinyl chloride	10	nd	nd	nd
Bromomethane	10	nd	nd	nd
Chloroethane	10	nd	nd	nd
Trichlorofluoromethane	5	nd	nd	nd
1,1-Dichloroethene	5	nd	nd	nd
Dichloromethane	5	nd	nd	nd
Trans-1,2-Dichloroethene	5	nd	nd	nd
1,1-Dichloroethane	5	nd	nd	nd
Chloroform	5	nd	nd	nd
1,1,1-Trichloroethane	5	nd	nd	nd
1,2-Dichloroethane	5	nd	nd	nd
Carbon Tetrachloride	5	nd	nd	nd
Bromodichloromethane	5	nd	nd	nd
Cis-1,3-Dichloropropene	5	nd	nd	nd
Trans-1,3-Dichloropropene	5	nd	nd	nd
1,1,2-Trichloroethane	5	nd	nd	nd
Dibromochloromethane	5	nd	nd	nd
Tetrachloroethene	5	nd	nd	nd
Chlorobenzene	5	nd	nd	nd
Bromoform	5	nd	nd	nd
1,1,2,2-Tetrachloroethane	5	nd	nd	nd
1,2-Dichloropropane	5	nd	nd	nd
Trichloroethene	5	nd	nd	nd
2-Chloroethyl Vinyl Ether	10	nd	nd	nd

Remarks:Dichloromethane is a common laboratory solvent and may appear as background contamination on the report. This is well within the EPA allowed limit of 5 times the DL.

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Analytical Summary

Data 05-01-90

Client ERM-West, Inc. Samples collected: 04-23-90
Samples received: 04-24-90 Samples analysed: 04-29-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965	23	23	24	24
Client ID IW-1	48-48.5 Upper1"	48-48.5 Lower1"	49.5-50 Upper1"	49.5-50 Lower1"

Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	10	nd	nd	nd	nd
Vinyl chloride	10	nd	nd	nd	nd
Bromomethane	10	nd	nd	nd	nd
Chloroethane	10	nd	nd	nd	nd
Trichlorofluoromethane	5	nd	nd	nd	nd
1,1-Dichloroethene	5	7.3	nd	nd	nd
Dichloromethane	5	6.4	5.1	6.3	5.6
Trans-1,2-Dichloroethene	5	nd	nd	nd	nd
1,1-Dichloroethane	5	9.6	nd	nd	nd
Chloroform	5	nd	nd	nd	nd
1,1,1-Trichloroethane	5	54.1	nd	12.1	nd
1,2-Dichloroethane	5	6.5	nd	nd	nd
Carbon Tetrachloride	5	nd	nd	nd	nd
Bromodichloromethane	5	nd	nd	nd	nd
Cis-1,3-Dichloropropene	5	nd	nd	nd	nd
Trans-1,3-Dichloropropene	5	nd	nd	nd	nd
1,1,2-Trichloroethane	5	nd	nd	nd	nd
Dibromochloromethane	5	nd	nd	nd	nd
Tetrachloroethene	5	nd	nd	nd	nd
Chlorobenzene	5	nd	nd	nd	nd
Bromoform	5	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	5	nd	nd	nd	nd
1,2-Dichloropropane	5	nd	nd	nd	nd
Trichloroethene	5	nd	nd	nd	nd
2-Chloroethyl Vinyl Ether	10	nd	nd	nd	nd

Remarks: Dichloromethane is a common laboratory solvent and may appear as background contamination on the report. This is well within the EPA allowed limit of 5 times the DL.

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Analytical Summary

Data 04-27-90

Client ERM-West, Inc. Samples collected: 04-23-90
Samples received: 04-24-90 Samples analysed: 04-25-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965	Blank	25	26	27
Client ID IW-2		5.5-6	10.5-11	16-16.5

Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	10	nd	nd	nd	nd
Vinyl chloride	10	nd	nd	nd	nd
Bromomethane	10	nd	nd	nd	nd
Chloroethane	10	nd	nd	nd	nd
Trichlorofluoromethane	5	nd	nd	nd	nd
1,1-Dichloroethene	5	nd	nd	nd	nd
Dichloromethane	5	6.3	7.6	nd	nd
Trans-1,2-Dichloroethene	5	nd	nd	nd	nd
1,1-Dichloroethane	5	nd	nd	nd	nd
Chloroform	5	nd	nd	nd	nd
1,1,1-Trichloroethane	5	nd	nd	nd	nd
1,2-Dichloroethane	5	nd	nd	nd	nd
Carbon Tetrachloride	5	nd	nd	nd	nd
Bromodichloromethane	5	nd	nd	nd	nd
Cis-1,3-Dichloropropene	5	nd	nd	nd	nd
Trans-1,3-Dichloropropene	5	nd	nd	nd	nd
1,1,2-Trichloroethane	5	nd	nd	nd	nd
Dibromochloromethane	5	nd	nd	nd	nd
Tetrachloroethene	5	nd	nd	nd	nd
Chlorobenzene	5	nd	nd	nd	nd
Bromoform	5	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	5	nd	nd	nd	nd
1,2-Dichloropropane	5	nd	nd	nd	nd
Trichloroethene	5	nd	nd	nd	nd
2-Chloroethyl Vinyl Ether	10	nd	nd	nd	nd

Remarks: Dichloromethane is a common laboratory solvent and may appear as background contamination on the report. This is well within the EPA allowed limit of 5 times the DL.

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Analytical Summary

Data 04-27-90

Client ERM-West, Inc. Samples collected:04-23-90
Samples received:04-24-90 Samples analysed: 04-25-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965	28	29	30	31
Client ID IW-2	20.5-21	25.5-26	30.5-31	35.5-36

Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	10	nd	nd	nd	nd
Vinyl chloride	10	nd	nd	nd	nd
Bromomethane	10	nd	nd	nd	nd
Chloroethane	10	nd	nd	nd	nd
Trichlorofluoromethane	5	nd	nd	nd	nd
1,1-Dichloroethene	5	nd	nd	nd	nd
Dichloromethane	5	5.0	nd	nd	nd
Trans-1,2-Dichloroethene	5	nd	nd	nd	nd
1,1-Dichloroethane	5	nd	nd	nd	nd
Chloroform	5	nd	nd	nd	nd
1,1,1-Trichloroethane	5	nd	nd	nd	nd
1,2-Dichloroethane	5	nd	nd	nd	nd
Carbon Tetrachloride	5	nd	nd	nd	nd
Bromodichloromethane	5	nd	nd	nd	nd
Cis-1,3-Dichloropropene	5	nd	nd	nd	nd
Trans-1,3-Dichloropropene	5	nd	nd	nd	nd
1,1,2-Trichloroethane	5	nd	nd	nd	nd
Dibromochloromethane	5	nd	nd	nd	nd
Tetrachloroethene	5	nd	nd	nd	nd
Chlorobenzene	5	nd	nd	nd	nd
Bromoform	5	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	5	nd	nd	nd	nd
1,2-Dichloropropane	5	nd	nd	nd	nd
Trichloroethene	5	nd	nd	nd	nd
2-Chloroethyl Vinyl Ether	10	nd	nd	nd	nd

Remarks:Dichloromethane is a common laboratory solvent and may appear as background contamination on the report. This is well within the EPA allowed limit of 5 times the DL.

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Analytical Summary

Data 04-27-90

Client ERM-West, Inc. Samples collected:04-23-90
Samples received:04-24-90 Samples analysed: 04-25-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965	32	33	34	
Client ID IW-2	20.5-21	25.5-26	30.5-31	
			Upper1"	Lower1"

Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	10	nd	nd	nd	nd
Vinyl chloride	10	nd	nd	nd	nd
Bromomethane	10	nd	nd	nd	nd
Chloroethane	10	nd	nd	nd	nd
Trichlorofluoromethane	5	nd	nd	nd	nd
1,1-Dichloroethene	5	nd	nd	7.5	nd
Dichloromethane	5	nd	5.0	6.7	nd
Trans-1,2-Dichloroethene	5	nd	nd	nd	nd
1,1-Dichloroethane	5	nd	nd	nd	nd
Chloroform	5	nd	nd	nd	nd
1,1,1-Trichloroethane	5	nd	nd	21.6	nd
1,2-Dichloroethane	5	nd	nd	nd	nd
Carbon Tetrachloride	5	nd	nd	nd	nd
Bromodichloromethane	5	nd	nd	nd	nd
Cis-1,3-Dichloropropene	5	nd	nd	nd	nd
Trans-1,3-Dichloropropene	5	nd	nd	nd	nd
1,1,2-Trichloroethane	5	nd	nd	nd	nd
Dibromochloromethane	5	nd	nd	nd	nd
Tetrachloroethene	5	nd	nd	nd	nd
Chlorobenzene	5	nd	nd	nd	nd
Bromoform	5	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	5	nd	nd	nd	nd
1,2-Dichloropropane	5	nd	nd	nd	nd
Trichloroethene	5	nd	nd	nd	nd
2-Chloroethyl Vinyl Ether	10	nd	nd	nd	nd

Remarks:Dichloromethane is a common laboratory solvent and may appear as background contamination on the report. This is well within the EPA allowed limit of 5 times the DL.

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Analytical Summary

Data 05-08-90

Client ERM-West, Inc. Samples collected:04-30-90
Samples received:04-30-90 Samples analysed: 05-03-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965	46	47	48
Client ID IW-3	5.5-61	10.1-10.6	15.5-16.1

Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	10	nd	nd	nd
Vinyl chloride	10	nd	nd	nd
Bromomethane	10	nd	nd	nd
Chloroethane	10	nd	nd	nd
Trichlorofluoromethane	5	nd	nd	nd
1,1-Dichloroethene	5	nd	nd	nd
Dichloromethane	5	5.2	nd	nd
Trans-1,2-Dichloroethene	5	nd	nd	nd
1,1-Dichloroethane	5	nd	nd	nd
Chloroform	5	nd	nd	nd
1,1,1-Trichloroethane	5	nd	nd	nd
1,2-Dichloroethane	5	nd	nd	nd
Carbon Tetrachloride	5	nd	nd	nd
Bromodichloromethane	5	nd	nd	nd
Cis-1,3-Dichloropropene	5	nd	nd	nd
Trans-1,3-Dichloropropene	5	nd	nd	nd
1,1,2-Trichloroethane	5	nd	nd	nd
Dibromochloromethane	5	nd	nd	nd
Tetrachloroethene	5	nd	nd	nd
Chlorobenzene	5	nd	nd	nd
Bromoform	5	nd	nd	nd
1,1,2,2-Tetrachloroethane	5	nd	nd	nd
1,2-Dichloropropane	5	nd	nd	nd
Trichloroethene	5	nd	nd	nd
2-Chloroethyl Vinyl Ether	10	nd	nd	nd

Remarks:Dichloromethane is a common laboratory solvent and may appear as background contamination on the report. This is well within the EPA allowed limit of 5 times the DL.

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Analytical Summary

Data 05-08-90

Client ERM-West, Inc. Samples collected:04-30-90
Samples received:04-30-90 Samples analysed: 05-05-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965	49	50	51
Client ID IW-3	20.5-21	25.1-25.6	30.5-31

Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	10	nd	nd	nd
Vinyl chloride	10	nd	nd	nd
Bromomethane	10	nd	nd	nd
Chloroethane	10	nd	nd	nd
Trichlorofluoromethane	5	nd	nd	nd
1,1-Dichloroethene	5	nd	nd	nd
Dichloromethane	5	5.0	nd	nd
Trans-1,2-Dichloroethene	5	nd	nd	nd
1,1-Dichloroethane	5	nd	nd	nd
Chloroform	5	nd	nd	nd
1,1,1-Trichloroethane	5	nd	nd	nd
1,2-Dichloroethane	5	nd	nd	nd
Carbon Tetrachloride	5	nd	nd	nd
Bromodichloromethane	5	nd	nd	nd
Cis-1,3-Dichloropropene	5	nd	nd	nd
Trans-1,3-Dichloropropene	5	nd	nd	nd
1,1,2-Trichloroethane	5	nd	nd	nd
Dibromochloromethane	5	nd	nd	nd
Tetrachloroethene	5	nd	nd	nd
Chlorobenzene	5	nd	nd	nd
Bromoform	5	nd	nd	nd
1,1,2,2-Tetrachloroethane	5	nd	nd	nd
1,2-Dichloropropane	5	nd	nd	nd
Trichloroethene	5	nd	nd	nd
2-Chloroethyl Vinyl Ether	10	nd	nd	nd

Remarks: Dichloromethane is a common laboratory solvent and may appear as background contamination on the report. This is well within the EPA allowed limit of 5 times the DL.

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Analytical Summary

Data 05-09-90

Client ERM-West, Inc. Samples collected:04-30-90
Samples received:04-30-90 Samples analysed: 05-07-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965	52	53	54
Client ID IW-3	35.5-35.8	40-40.5	45.5-46

Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	10	nd	nd	nd
Vinyl chloride	10	nd	nd	nd
Bromomethane	10	nd	nd	nd
Chloroethane	10	nd	nd	nd
Trichlorofluoromethane	5	nd	nd	nd
1,1-Dichloroethene	5	nd	nd	nd
Dichloromethane	5	6.3	nd	nd
Trans-1,2-Dichloroethene	5	nd	nd	nd
1,1-Dichloroethane	5	nd	nd	nd
Chloroform	5	nd	nd	nd
1,1,1-Trichloroethane	5	nd	nd	nd
1,2-Dichloroethane	5	nd	nd	nd
Carbon Tetrachloride	5	nd	nd	nd
Bromodichloromethane	5	nd	nd	nd
Cis-1,3-Dichloropropene	5	nd	nd	nd
Trans-1,3-Dichloropropene	5	nd	nd	nd
1,1,2-Trichloroethane	5	nd	nd	nd
Dibromochloromethane	5	nd	nd	nd
Tetrachloroethene	5	nd	nd	nd
Chlorobenzene	5	nd	nd	nd
Bromoform	5	nd	nd	nd
1,1,2,2-Tetrachloroethane	5	nd	nd	nd
1,2-Dichloropropane	5	nd	nd	nd
Trichloroethene	5	nd	nd	nd
2-Chloroethyl Vinyl Ether	10	nd	nd	nd

Remarks:Dichloromethane is a common laboratory solvent and may appear as background contamination on the report. This is well within the EPA allowed limit of 5 times the DL.

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Analytical Summary

Data 05-09-90

Client ERM-West, Inc. Samples collected: 04-30-90
Samples received: 04-30-90 Samples analysed: 05-07-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965		55	56	57
Client ID IW-3		48-48.5	49.5-50	50-50.5
Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	10	nd	nd	nd
Vinyl chloride	10	nd	nd	nd
Bromomethane	10	nd	nd	nd
Chloroethane	10	nd	nd	nd
Trichlorofluoromethane	5	nd	nd	nd
1,1-Dichloroethene	5	nd	nd	nd
Dichloromethane	5	nd	nd	nd
Trans-1,2-Dichloroethene	5	nd	nd	nd
1,1-Dichloroethane	5	nd	nd	nd
Chloroform	5	nd	nd	nd
1,1,1-Trichloroethane	5	9.1	nd	nd
1,2-Dichloroethane	5	nd	nd	nd
Carbon Tetrachloride	5	nd	nd	nd
Bromodichloromethane	5	nd	nd	nd
Cis-1,3-Dichloropropene	5	nd	nd	nd
Trans-1,3-Dichloropropene	5	nd	nd	nd
1,1,2-Trichloroethane	5	nd	nd	nd
Dibromochloromethane	5	nd	nd	nd
Tetrachloroethene	5	nd	nd	nd
Chlorobenzene	5	nd	nd	nd
Bromoform	5	nd	nd	nd
1,1,2,2-Tetrachloroethane	5	nd	nd	nd
1,2-Dichloropropane	5	nd	nd	nd
Trichloroethene	5	nd	nd	nd
2-Chloroethyl Vinyl Ether	10	nd	nd	nd

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Analytical Summary

Data 05-09-90

Client ERM-West, Inc. Samples collected: 04-30-90
Samples received: 04-30-90 Samples analysed: 05-08-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965		58	59	60
Client ID IW-4		5.5-6	10.5-11	15.2-15.8

Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	10	nd	nd	nd
Vinyl chloride	10	nd	nd	nd
Bromomethane	10	nd	nd	nd
Chloroethane	10	nd	nd	nd
Trichlorofluoromethane	5	nd	nd	nd
1,1-Dichloroethene	5	nd	nd	nd
Dichloromethane	5	nd	nd	nd
Trans-1,2-Dichloroethene	5	nd	nd	nd
1,1-Dichloroethane	5	nd	nd	nd
Chloroform	5	nd	nd	nd
1,1,1-Trichloroethane	5	nd	nd	nd
1,2-Dichloroethane	5	nd	nd	nd
Carbon Tetrachloride	5	nd	nd	nd
Bromodichloromethane	5	nd	nd	nd
Cis-1,3-Dichloropropene	5	nd	nd	nd
Trans-1,3-Dichloropropene	5	nd	nd	nd
1,1,2-Trichloroethane	5	nd	nd	nd
Dibromochloromethane	5	nd	nd	nd
Tetrachloroethene	5	nd	nd	nd
Chlorobenzene	5	nd	nd	nd
Bromoform	5	nd	nd	nd
1,1,2,2-Tetrachloroethane	5	nd	nd	nd
1,2-Dichloropropane	5	nd	nd	nd
Trichloroethene	5	nd	nd	nd
2-Chloroethyl Vinyl Ether	10	nd	nd	nd

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Analytical Summary

Data 05-09-90

Client ERM-West, Inc. Samples collected: 04-30-90
Samples received: 04-30-90 Samples analysed: 05-08-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965	61	62	63
Client ID IW-4	20.8-21.3	25.5-26	30-30.5

Compounds	DL ug/kg	Found ug/kg	Found ug/kg	Found ug/kg
Chloromethane	10	nd	nd	nd
Vinyl chloride	10	nd	nd	nd
Bromomethane	10	nd	nd	nd
Chloroethane	10	nd	nd	nd
Trichlorofluoromethane	5	nd	nd	nd
1,1-Dichloroethene	5	nd	nd	nd
Dichloromethane	5	nd	nd	nd
Trans-1,2-Dichloroethene	5	nd	nd	nd
1,1-Dichloroethane	5	nd	nd	nd
Chloroform	5	nd	nd	nd
1,1,1-Trichloroethane	5	nd	nd	nd
1,2-Dichloroethane	5	nd	nd	nd
Carbon Tetrachloride	5	nd	nd	nd
Bromodichloromethane	5	nd	nd	nd
Cis-1,3-Dichloropropene	5	nd	nd	nd
Trans-1,3-Dichloropropene	5	nd	nd	nd
1,1,2-Trichloroethane	5	nd	nd	nd
Dibromochloromethane	5	nd	nd	nd
Tetrachloroethene	5	nd	nd	nd
Chlorobenzene	5	nd	nd	nd
Bromoform	5	nd	nd	nd
1,1,2,2-Tetrachloroethane	5	nd	nd	nd
1,2-Dichloropropane	5	nd	nd	nd
Trichloroethene	5	nd	nd	nd
2-Chloroethyl Vinyl Ether	10	nd	nd	nd

Analyst _____ Supervisor Alan Jeffreys

GLOBAL
GEOCHEMISTRY
CORPORATION

TELEX: 4720127
FAX: (818) 992-8940

6919 ETON AVENUE • CANOGA PARK • CALIFORNIA 91303-2194 (818) 992-4103

Analytical Summary

Data 05-09-90

Client ERM-West, Inc. Samples collected:04-30-90
Samples received:04-30-90 Samples analysed: 05-08-90
Purgeable Halocarbons - EPA 8010 (GC/MS)

GGC ID #4965	64	65
Client ID IW-4	20.8-21.3	25.5-26

Compounds	DL ug/kg	Found ug/kg	Found ug/kg
Chloromethane	10	nd	nd
Vinyl chloride	10	nd	nd
Bromomethane	10	nd	nd
Chloroethane	10	nd	nd
Trichlorofluoromethane	5	nd	nd
1,1-Dichloroethene	5	nd	nd
Dichloromethane	5	nd	nd
Trans-1,2-Dichloroethene	5	nd	nd
1,1-Dichloroethane	5	nd	nd
Chloroform	5	nd	nd
1,1,1-Trichloroethane	5	nd	nd
1,2-Dichloroethane	5	nd	nd
Carbon Tetrachloride	5	nd	nd
Bromodichloromethane	5	nd	nd
Cis-1,3-Dichloropropene	5	nd	nd
Trans-1,3-Dichloropropene	5	nd	nd
1,1,2-Trichloroethane	5	nd	nd
Dibromochloromethane	5	nd	nd
Tetrachloroethene	5	nd	nd
Chlorobenzene	5	nd	nd
Bromoform	5	nd	nd
1,1,2,2-Tetrachloroethane	5	nd	nd
1,2-Dichloropropane	5	nd	nd
Trichloroethene	5	nd	nd
2-Chloroethyl Vinyl Ether	10	nd	nd

Analyst Yanov Galperin Supervisor Alan Jeffrey

ATE OF CALIFORNIA—THE RESOURCES AGENCY
EDMUND G. BROWN JR., GOVERNOR
ATE WATER RESOURCES CONTROL BOARD
O. BOX 100 • SACRAMENTO 95801
22-0188

In Reply, Refer
to: 230/MM

JUN 11 1980

Mr. Robert J. Monogan
California Manufacturers Association
923 12th Street
P. O. Box 1138
Sacramento, CA 95805

Dear Mr. Monogan:

This is in response to your letter of June 4, 1980, notifying Assemblyman McCarthy of CMA opposition to Section 3 of AB 2700 which would amend the Water Code.

It appears that you have three main concerns:

1. The extension of Regional Water Quality Control Board cleanup and abatement authority to "threatened" discharges;

2. The extent of retroactive liability imposed on a person who has discharged in the past; and

3. The proposed addition of Section 13362 of the Water Code, which declares damages obtained by the State from wrongful discharges, to be civil in nature and therefore subject to a three-year statute of limitations.

With respect to your first concern, existing Section 13304 of the Water Code is written in the present tense. The Regional Boards have the authority to issue an order directing a person to clean up and abate or take other necessary remedial action only in the following two circumstances:

1. If waste is discharged in violation of any waste discharge requirement or other order issued by a Regional Board; or

2. If, in the absence of waste discharge requirements, a person causes or permits any waste to be discharged or deposited where it is or probably will be discharged into the waters of the State, and creates or threatens to create a condition of pollution or nuisance.

By enclosed Amendments 1 and 2, we have deleted the language extending Regional Board authority to require that remedial measures be taken for threatened violations of waste discharge requirements.

We have retained the language in the bill pertaining to a threatened discharge or deposit of waste by one who is not under waste discharge requirements for the simple reason that this amendment is needed. The need can best be demonstrated by example. During the dry summer months, the owner of an inoperative mine does not "discharge or deposit" mine waste in a manner which creates or threatens to create a condition of pollution or nuisance in an adjacent stream. However, when the rainy season arrives, acid wastes at the mine will combine with runoff and in fact reach the stream and cause pollution. Under existing law, the Regional Boards could not issue an order directing the mine owner to take necessary remedial action to prevent this from occurring. This is false economy since avoidance of pollution is less worthy to both the discharger and the environment than the cleanup of a problem after the fact.

Contrary to the assertion in your letter, in no event could a remedial action order issued by a Regional Board specify changes in design or operation procedures. Section 13360 of the Water Code expressly prohibits the Boards from telling a discharger the manner in which he must comply with any order issued. The Boards can only identify the problem and direct the person to take steps to abate or avoid it altogether. The ultimate measures taken are left up to the discharger.

With regard to the need for clarifying Regional Board cleanup and abatement authority over past discharges, as discussed above, Section 13304 is written in the present tense. Since it is impossible for our Boards to know of every discharge as it is taking place, we want to make it crystal clear that a person who has discharged, either in violation of waste discharge requirements or so as to create a condition of pollution or nuisance, can be held responsible.

Your concern over the language "has threatened", is resolved by proposed Amendments 3 and 4 which delete these words.

Liability for past discharges has been limited by Amendment 6 which provides that Section 13304 does not impose any new liability for acts occurring before the effective date of the Porter-Cologne Water Quality Control Act.

Finally, you request that proposed Section 4 of the bill be revised. This Section was drafted in response to an adverse and erroneous ruling in the Federal District Court. The Court ruled that suit under Section 13350 of the Water Code for civil damages for wrongful discharges is subject to a one-year penal statute of limitations. State case law clearly holds that civil damages under the Water Code are in fact subject to a three-year statute of limitations.

Although this particular ruling pertained to Section 13350 damages, it is not the only section of the Water Code which provides for civil recovery. Section 13350 applies only to illegal discharges to groundwaters. Civil damages for wrongful discharges to surface waters are requested under a different section; Section 13385. Consequently, to avoid a similar ruling in the future on either section, we are codifying state case law by declaring as civil damages recovery under "this division".

Sincerely,

William R. Attwater
Chief Counsel

cc: All Members of the Senate Committee
on Health and Welfare

California
Manufacturers Association

923 12th Street, P.O. Box 1138, Sacramento, California 95805 (916) 441-5420

June 4, 1980

Honorable Leo T. McCarthy
State Capitol, Room 3164
Sacramento CA 95814

Dear Leo:

Confirming a telephone conversation with Dian Julian of your staff yesterday, we are opposed to Section 3 of your bill AB 2700 and suggest it be deleted.

Section 3 would amend Section 13304 of the Water Code. If adopted it will represent a major change in legislative water quality policy, granting Regional Water Quality Boards significant increased arbitrary power over all waste dischargers in the State-agricultural, industrial and municipal.

Since 1949 regional boards have set requirements on waste discharges, designed to protect receiving water quality. Dischargers are required to meet those requirements and if they don't they are subject to punishment and corrective action.

Section 3 of your bill would give regional boards power to require any discharger who threatens to discharge waste in violation of requirements, or who threatens or has threatened to discharge any waste to state waters and threatens to create a condition of pollution or nuisance to take remedial action.

Thus a regional board could require a discharger to take remedial action even though that discharger was in complete compliance with requirements. That action would have to be something involving changes in plant equipment design and/or location and operating procedures. Thus the regional boards would be getting into the business of telling dischargers how to run their business, something we are strongly opposed to.

We are also opposed to the addition of the words "has discharged" and "has caused or permitted". We simply don't understand the need for those words since the power to abate conditions of pollution or nuisance already exists. What these words do is impose retroactive liability on dischargers covering events in past years which presumably have already been dealt with.

To repeat, we strongly recommend that Section 3 be deleted.

We recently received from your office a copy of a proposed Section 4 which would add Section 13362 to the Water Code dealing with recovery of civil damages. We have no problem with this section if it is amended to strike "this division", replacing those words with "Section 13350".

Very truly yours,

ROBERT T. MONAGAN
President

RTM:dd

cc: Members - Senate Health and Welfare Committee
Peter Weiner - Governor's Office
Mary Michel - State Water Resources Control Board

DUPLICATE

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

DEPARTMENT NO. 85 JUDGE JOHN ZEBROWSKI

H.R. TEXTRON, INC. Plaintiff, vs. LOS ANGELES CITY REGIONAL WATER QUALITY CONTROL BOARD, Etc. et al., Defendants.	No. BC 1733

TRANSCRIPT OF PROCEEDINGS

JUNE 12, 1990

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ORIGINAL

APPEARANCES (Cont'd.):

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WITNESS INDEX

WITNESSES:	DIRECT	CROSS	REDIRECT	RECROSS
(None.)				

EXHIBIT LIST

Plaintiff's	For Identification	In Evidence
(None.)		
Defendant's		
(None.)		

solution, wouldn't it, if they're in water? How would they sink through the dirt? I suppose that the more -- the less viscus they are, the faster they'll migrate. Is that what you're talking about?

MR. LEON: Well, they -- yeah. They go through -- percolate through the soil and get to the groundwater that much quicker. And then the fluctuation of the groundwater comes up to meet them and pulls them back down as -- as the groundwater level recedes.

THE COURT: Well, I don't we have any substantial evidence here that the groundwater is coming up.

MR. LEON: Well, what we have is --

MR. NOBLE: Well, the question is, where has it been in the last twenty-five years -- not exactly where it is this moment. I mean, if it had --

THE COURT: Well, why -- why --

MR. NOBLE: -- been higher --

THE COURT: -- why is that the question?

MR. NOBLE: Because if it had been higher --

THE COURT: Yeah.

MR. NOBLE: -- than it is now, it could have flushed pollutants that were in that zone above down into it and drained them out earlier.

THE COURT: So, your theory now is that the groundwater came up higher and flushed out the pollutants?

MR. NOBLE: This isn't my theory now. I mean, there are all these different possibilities. We simply don't know all of this. That's one of the problems. There is so much time

that's passed that the Board -- I mean -- it seems apparent to me.

I didn't attend the hearings. I -- I've come into this at the last minute, so I'm looking at it somewhat like you are.

But, I'm looking at the transcript, and I'm looking at the Board's order. And it seems to me very clear that the Board listened to all of this. They listened to what the Petitioner's offered to do, in effect, conceding, I think, that in a sense they are responsible under 13304 --

THE COURT: Uh-huh.

MR. NOBLE: -- you know -- and I don't -- I'm not sure I understand that they're now arguing that they're not responsible under 13304 and yet they offered to do the remediation plan.

I mean, the Board considered all that and, in it's best judgment, based on admittedly conflicting experts --

THE COURT: Well, the argument --

MR. NOBLE: -- they decided that the only --

THE COURT: -- the argument here is if we don't do anything, then we have a very easy determination that the groundwater will probably be polluted when the case is over and the remediation order goes out.

But, now, if we are remediating, then the question becomes, what substantial evidence do we have that the groundwater is or will be contaminated, not withstanding the remediation?

And it seems to me that unless we can get over that