

**DRAFT REPORT OF THE
PRETREATMENT SOIL SAMPLING AND
ANALYSES, THE EVALUATION OF
THE EXTENT OF THE CHEMICALS OF CONCERN IN PRETREATMENT SOIL,
AND
THE PROPOSED AREAS (BLOCKS) THAT DO NOT
REQUIRE REMEDIATION
FOR THE
GATX ANNEX TERMINAL
208 EAST 22ND STREET
SAN PEDRO, CALIFORNIA**

prepared for

**GATX Terminals Corporation
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prepared by

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JUNE 16, 1992

June 16, 1992

Ms. Pam Le Pen
Site Mitigation Branch
Department of Toxic Substances Control
Region 4
245 West Broadway, Suite 350
Long Beach, CA 90802

Dear Ms. Le Pen:

This document is titled: Draft Report of the Pretreatment Soil Sampling and Analyses, the Evaluation of the Extent of the Chemicals of Concern and the Proposed Blocks in Areas that Do Not Require Remediation. The Draft Report provides the Department of Toxic Substances Control (DTSC) with a summary of all the pretreatment soil samples to date, including the current 1992 effort, an in-depth characterization of the extent of the chemicals of concern in the pretreatment soil, and the location of areas at the GATX Annex Terminal in San Pedro that do not require soil remediation. From the calculations used to determine the extent of these chemicals, I have proposed specific blocks in certain areas of the Annex Terminal that do not require remediation. Attached is the draft report which has been prepared as a follow-up to the completion of the efforts outlined in the proposed sampling and analytical plan presented to the Department of Toxic Substances Control by GATX on January 14, 1992.

If you have any questions or comments about this proposed plan, please contact me at (310) 436-0210.

Sincerely,

GATX

Mr. Steven Caddell

cc: J. R. Morabito, McLaren Hart

Robert Evangelista, KLEENTEK

attachment : Draft Report of the Pretreatment Soil Sampling and Analyses, the Evaluation of the Extent of the Chemicals of Concern in pretreatment soil, and the Proposed Blocks in Areas that Do Not Require Remediation for the GATX Annex Terminal, 208 East 22nd Street, San Pedro, California

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INTRODUCTION

OBJECTIVE

The primary purpose of the pretreatment sampling and analyses activities and the evaluation of the extent of the chemicals of concern is to further characterize the unremediated areas of the Annex Terminal in San Pedro, California, and to statistically determine which unremediated areas do not contain significant concentrations of the chemicals of concern. After accurately characterizing remaining unremediated areas of the Terminal, GATX proposes to the California Department of Toxic Substances Control (DTSC), Site Mitigation Branch, that certain unremediated areas do not require remediation because these areas contain chemicals of little or no concern.

This draft report has a three-fold objective: first, to confirm the soil gas survey by pretreatment soil sampling and analysis; second, to accurately determine the extent of contamination in the unremediated areas of the Annex Terminal; and third, to provide the exact remaining blocks not requiring remediation by the current technology, the Detoxifier™.

A highly scientific and defensible methodology was used to meet the objectives. The methodology included sampling and analyses of pretreatment site soil and geostatistical contouring of this data. The sampling and analyses of pretreatment soil was carried out in a phased manner to allow the DTSC to provide staged evaluation of the initial and final phases. The data generated from these analyses and all previous pretreatment soil analyses was geostatistically calculated and presented in quantitative contours of isoconcentration to provide a scientifically confident determination of the extent of the chemicals of concern. These contours identified certain areas of the Terminal that can remain untreated with minimal risk to human health and/or the environment. The identification of the extent of the chemicals of concern as defined by the contour boundaries depicted the number of remaining blocks at the Terminal that need to be remediated.

BACKGROUND

The subsequent risk analysis identified 49 chemicals of concern at the Annex Terminal (Table 1). All of these chemicals fall in two major categories: volatile organic compounds (VOCs) and semi-volatile organic compounds (SVCs). Each of these two categories have been divided into two groups, majors and minors, as defined by level of risk to human health and the environment.

The remedial investigation process performed by Harding Lawson Associates found both VOCs and SVCs to be in higher concentration on the eastern side of the Annex Terminal - the previous location of the chemical storage tanks and transfer areas. Therefore, the previous sampling and analysis efforts have focused predominantly on the eastern portion of the Annex Terminal. As remediation has progressed from the eastern edge toward the western portion of the Annex Terminal, the Detoxifier's maximum flame ion detector (maxFID) readings indicated large areas of soil may contain little or no chemicals of concern. The maxFID readings were from the hot gases containing volatilized contaminants inside the shroud of the Detoxifier™. The maxFID readings are nonstandard unofficial analyses and, therefore, not defensible. The current sampling and analyses effort was designed to better characterize and identify unremediated areas of the Terminal that contained little or no chemicals of concern. To characterize the Terminal, GATX initiated a phased sampling approach for pretreatment soil under the auspices of the DTSC. The sampling phases consisted of preliminary, initial, and final phases.

The preliminary phase effort, designed to explore the existence of volatile chemicals of concern in untreated soil, found large areas of the Annex Terminal with little or no contamination. The preliminary phase effort consisted of a soil gas investigation. A soil gas investigation was selected for the preliminary phase because soil gas sampling and analysis provided a quick and economical investigation of the unremediated areas. During the investigation on October 16-18, 1991, GeoResearch (GR) sampled and analyzed a total of 61 soil gas samples. The soil gas investigation found large areas of the unremediated soil to contain little or no chemicals of concern (1).

The soil gas investigation was instrumental in directing further sampling efforts to characterize the untreated Annex Terminal soil. Also, the soil gas investigation was useful for determining the location of chemical contamination in Terminal soil and hence, where to remediate. However, a soil gas survey is not a definitive analysis of Terminal soil. Therefore, follow-up efforts using standard sampling and analytical techniques were carried out by GATX.

This report details the follow-up soil sampling efforts to identify the areas of the Annex Terminal not requiring Detoxifier™ treatment.

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TABLE 1. LIST OF THE 49 CHEMICALS OF CONCERN AT THE ANNEX TERMINAL

Majors - volatile	Majors - semi-volatile
1,1-Dichloroethane	Bis(2-ethylhexyl)phthalate
1,2-Dichloroethane	Phenanthrene
1,1-Dichloroethylene	Butylcellosolve
cis-1,2-Dichloroethylene	Butylcarbitol
trans-1,2-Dichloroethylene	2-Phenoxyethanol
Dichloromethane (methylene chloride)	Triethyleneglycol
Tetrachloroethylene	Phthalate ester matrix
1,1,2-Trichloroethane	Unidentified glycol ethers
C9-C10 Aromatics	2-(2-methoxy-ethoxy)-2-ethanol
C5-C11 Aliphatics & Alicyclic	
Minors - volatiles	Minors - semi-volatiles
Acetone	Benzoic Acid
2-Butanone (MEK)	Isophorone
Chlorobenzene	Phenol
1,2-Dichloropropane	Bis(2-ethylhexyl)adipate
4-Methyl-2-pentanone (MIBK)	2-(2-(2-Butoxyethoxy) ethoxy)ethanol
Tetrahydrofuran	Decanoic acid
Toluene	2-Ethyl hexanoic acid
1,1,1-Trichloroethane	2-Ethyl-1-hexanol
Trichloroethylene	Heptanoic acid
Trichlorofluoromethane	Hexanoic acid
Xylene,total	1-(2-Methoxy-1-methylethoxy) -2-propanol
	1-(2-(2-Methoxy-1-methyl ethoxy)-1-methylethoxy) -2-propanol
	1-(2-Methoxypropoxy) - 2- propanol
	Octanoic acid
	2-Phenoxyethoxyethanol
	3,3,5-Trimethylcyclohexanol
	3,3,5-Trimethylcyclohexanone
	2,4,4-Trimethyl-1,3-pentanediol
	2,4,4-Tr1 methyl-1,3-pentanediol diisobutyrate

METHODOLOGY

SAMPLE LOCATIONS

To determine the extent of the chemicals of concern in the untreated areas of the Annex Terminal, additional soil samples were required from both the vadose and saturated zones at the Annex Terminal. The selection of sample locations was first proposed by representatives from GATX and KLEENTEK, with final concurrence by a representative from the DTSC, Region 4 Site Mitigation Branch. These samples were designated as the 1992 pretreatment samples.

All sampling locations were assigned block numbers. For the initial phase effort, 61 sample points were sampled at a 3-foot depth and 41 were sampled at an 8-foot depth for a total of 102 soil samples. The pretreatment soil samples that were obtained for both the initial and final phases of this effort are listed in Table 2. Appendix A contains the listing of the previous pretreatment soil samples, prior to the 1992 sampling effort, that were used for the geostatistical analysis. Appendix A contains the sample's block number, the sample's x/y coordinate; the previous sampling event description and the concentration. Tables A, B, C, and D in Appendix A, respectively, segregate the previous samples into total VOCs in the vadose zone, total VOCs in the saturated zone, total SVCs in the vadose zone, and total SVCs in the saturated zone.

The overall strategy in the initial phase sampling was the assumption that non-remediated subregions of the Annex Terminal have equal probability of containing chemicals of concern. To fulfill this strategy, a sampling point grid was designed to provide unbiased sample locations.

The initial phase samples were on evenly spaced coordinates 40 feet apart in the north-south direction and 40 feet apart in the east-west direction. This distance in the east-west direction was chosen because the entire distance between the western edge of row CC (the western edge of the Annex Terminal) and the eastern edge of row Q (the eastern edge of the unremediated area) is only 48 feet. Sample points 40 feet apart in the east-west direction (Y coordinate) placed the sample locations close to, but within the outside boundaries, of the unremediated area. Sample pairs were located in rows S and CC. At every north-south location (X coordinate), a pair of sample points in rows S and CC was alternated with a sample placed near the center line between rows S and CC on either row W or Y, which straddled both sides of the center line.

The final phase of soil sampling was not in unbiased locations, as were the initial phase samples. The final phase soil sampling focused on the areas containing contours surrounding soil samples that needed better resolution due to few surrounding soil samples. In addition, areas containing little or no contamination were sampled to increase the level of certainty in the results.

The geostatistical-based approach for the sampling and evaluation of areas containing pretreatment soil precluded any grid-based post-treatment soil sampling.

SAMPLING AND ANALYSIS

Sample Collection

Coast Surveying surveyed all sample locations and marked them with stakes or paint for the drill crew. The drill crew included a McLaren Hart field technician who kept accurate sample documentation in a field log book.

Generally acceptable standard operating procedures were followed to take soil samples. Boreholes were drilled to take soil samples using the hollow-stem auguring method and samples were collected using a modified California split tube sampler. Soil samples were taken from each borehole at 3 feet and/or 8 ft. in depth from the surface. Two sleeves from each sampler were prepared for laboratory analysis by taping a Teflon sheet covered with a polyethylene cap to each end of the sleeve. All samples were labeled appropriately with sample number, date and analysis to be performed. Each sample was assigned a unique alpha-numeric number. Samples were numbered using the block number followed by the number for the sample depth (e.g., 115N- 3 indicates the sample was collected from block 115N at a depth of 3 feet). Samples were then placed in Ziplock bags in an ice-filled cooler and cooled to approximately 4 degrees Centigrade until the initial extraction. All samples within a container were accounted for on and accompanied by a Chain-of-Custody Record that was placed inside a Ziplock bag and taped to the inside lid of the cooler to identify the contents. The cooler was then delivered to a California-certified laboratory by a McLaren Hart representative.

TABLE 2. LIST OF INITIAL AND FINAL PHASE PRETREATMENT SOIL SAMPLES

Initial phase		Final phase		Final phase	
Block	Sample	Block	Sample	Blocks	Sample
sampled	depth (ft)	sampled	depth	sampled	depth
144 C	3	144 C	3 & 8	146 E	3 & 8
144 S	3	144 J	3 & 8	146 H	3 & 8
138/139 Y	3 & 8	142 X	3 & 8	146 K	3 & 8
133 CC	3 & 8	140 G	3 & 8	146 P	3 & 8
133 S	3 & 8	139 J	3 & 8	145 A	3 & 8
127/128 W	3	139 R	3 & 8	144 F	3 & 8
122 CC	3	138 A	3 & 8	143 L	3 & 8
122 S	3	138 DD	3 & 8	143 O	3 & 8
116/117 Y	3 & 8	132 A	3 & 8	141 L	3 & 8
111 CC	3 & 8	130 P	3 & 8	141 Q	3
111 S	3 & 8	129 DD	3 & 8	141 R	8
105/106 W	3	126 A	3 & 8	141 U	3 & 8
100 CC	3	124 Q	3	138 W	3 & 8
100 S	3	120 A	3 & 8	133 DD	3 & 8
94/95 Y	3 & 8	119 DD	8	124 K	3 & 8
90 CC	3 & 8	119 M	3 & 8	120 EE	3 & 8
89 S	3 & 8	119 R	3 & 8	117 K	3 & 8
83/84 W	3	114 A	3 & 8	115 CC	3 & 8
78 CC	3	114 J	3 & 8	109 BB	3 & 8
78 S	3	106 BB	3 & 8	106 DD	3 & 8
72/73 Y	3 & 8	91 V	3 & 8	105 A	3 & 8
67 CC	3 & 8	84 A	3 & 8	103 BB	3 & 8
67 S	3 & 8	80 Q	3 & 8	97 A	3 & 8
61/62 W	3	78 V	3 & 8	86 P	3 & 8
56 CC	3	76 A	3 & 8	69 Z	3 & 8
56 S	3	69 A	3 & 8	64 AA	3 & 8
50/51 Y	3 & 8	66 Y	3 & 8	37 A	3 & 8
45 CC	3	61 A	3 & 8	31 U	3 & 8
45 S	3 & 8	60 AA	3 & 8	29 A	3 & 8
39/40 W	3	53 A	3 & 8	21 A	3 & 8
34 CC	3	45 A	3 & 8	12 X	3 & 8
34 S	3	45 X	3 & 8	6 T	3 & 8
28/29 Y	3 & 8				
23 CC	3				
23 S	3 & 8				
17/18 W	3 & 8				
12 CC	3 & 8				
12 S	3 & 8				
6/7 Y	3 & 8				
1S	3 & 8				

Sample Analysis

All soil samples collected were analyzed for VOCs and were analyzed most for SVCs. Some final phase samples, which showed significant VOC concentrations, were not sampled for SVCs since these sample locations contained significant amounts of chemicals of concern requiring soil treatment. The analytical methods used for VOCs and SVCs were EPA methods 8240 and 8270, respectively.

Laboratory quality control samples ensured that analytical methods and instrumentation provided valid data. The laboratory QA/QC program included: adherence to general laboratory requirements; analysis of equipment calibration standards to generate a calibration curve; calculation of a calibration (standard) curve to quantitate the compound in the environmental sample; analysis of sample blanks; equipment maintenance and operations following established procedures and documentation of QC data (precision data, accuracy data, calibration results). Required sample holding times; i.e., the time from sample collection to sample extraction, were adhered to. In general, QC was assured by adherence to standard laboratory operating procedures.

GEOSTATISTICAL EVALUATION

In addition to the current 1992 soil sampling effort, an exhaustive survey of all past pretreatment sampling efforts was also performed. The concentration values (in mg/kg) of the total VOCs or total SVCs from the 1992 and the past pretreatment samples were used as input data for the geostatistically generated contours of isoconcentration.

Isocontours

Isocontours of total VOC and SVC concentrations were generated by AutoMAP, a software package which operates within AutoCAD. AutoMAP generated contours from randomly distributed points by using linear interpolation between adjacent data points.

However, concentration distribution of contaminants in vadose or saturated zones did not follow a linear relationship with distance. The transport of contaminants at the Annex Terminal showed a logarithm relationship with distance, rather than the linear relationship. Therefore, isocontours were generated by interpreting adjacent sampling points via the log-linear triangulation method. A logarithm transformation was applied to the analytical data before using AutoMAP. This transformation increases the accuracy of the geo-statistical contours.

After geostatistical contour generation, the isocontours were smoothed prior to plotting. Isocontours created by AutoMAP were smoothed by applying a two dimensional spline polyline, a commonly used smoothing technique used in geostatistical contouring.

Typical Dispersion Trend

The locations of the chemicals of concern in the vadose zone could be classified into two kinds of areas: the source area which is directly beneath the past release(s) of the chemicals of concern; and, the dispersion area, which received the chemicals from the source area by dispersion(s). At the Annex Terminal, the total size of the probable source areas are relatively small compared with the probable dispersion areas. Therefore, areas containing the chemicals of concern resulted from the dispersion of those chemicals.

Since the objective of this study was to determine the areas which do not need remediation, the dispersion areas were the focus of the isocontour process. Areas outside of the dispersion areas are assumed to contain little or no chemicals of concern. Therefore, the zone or area of dispersion, as measured by the dispersion trend, is important to determine those unremediated areas which have a probability of containing chemicals of concern and to determine the location of those adjacent areas which do not require remediation due to the absence of chemicals. In order to study the dispersion area, ten random cross sections of the contours were selected. The cross sections were drawn from and perpendicular to the 500 ppm isocontour of total VOCs in the vadose zone. The total VOCs concentration vs distance from the 500 ppm isocontours was plotted. The dispersion trends of these cross sections were plotted in linear and semi-logarithm scale. The statistical average was used as the typical dispersion trend.

ANALYTICAL RESULTS

The complete analytical reports for this sampling and analytical effort are not provided in this report but were submitted to DTSC by GATX under separate covers (4, 5, 6, 7). The consolidated total VOC and total SVC analytical results of the 1992 soil samples are provided in Tables 2 and 3, respectively. For samples taken during earlier sampling efforts, the total VOCs in the vadose zone, total VOCs in the saturated zone, total SVCs in the vadose zone, and total SVCs in the saturated zone are consolidated in Tables A, B, C, and D in Appendix A, respectively.

The results in Tables 3 and 4 and A, B, C and D have been geostatistically contoured. Plates 1, 2, 3, and 4 in Appendix B contain the contours of isoconcentration of total VOCs in the vadose zone, total VOCs in the saturated zone, total SVCs in the vadose zone, and total SVCs in the saturated zone, respectively. In addition to the isocontours, Plates 1, 2, 3, and 4 show the locations of the samples and their respective concentration values. All samples placed on these plates are identified with a letter code to designate the particular sampling event which obtained the sample. The typical contaminant dispersion trend analysis from ten randomly selected cross sections of isocontours is presently in Figure 1. Figure 2 illustrates this trend in semilogarithm scale.

The analytical results of the individual 49 chemicals of concern for each soil sample are listed in Table 5. In Table 5, the chemicals of concern have been segregated into four groups: VOC majors, SVC majors, VOC minors, and SVC minors. The major and minor chemicals correspond to the individual chemical compounds in the DTSC risk-based cleanup criteria. The cleanup criteria for each chemical of concern was also listed so that the analytical results of pretreatment samples can be compared to the cleanup values.

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TABLE 3. TOTAL VOLATILE ORGANIC COMPOUNDS
IN 1992 PRETREATMENT SOIL SAMPLES

Conc at 3ft(ppm)	Conc at 8ft(ppm)	Block Number	Conc at 3ft(ppm)	Conc at 8ft(ppm)	Block Number	Conc at 3ft(ppm)	Conc at 8ft(ppm)	Block Number
0.4	0.7	45A	9.1	3.1	60AA	0.9	0.7	69A
0.1	0.2	45X	13.2	0.8	61A	1.6	1.0	76A
0.5	1.3	53A	14.8	238.0	66Y	27.0	0.1	78V
0.2	2.4	80Q	22.4	1.2	96DD	655.6	11.7	14J
1.0	0.3	84A	1.3	65.0	106BB	4.6	1.2	19M
4.6	0.7	91V	5.8	1424.0	114A	6.0	1.2	19R
	250.0	119DD	0.9	1.7	126A	0.3	0.9	32A
1.0	36.3	120A	0.9		129DD	1.2	1.2	38A
76.7		124Q	3350.0	40400.0	130P	2.8	8.7	38DD
33.6	980.0	139J	0.4	0.1	142X			
254.0	1.3	139R	434.0	5.6	144C			
882.0	1384.0	140G	27.3	292.0	144J			
0.00	0.00	6T	20.20	14.50	29A	3.90	37.60	64AA
0.00	0.00	12X	0.10	0.00	31V	2.70	5.40	69Z
8.70	11.60	21A	0.50	0.80	37A	1.50	0.20	6P
2.50	3.70	97A	0.60	15.50	106DD		12.1	120EE
1.10	0.70	103B	2.20	1.40	109BB	2.00	0.10	124K
26.50	1510.60	105A	3.20	161.80	115CC	22.50	0.80	133DD
				233.90	117K	128.70	0.50	138W
35.90	1.00	141U	36.00	1.90	143L	0.00	0.00	146K
105.40	0.20	141Q	16.70	49.00	144F	0.00	0.00	146H
140.20	340.00	141C	1.2	0	145A	0.00	0.00	146E
324.10	90.40	143O	0.00	0.00	146P			
10.0,	1.1, 1.1	BLANK	0.6,	0.3, 0.0	BLANK	0.00	0.00	BLANK

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TABLE 3. TOTAL VOLATILE ORGANIC COMPOUNDS
IN 1992 PRETREATMENT SOIL SAMPLES

Conc at 3ft(ppm)	Conc at 8ft(ppm)	Block Number	Conc at 3ft(ppm)	Conc at 8ft(ppm)	Block Number	Conc at 3ft(ppm)	Conc at 8ft(ppm)	Block Number
0.02		144CC	2.25		144S			
54.70	61.00	133CC	333.50	8.12	133S	448.00	7.40	138/139Y
2.60		122CC	1.22		122S	1.67		127/128W
5.04	1.59	111CC	2.60	2.30	111S	134.00	11400.00	116 /117Y
12.80		100CC	13.50		100S	7.70		105 /106W
0.06	0.07	90CC	0.27	0.63	89S	233.00	225.00	94/95Y
0.02		78CC	98.00		78S	3.10		83/84W
0.05	0.14	67CC	2.50	3.40	67S	0.17	0.21	72/73Y
0.03		56CC	859.00		56S	14.20		61/62W
13.40		45CC	0.58	1.70	45S	0.32	0.10	50/51Y
0.03		34CC	0.46		34S	0.06		39/40W
0.24		23CC	0.15	270.00	23S	0.01	0.05	28/29Y
0.00	0.12	12CC	0.37	0.23	12S	0.27	0.06	17/18W
			0.54	0.07	1S	0.00	0.01	6/7Y
0.02	0.00,0.01	BLANK	0.01	0.01,0.01	BLANK	0.02	0.08,0.02	BLANK

TABLE 4. TOTAL SEMI-VOLATILE ORGANIC COMPOUNDS
IN 1992 PRETREATMENT SOIL SAMPLES

Conc at 3ft(ppm)	Conc at 8ft(ppm)	Block Number	Conc at 3ft(ppm)	Conc at 8ft(ppm)	Block Number	Conc at 3ft(ppm)	Conc at 8ft(ppm)	Block Number
0	0	45A	2	5	60AA	0	1	69A
0	0	45X	0	2	61A	2	0	76A
0	162	53A	4012	20090	66Y	0	5	78V
0	0	80Q	0	0	96DD	335	2360	114J
0	1	84A	2	96	106BB	0	0	119M
0	0	91V	7	63	114A	1	0	119R
0	5	119DD	0	1	129DD	9	32	138A
2	728	120A	263	381	130P	1	0	138DD
0	0	126A	0	0	132A	54	1768	139J
0	0	139R	0	797	144C			
1055	639	140G	12	1	144J			
0	0	142X						
0	0	BLANK	0	0	BLANK	0	0	BLANK

TABLE 4. TOTAL SEMI-VOLATILE ORGANIC COMPOUNDS
IN 1992 PRETREATMENT SOIL SAMPLES

Conc at 3ft(ppm)	Conc at 8ft(ppm)	Block Number	Conc at 3ft(ppm)	Conc at 8ft(ppm)	Block Number	Conc at 3ft(ppm)	Conc at 8ft(ppm)	Block Number
0.05		144CC	0.24		144S			
0.09	5.75	133CC	1.23	4.06	133S	0.33	30.30	138/139Y
0.47		122CC	0.07		122S	5.27		127/128W
0.33	0.73	111CC	9.17	2.00	111S	10.82	40.00	116 /117Y
0.54		100CC	3.52		100S	4.40		105 /106W
1.23	0.04	90CC	3.22	0.10	89S	34.47	5.50	94/95Y
0.36		78CC	11.51		78S	0.23		83/84W
302.00	4.08	67CC	14.40	3.85	67S	3.04	0.03	72/73Y
0.10		56CC	1030.00		56S	3.40		61/62W
0.68		45CC	46.00	260.00	45S	0.43	0.00	50/51Y
0.52		34CC	0.53		34S	0.00		39/40W
3.00	0.00	23CC	2340.00	55.90	23S	0.00	0.00	28/29Y
0.00	0.00	12CC	0.00	0.05	12S	0.00	0.00	17/18W
			0.00	0.04	1S	0.02	0.00	6/7Y
0.00	0.02	BLANK	0.04	0.04	BLANK	0.00	0.02	BLANK

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FIGURE 1. DISPERSION TRENDS
GATX ANNEX TERMINAL

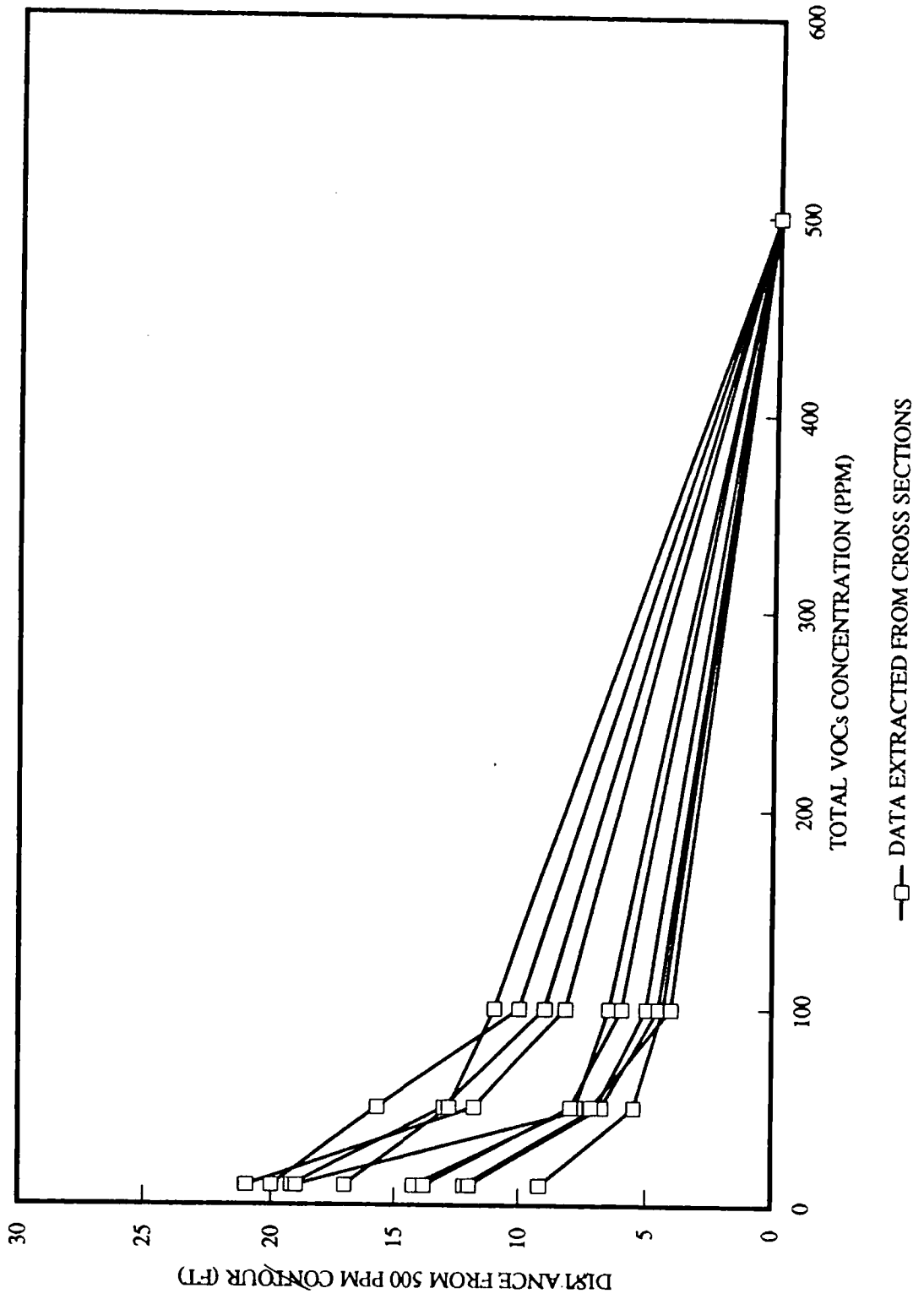
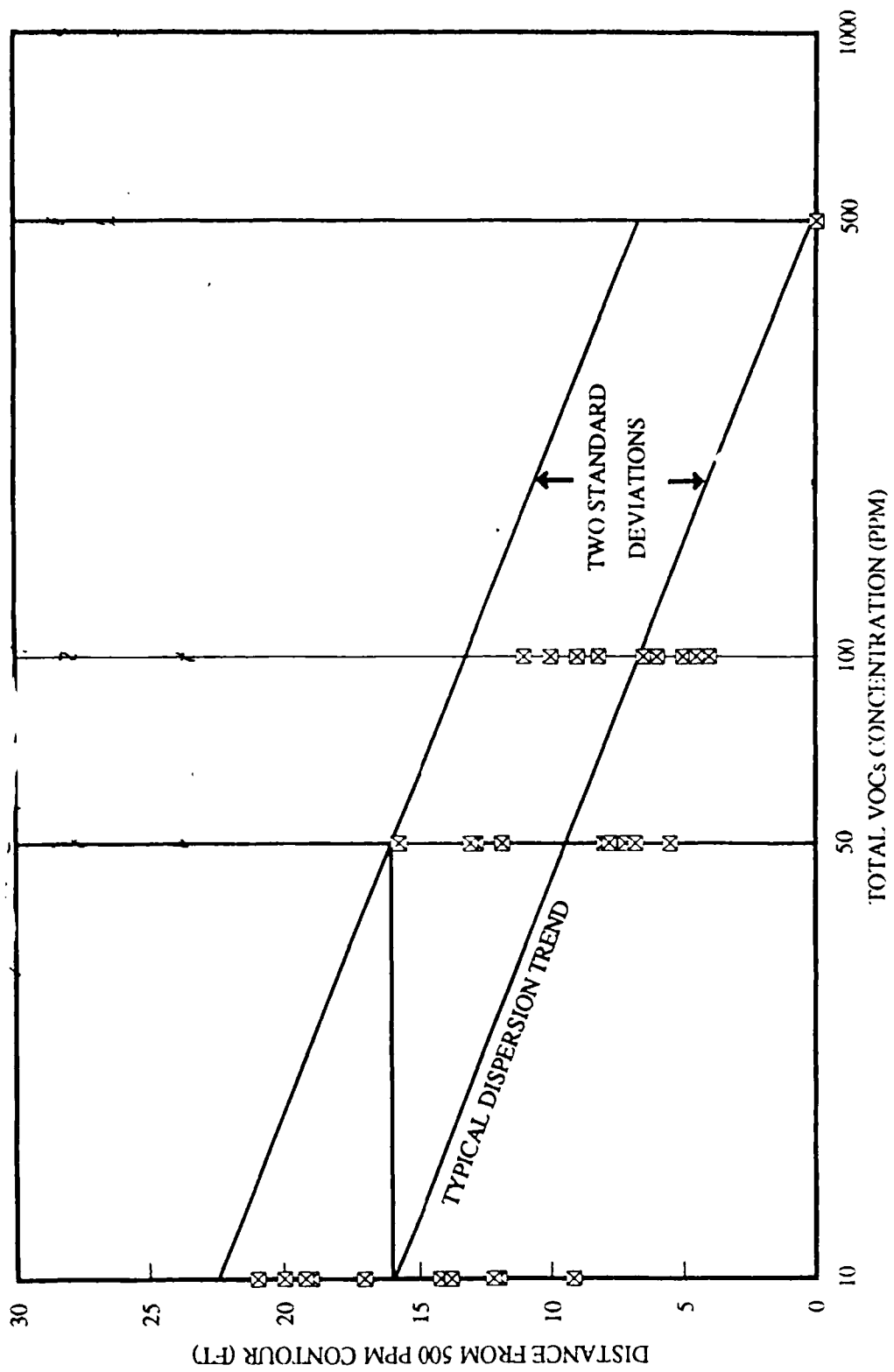


FIGURE 2. TYPICAL DISPERSION TREND
GATX ANNEX TERMINAL.



⊗ DATA EXTRACTED FROM CROSS SECTIONS

TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC Clean-up Level (ppm)	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
		90831 Block 144C Depth3'	90832 Block 144C Depth8'	90829 Block 144J Depth3'	90830 Block 144J Depth8'	107379 Block 144S Depth3'	107351 Block 144CC Depth3'	90846 Block 142X Depth3'	90847 Block 142X Depth8'
MAJORS - VOLATILES									
1,1-Dichloroethane	2.3		7.00			0.51			
1,2-Dichloroethane	3.2								
1,1-Dichloroethylene	2.0								
cis-1,2-Dichloroethylene	3.2					0.10		0.10	
trans-1,2-Dichloroethylene	2.1					0.03			
Dichloromethane (meth. chloride)	16.1	4.00	0.20	0.20	2.00	0.02	0.02	0.10	0.10
Tetrachloroethylene	19.5					1.40		0.20	
1,1,2-Trichloroethane	1.9								
C9-C10 Aromatics	90.0								
C5-C11 Aliphatics & Alicyclic	123.3								
MAJORS - SEMI-VOLATILES									
Bis(2-ethylhexyl)phthalate	680.7	0.01			0.14	0.04	0.05		
Phenanthrene	4.9								
Butylcellosolve	60.6								
Butylcarbitol	82.8								
2-Phenoxyethanol	59.1								
Triethyleneglycol	60.0								
Phthalate ester matrix	510.3				0.60	0.20			
Unidentified glycol ethers	63.3								
2-(2-methoxy-ethoxy)-2-ethano	124.8								
MINORS - VOLATILES									
Acetone	36.7								
2-Butanone (MEK)	32.4								
Chlorobenzene	11.2	430.00	5.40	12.00	170.00				
1,2-Dichloropropane	3.9								
4-Methyl-2-pentanone (MIBK)	17.4								
Tetrahydrofuran	4.9			15.00	120.00				
Toluene	3.9								
1,1,1-Trichloroethane	4.6					0.01			
Trichloroethylene	6.4					0.18			
Trichlorofluoromethane	3.9								
Xylene, total	3.9								
MINORS - SEMI-VOLATILES									
Benzoic Acid	45.7								
Isophorone	20.7								
Phenol	21.4								
Bis(2-ethylhexyl)adipate	57.4								
2-(2-(2-Butoxyethoxy)	24.0								
ethoxy)ethanol									
Decanoic acid	35.5								
2-Ethyl hexanoic acid	14.1								
2-Ethyl-1-hexanol	61.8								
Heptanoic acid	56.8								
Hexanoic acid	95.4								
1-(2-Methoxy-1-methylethoxy)	70.8					0.05			
-2-propanol									
1-(2-(2-Methoxy-1-methyl	43.8								
ethoxy)-1-methylethoxy)									
-2-propanol									
1-(2-Methoxypropoxy)	50.5								
-2-propanol									
Octanoic acid	34.0								
2-Phenoxyethoxyethanol	12.0								
3,3,5-Trimethylcyclohexanol	4.8								
3,3,5-Trimethylcyclohexanone	16.2								
2,4,4-Trimethyl-1,3-pentadiol	11.9								
2,4,4-Trmeth-1,3-pent diisobuty	23.2								
diisobutyrate									

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC Clean-up Level (ppm)	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	
		141U@3 Block 141U Depth3'	141U@3 Block 141U Depth8'	90833 Block 140G Depth3'	90834 Block 140G Depth8'	90842 Block 139J Depth3'	90843 Block 139J Depth8'	90844 Block 139R Depth3'	90845 Block 139R Depth8'	
MAJORS - VOLATILES										
1,1-Dichloroethane	2.3	3.90	0.27					62.00	2.00	0.10
1,2-Dichloroethane	3.2			7.00	230.00	2.00	250.00	5.00		0.10
1,1-Dichloroethylene	2.0					0.30				
cis-1,2-Dichloroethylene	3.2	5.70	0.24	7.00			1.00	40.00	64.00	0.10
trans-1,2-Dichloroethylene	2.1								2.00	
Dichloromethane (meth. chloride)	16.1			4.00	7.00	0.30			1.00	0.20
Tetrachloroethylene	19.5	18.00		350.00	400.00	27.00	8.00	160.00		
1,1,2-Trichloroethane	1.9				7.00					
C9-C10 Aromatics	90.0									
C5-C11 Aliphatics & Alicyclic	123.3									
MAJORS - SEMI-VOLATILES										
Bis(2-ethylhexyl)phthalate	680.7			0.26	0.06	0.01	0.43			
Phenanthrene	4.9									
Butylcellosolve	60.6				0.01					
Butylcarbitol	82.8									
2-Phenoxyethanol	59.1				0.04					
Triethyleneglycol	60.0									
Phthalate ester matrix	510.3			0.60	0.30	0.04	1.00			
Unidentified glycol ethers	63.3									
2-(2-methoxy-ethoxy)-2-ethanol	124.8				0.01					
MINORS - VOLATILES										
Acetone	36.7									
2-Butanone (MEK)	32.4									
Chlorobenzene	11.2			410.00	540.00	2.00	580.00	3.00		
1,2-Dichloropropane	3.9									
4-Methyl-2-pentanone (MIBK)	17.4									
Tetrahydrofuran	4.9			100.00	200.00		40.00			0.80
Toluene	3.9									
1,1,1-Trichloroethane	4.6									
Trichloroethylene	6.4	8.30		4.00		1.00		17.00		
Trichlorofluoromethane	3.9									
Xylene, total	3.9									
MINORS - SEMI-VOLATILES										
Benzoic Acid	45.7									
Isophorone	20.7				0.01		0.01			
Phenol	21.4			0.03	0.03		0.29			
Bis(2-ethylhexyl)adipate	57.4									
2-(2-(2-Butoxyethoxy) ethoxy)ethanol	24.0									
Decanoic acid	35.5									
2-Ethyl hexanoic acid	14.1									
2-Ethyl-1-hexanol	61.8									
Heptanoic acid	56.8				0.01					
Hexanoic acid	95.4									
1-(2-Methoxy-1-methylethoxy) -2-propanol	70.8			0.07	0.10					
1-(2-(2-Methoxy-1-methyl ethoxy)-1-methylethoxy) -2-propanol	43.8						0.04			
1-(2-Methoxypropoxy) -2-propanol	50.5									
Octanoic acid	34.0									
2-Phenoxyethoxyethanol	12.0									
3,3,5-Trimethylcyclohexanol	4.8									
3,3,5-Trimethylcyclohexanone	16.2									
2,4,4-Trimethyl-1,3-pentadiol	11.9									
2,4,4-Trmeth-1,3-pent diisobuty disobutyrate	23.2									

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC Clean-up Level (ppm)	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
		107380 Block 138/39Y Depth3'	107381 Block 138/39Y Depth8'	91240 Block 138A Depth3'	91241 Block 138A Depth8'	90827 Block 138DD Depth3'	90828 Block 138DD Depth8'	107354 Block 133S Depth3'	107355 Block 133S Depth8'
MAJORS - VOLATILES									
1,1-Dichloroethane	2.3	4.00	0.90			0.10	1.50	0.70	0.07
1,2-Dichloroethane	3.2							2.00	
1,1-Dichloroethylene	2.0								
cis-1,2-Dichloroethylene	3.2	7.00	2.50				5.60	20.00	
trans-1,2-Dichloroethylene	2.1						0.20	0.80	
Dichloromethane (meth. chloride)	16.1	7.00	1.00	0.30	0.40	0.30	0.30	1.00	0.02
Tetrachloroethylene	19.5	330.00				2.40		280.00	0.32
1,1,2-Trichloroethane	1.9								
C9-C10 Aromatics	90.0								
C5-C11 Aliphatics & Alicyclic	123.3								
MAJORS - SEMI-VOLATILES									
Bis(2-ethylhexyl)phthalate	680.7	0.03	0.03	0.01	0.03			0.20	0.08
Phenanthrene	4.9								
Butylcellosolve	60.6								
Butylcarbitol	82.8								
2-Phenoxyethanol	59.1								
Triethyleneglycol	60.0								
Phthalate ester matrix	510.3	0.30						0.90	
Unidentified glycol ethers	63.3								
2-(2-methoxy-ethoxy)-2-ethano	124.8								
MINORS - VOLATILES									
Acetone	36.7	80.00						20.00	
2-Butanone (MEK)	32.4			0.90	0.80				6.20
Chlorobenzene	11.2							4.00	0.01
1,2-Dichloropropane	3.9								
4-Methyl-2-pentanone (MIBK)	17.4								0.44
Tetrahydrofuran	4.9						1.00		
Toluene	3.9								
1,1,1-Trichloroethane	4.6								
Trichloroethylene	6.4	20.00						5.00	
Trichlorofluoromethane	3.9								
Xylene, total	3.9								
MINORS - SEMI-VOLATILES									
Benzoic Acid	45.7								
Isophorone	20.7							0.02	
Phenol	21.4								
Bis(2-ethylhexyl)adipate	57.4								
2-(2-(2-Butoxyethoxy) ethoxy)ethanol	24.0								
Decanoic acid	35.5								
2-Ethyl hexanoic acid	14.1								
2-Ethyl-1-hexanol	61.8								
Heptanoic acid	56.8								
Hexanoic acid	95.4								
1-(2-Methoxy-1-methylethoxy) -2-propanol	70.8								0.90
1-(2-(2-Methoxy-1-methyl ethoxy)-1-methylethoxy) -2-propanol	43.8								
1-(2-Methoxypropoxy) -2-propanol	50.5								
Octanoic acid	34.0								
2-Phenoxyethoxyethanol	12.0								
3,3,5-Trimethylcyclohexanol	4.8								
3,3,5-Trimethylcyclohexanone	16.2							0.08	
2,4,4-Trimethyl-1,3-pentadiol	11.9								
2,4,4-Trmeth-1,3-pent diisobuty diisobutyrate	23.2								

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC Clean-up Level (ppm)	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
		107352 Block 133CC Depth3'	107353 Block 133CC Depth8'	91238 Block 132A Depth3'	91239 Block 132A Depth8'	90848 Block 130P Depth3'	90849 Block 130P Depth8'	90822 Block 1290D Depth3'	90823 Block 1290D Depth8'
MAJORS - VOLATILES									
1,1-Dichloroethane	2.3		1.00					0.50	1.20
1,2-Dichloroethane	3.2								
1,1-Dichloroethylene	2.0					540.00	1100.00		
cis-1,2-Dichloroethylene	3.2	0.70	1.00			710.00	2300.00		
trans-1,2-Dichloroethylene	2.1								
Dichloromethane (meth. chloride)	16.1	1.00	1.00	0.30	0.30			0.30	0.30
Tetrachloroethylene	19.5	53.00	58.00			2100.00	37000.00		
1,1,2-Trichloroethane	1.9								
C9-C10 Aromatics	90.0								
C5-C11 Aliphatics & Alicyclic	123.3								
MAJORS - SEMI-VOLATILES									
Bis(2-ethylhexyl)phthalate	680.7	0.09	0.22					0.01	
Phenanthrene	4.9		0.10						
Butylcellosolve	60.6								
Butylcarbitol	82.8								
2-Phenoxyethanol	59.1								
Triethyleneglycol	60.0								
Phthalate ester matrix	510.3		5.00					0.06	
Unidentified glycol ethers	63.3								
2-(2-methoxy-ethoxy)-2-ethano	124.8								
MINORS - VOLATILES									
Acetone	36.7								
2-Butanone (MEK)	32.4				0.60				
Chlorobenzene	11.2								
1,2-Dichloropropane	3.9								
4-Methyl-2-pentanone (MIBK)	17.4								
Tetrahydrofuran	4.9								
Toluene	3.9								
1,1,1-Trichloroethane	4.6							0.10	
Trichloroethylene	6.4								
Trichlorofluoromethane	3.9								
Xylene, total	3.9								
MINORS - SEMI-VOLATILES									
Benzoic Acid	45.7								
Isophorone	20.7								
Phenol	21.4								
Bis(2-ethylhexyl)adipate	57.4								
2-(2-(2-Butoxyethoxy)	24.0								
ethoxy)ethanol									
Decanoic acid	35.5								
2-Ethyl hexanoic acid	14.1								
2-Ethyl-1-hexanol	61.8							0.01	
Heptanoic acid	56.8								
Hexanoic acid	95.4								
1-(2-Methoxy-1-methylethoxy)	70.8								
-2-propanol									
1-(2-(2-Methoxy-1-methyl	43.8							0.08	
ethoxy)-1-methylethoxy)									
-2-propanol									
1-(2-Methoxypropoxy)	50.5								
-2-propanol									
Octanoic acid	34.0								
2-Phenoxyethoxyethanol	12.0								
3,3,5-Trimethylcyclohexanol	4.8								
3,3,5-Trimethylcyclohexanone	16.2								
2,4,4-Trimethyl-1,3-pentadiol	11.9								
2,4,4-Trmeth-1,3-pent diisobuty	23.2								
diisobutyrate									

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC Clean-up Level (ppm)	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
		107356	90242	90243	90826	107357	107358	91244	91245
		Block	Block	Block	Block	Block	Block	Block	Block
MAJORS - VOLATILES		127/28W	126A	126A	124Q	122S	122CC	120A	120A
		Depth3'	Depth3'	Depth8'	Depth3'	Depth3'	Depth3'	Depth3'	Depth8'
1,1-Dichloroethane	2.3	0.43			0.70	0.10	1.00		
1,2-Dichloroethane	3.2				3.00	0.31			
1,1-Dichloroethylene	2.0	0.01					0.01		
cis-1,2-Dichloroethylene	3.2	0.12			19.00	0.73	0.01		
trans-1,2-Dichloroethylene	2.1	0.01							
Dichloromethane (meth. chloride)	16.1	0.02	0.30	0.30		0.03	0.02	0.20	0.20
Tetrachloroethylene	19.5	0.47			51.00	0.05	0.36		
1,1,2-Trichloroethane	1.9								
C9-C10 Aromatics	90.0								
C5-C11 Aliphatics & Alicyclic	123.3								
MAJORS - SEMI-VOLATILES									
Bis(2-ethylhexyl)phthalate	680.7	0.10				0.07	0.07		
Phenanthrene	4.9								0.01
Butylcellosolve	60.6								
Butylcarbitol	82.8								
2-Phenoxyethanol	59.1								
Triethyleneglycol	60.0								
Phthalate ester matrix	510.3	5.00					0.40		
Unidentified glycol ethers	63.3								
2-(2-methoxy-ethoxy)-2-ethanol	124.8								
MINORS - VOLATILES									
Acetone	36.7			0.70					0.50
2-Butanone (MEK)	32.4		0.60	0.70				0.80	0.70
Chlorobenzene	11.2	0.01			1.00				
1,2-Dichloropropane	3.9								
4-Methyl-2-pentanone (MIBK)	17.4								
Tetrahydrofuran	4.9								1.00
Toluene	3.9								
1,1,1-Trichloroethane	4.6						1.20		
Trichloroethylene	6.4	0.01			2.00				
Trichlorofluoromethane	3.9								
Xylene, total	3.9								0.50
MINORS - SEMI-VOLATILES									
Benzoic Acid	45.7								
Isophorone	20.7								
Phenol	21.4								
Bis(2-ethylhexyl)adipate	57.4								
2-(2-(2-Butoxyethoxy) ethoxy)ethanol	24.0								
Decanoic acid	35.5								
2-Ethyl hexanoic acid	14.1								
2-Ethyl-1-hexanol	61.8								
Heptanoic acid	56.8								
Hexanoic acid	95.4								
1-(2-Methoxy-1-methylethoxy) -2-propanol	70.8								
1-(2-(2-Methoxy-1-methyl ethoxy)-1-methylethoxy) -2-propanol	43.8								
1-(2-Methoxypropoxy) -2-propanol	50.5								
Octanoic acid	34.0								
2-Phenoxyethoxyethanol	12.0								
3,3,5-Trimethylcyclohexanol	4.8								
3,3,5-Trimethylcyclohexanone	16.2								
2,4,4-Trimethyl-1,3-pentadiol	11.9								
2,4,4-Trmeth-1,3-pent diisobuty diisobutyrate	23.2								

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC Clean-up Level (ppm)	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
		90821 Block 119DD Depth8'	90850 Block 119M Depth3'	63201 Block 119M Depth8'	90824 Block 119R Depth3'	90825 Block 119R Depth8'	107359 Block 116/17Y Depth3'	107360 Block 116/17Y Depth8'	91246 Block 114A Depth3'
MAJORS - VOLATILES									
1,1-Dichloroethane	2.3	160.00	0.60	3.30	1.70	0.40	3.00		0.60
1,2-Dichloroethane	3.2		0.10						
1,1-Dichloroethylene	2.0						3.00		
cis-1,2-Dichloroethylene	3.2		0.90	0.20	1.00	0.30			0.30
trans-1,2-Dichloroethylene	2.1				0.20				
Dichloromethane (meth. chloride)	16.1		0.20	0.10	0.20	0.30	1.00	400.00	0.20
Tetrachloroethylene	19.5		1.90	0.50	1.80	0.20	26.00		4.00
1,1,2-Trichloroethane	1.9								
C9-C10 Aromatics	90.0								
C5-C11 Aliphatics & Alicyclic	123.3			5.00					
MAJORS - SEMI-VOLATILES									
Bis(2-ethylhexyl)phthalate	680.7						0.78		0.01
Phenanthrene	4.9								
Butylcellosolve	60.6								
Butylcarbitol	82.8								
2-Phenoxyethanol	59.1								
Triethyleneglycol	60.0								
Phthalate ester matrix	510.3						10.00		
Unidentified glycol ethers	63.3								
2-(2-methoxy-ethoxy)-2-ethano	124.8								
MINORS - VOLATILES									
Acetone	36.7								
2-Butanone (MEK)	32.4								
Chlorobenzene	11.2								
1,2-Dichloropropane	3.9								
4-Methyl-2-pentanone (MIBK)	17.4								
Tetrahydrofuran	4.9			2.00					0.70
Toluene	3.9			0.10					
1,1,1-Trichloroethane	4.6				0.20		100.00	11000.00	
Trichloroethylene	6.4		0.50		0.60				
Trichlorofluoromethane	3.9				0.30				
Xylene, total	3.9		0.30	0.50					
MINORS - SEMI-VOLATILES									
Benzoic Acid	45.7								
Isophorone	20.7								
Phenol	21.4								
Bis(2-ethylhexyl)adipate	57.4								
2-(2-(2-Butoxyethoxy)	24.0								
ethoxy)ethanol									
Decanoic acid	35.5								
2-Ethyl hexanoic acid	14.1								
2-Ethyl-1-hexanol	61.8							20.00	
Heptanoic acid	56.8								
Hexanoic acid	95.4								
1-(2-Methoxy-1-methylethoxy)	70.8								
-2-propanol									
1-(2-(2-Methoxy-1-methyl	43.8								
ethoxy)-1-methylethoxy)									
-2-propanol									
1-(2-Methoxypropoxy)	50.5								
-2-propanol									
Octanoic acid	34.0								
2-Phenoxyethoxyethanol	12.0								
3,3,5-Trimethylcyclohexanol	4.8								
3,3,5-Trimethylcyclohexanone	16.2								
2,4,4-Trimethyl-1,3-pentadiol	11.9								
2,4,4-Trmeth-1,3-pent diisobuty	23.2								
diisobutyrate									

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC Clean-up Level (ppm)	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
		91247	90840	90841	107392	107393	107361	107362	90819
		Block 114A	Block 114J	Block 114J	Block 111S	Block 111S	Block 111CC	Block 111CC	Block 106BB
		Depth8'	Depth3'	Depth8'	Depth3'	Depth8'	Depth3'	Depth8'	Depth3'
MAJORS - VOLATILES									
1,1-Dichloroethane	2.3	160.00	17.00	110.00	0.30	0.28	0.47	1.30	0.30
1,2-Dichloroethane	3.2	40.00	20.00	260.00		0.11			
1,1-Dichloroethylene	2.0					0.03	0.03	0.01	
cis-1,2-Dichloroethylene	3.2	95.00		29.00		0.47	0.01	0.04	
trans-1,2-Dichloroethylene	2.1	4.00		1.00		0.07			
Dichloromethane (meth. chloride)	16.1	14.00	5.00	20.00		0.51	0.02	0.03	0.10
Tetrachloroethylene	19.5	1100.00	37.00	370.00	2.30	0.10	0.14	0.05	0.10
1,1,2-Trichloroethane	1.9								
C9-C10 Aromatics	90.0								
C5-C11 Aliphatics & Alicyclic	123.3								
MAJORS - SEMI-VOLATILES									
Bis(2-ethylhexyl)phthalate	680.7	0.02			1.10	0.10	0.03	0.10	
Phenanthrene	4.9								
Butylcellosolve	60.6		0.02	0.30					
Butylcarbitol	82.8								
2-Phenoxyethanol	59.1								
Triethyleneglycol	60.0								
Phthalate ester matrix	510.3				8.00	0.40	0.30	0.50	
Unidentified glycol ethers	63.3								
2-(2-methoxy-ethoxy)-2-ethano	124.8								
MINORS - VOLATILES									
Acetone	36.7		20.00	200.00		0.30			
2-Butanone (MEK)	32.4		10.00	160.00					
Chlorobenzene	11.2	1.00	5.00	160.00		0.06			
1,2-Dichloropropane	3.9								
4-Methyl-2-pentanone (MIBK)	17.4								
Tetrahydrofuran	4.9		28.00	50.00					
Toluene	3.9			1.00					0.40
1,1,1-Trichloroethane	4.6			9.00		0.18	4.30	0.13	0.40
Trichloroethylene	6.4	7.00	0.60	8.00		0.02			
Trichlorofluoromethane	3.9								
Xylene, total	3.9								
MINORS - SEMI-VOLATILES									
Benzoic Acid	45.7								
Isophorone	20.7		0.14	0.32					
Phenol	21.4								
Bis(2-ethylhexyl)adipate	57.4	0.01							
2-(2-(2-Butoxyethoxy)ethoxy)ethanol	24.0								
Decanoic acid	35.5								
2-Ethyl hexanoic acid	14.1								
2-Ethyl-1-hexanol	61.8	0.01							
Heptanoic acid	56.8								
Hexanoic acid	95.4								
1-(2-Methoxy-1-methylethoxy)-2-propanol	70.8		0.10	0.60		0.40			
1-(2-(2-Methoxy-1-methylethoxy)-1-methylethoxy)-2-propanol	43.8		0.04	1.00		0.40			
1-(2-Methoxypropoxy)-2-propanol	50.5								
Octanoic acid	34.0					0.30			
2-Phenoxyethoxyethanol	12.0								
3,3,5-Trimethylcyclohexanol	4.8								
3,3,5-Trimethylcyclohexanone	16.2								
2,4,4-Trimethyl-1,3-pentadiol	11.9								
2,4,4-Trmeth-1,3-pent diisobuty diisobutyrate	23.2								

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC Clean-up Level (ppm)	Sample	Sample	Sample	Sample	Sample	Sample	Sample
		90820 Block 106BB Depth8'	107394 Block 105/06W Depth3'	107395 Block 100S Depth3'	107363 Block 100CC Depth3'	90835 Block 96DD Depth3'	90818 Block 96DD Depth8'	107386 Block 94/94Y Depth3'
MAJORS - VOLATILES								
1,1-Dichloroethane	2.3	64.00	0.70		0.40	0.20		
1,2-Dichloroethane	3.2							
1,1-Dichloroethylene	2.0		0.50					
cis-1,2-Dichloroethylene	3.2			0.50		0.80	1.00	4.00
trans-1,2-Dichloroethylene	2.1					0.20		
Dichloromethane (meth. chloride)	16.1				1.00	0.20	0.20	4.00
Tetrachloroethylene	19.5		2.00	13.00	7.90	21.00		200.00
1,1,2-Trichloroethane	1.9							
C9-C10 Aromatics	90.0							
C5-C11 Aliphatics & Alicyclic	123.3							
MAJORS - SEMI-VOLATILES								
Bis(2-ethylhexyl)phthalate	680.7	0.01	0.20	0.22	0.54			3.60
Phenanthrene	4.9							
Butylcellosolve	60.6							
Butylcarbitol	82.8							
2-Phenoxyethanol	59.1							
Triethyleneglycol	60.0							
Phthalate ester matrix	510.3	0.09	4.00	3.00				30.00
Unidentified glycol ethers	63.3							
2-(2-methoxy-ethoxy)-2-ethano	124.8							
MINORS - VOLATILES								
Acetone	36.7							20.00
2-Butanone (MEK)	32.4							
Chlorobenzene	11.2	1.00						
1,2-Dichloropropane	3.9							
4-Methyl-2-pentanone (MIBK)	17.4							
Tetrahydrofuran	4.9							
Toluene	3.9							
1,1,1-Trichloroethane	4.6		4.50		3.50			
Trichloroethylene	6.4					0.20		5.00
Trichlorofluoromethane	3.9							
Xylene, total	3.9							
MINORS - SEMI-VOLATILES								
Benzoic Acid	45.7							
Isophorone	20.7							0.30
Phenol	21.4							
Bis(2-ethylhexyl)adipate	57.4							
2-(2-(2-Butoxyethoxy)	24.0							
ethoxy)ethanol								
Decanoic acid	35.5							
2-Ethyl hexanoic acid	14.1							
2-Ethyl-1-hexanol	61.8			0.30				
Heptanoic acid	56.8							
Hexanoic acid	95.4							
1-(2-Methoxy-1-methylethoxy)	70.8							
-2-propanol								
1-(2-(2-Methoxy-1-methyl	43.8							
ethoxy)-1-methylethoxy)								
-2-propanol								
1-(2-Methoxypropoxy)	50.5							
-2-propanol								
Octanoic acid	34.0							
2-Phenoxyethoxyethanol	12.0							
3,3,5-Trimethylcyclohexanol	4.8							
3,3,5-Trimethylcyclohexanone	16.2							0.30
2,4,4-Trimethyl-1,3-pentadiol	11.9							
2,4,4-Trmeth-1,3-pent diisobuty	23.2		0.20					
diisobutyrate								

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC Clean-up Level (ppm)	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
		107387 Block 94/94Y Depth8'	90836 Block 91V Depth3'	90837 Block 91V Depth8'	107396 Block 89S Depth3'	107397 Block 89S Depth8'	107377 Block 90CC Depth3'	107378 Block 90CC Depth8'	86P@3 Block 86P Depth3'
MAJORS - VOLATILES									
1,1-Dichloroethane	2.3		0.20		0.02	0.05			
1,2-Dichloroethane	3.2		0.10		0.02	0.03			
1,1-Dichloroethylene	2.0				0.01				
cis-1,2-Dichloroethylene	3.2	26.00	0.40		0.03	0.11			
trans-1,2-Dichloroethylene	2.1	1.00				0.01			
Dichloromethane (meth. chloride)	16.1	2.00	0.20	0.10	0.11	0.13	0.02	0.02	
Tetrachloroethylene	19.5	190.00	3.60		0.07	0.07	0.02		1.30
1,1,2-Trichloroethane	1.9								
C9-C10 Aromatics	90.0								
C5-C11 Aliphatics & Alicyclic	123.3								
MAJORS - SEMI-VOLATILES									
Bis(2-ethylhexyl)phthalate	680.7	0.90			0.20	0.10	0.23	0.04	
Phenanthrene	4.9								
Butylcellosolve	60.6								
Butylcarbitol	82.8								
2-Phenoxyethanol	59.1								
Triethyleneglycol	60.0								
Phthalate ester matrix	510.3	2.00			3.00		1.00		
Unidentified glycol ethers	63.3								
2-(2-methoxy-ethoxy)-2-ethano	124.8								
MINORS - VOLATILES									
Acetone	36.7					0.08			
2-Butanone (MEK)	32.4			0.60					
Chlorobenzene	11.2								0.18
1,2-Dichloropropane	3.9								
4-Methyl-2-pentanone (MIBK)	17.4								
Tetrahydrofuran	4.9								
Toluene	3.9					0.01			
1,1,1-Trichloroethane	4.6					0.13	0.01		
Trichloroethylene	6.4	6.00	0.10		0.01	0.01			
Trichlorofluoromethane	3.9								
Xylene, total	3.9								
MINORS - SEMI-VOLATILES									
Benzoic Acid	45.7								
Isophorone	20.7	0.10			0.02				
Phenol	21.4								
Bis(2-ethylhexyl)adipate	57.4								
2-(2-(2-Butoxyethoxy)	24.0								
ethoxy)ethanol									
Decanoic acid	35.5								
2-Ethyl hexanoic acid	14.1								
2-Ethyl-1-hexanol	61.8								
Heptanoic acid	56.8								
Hexanoic acid	95.4								
1-(2-Methoxy-1-methylethoxy)	70.8	0.30							
-2-propanol									
1-(2-(2-Methoxy-1-methyl	43.8	0.20							
ethoxy)-1-methylethoxy)									
-2-propanol									
1-(2-Methoxypropoxy)	50.5								
-2-propanol									
Octanoic acid	34.0								
2-Phenoxyethoxyethanol	12.0								
3,3,5-Trimethylcyclohexanol	4.8								
3,3,5-Trimethylcyclohexanone	16.2	2.00							
2,4,4-Trimethyl-1,3-pentadiol	11.9								
2,4,4-Trmeth-1,3-pent diisobuty	23.2								
diisobutyrate									

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC Clean-up Level (ppm)	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
		86P@8 Block 86P Depth8'	91248 Block 84A Depth3'	91249 Block 84A Depth8'	107383 Block 83/84W Depth3'	90816 Block 80Q Depth3'	90817 Block 80Q Depth8'	107391 Block 78S Depth3'	107376 Block 78CC Depth3'	90814 Block 78V Depth3'
MAJORS - VOLATILES										
1,1-Dichloroethane	2.3						1.60			
1,2-Dichloroethane	3.2									
1,1-Dichloroethylene	2.0									
cis-1,2-Dichloroethylene	3.2							2.00		
trans-1,2-Dichloroethylene	2.1									
Dichloromethane (meth. chloride)	16.1		0.30	0.30	1.00	0.20	0.20	2.00	0.02	
Tetrachloroethylene	19.5	0.21	0.10		2.10			92.00		27.00
1,1,2-Trichloroethane	1.9									
C9-C10 Aromatics	90.0									
C5-C11 Aliphatics & Alicyclic	123.3									
MAJORS - SEMI-VOLATILES										
Bis(2-ethylhexyl)phthalate	680.7				0.03			1.10	0.06	
Phenanthrene	4.9									
Butylcellosolve	60.6									
Butylcarbitol	82.8									
2-Phenoxyethanol	59.1									
Triethyleneglycol	60.0									
Phthalate ester matrix	510.3				0.20			10.00	0.30	
Unidentified glycol ethers	63.3									
2-(2-methoxy-ethoxy)-2-ethano	124.8									
MINORS - VOLATILES										
Acetone	36.7									
2-Butanone (MEK)	32.4		0.70				0.50			
Chlorobenzene	11.2									
1,2-Dichloropropane	3.9									
4-Methyl-2-pentanone (MIBK)	17.4									
Tetrahydrofuran	4.9									
Toluene	3.9									
1,1,1-Trichloroethane	4.6									
Trichloroethylene	6.4							2.00		
Trichlorofluoromethane	3.9									
Xylene, total	3.9						0.10			
MINORS - SEMI-VOLATILES										
Benzoic Acid	45.7									
Isophorone	20.7							0.03		
Phenol	21.4									
Bis(2-ethylhexyl)adipate	57.4									
2-(2-(2-Butoxyethoxy) ethoxy)ethanol	24.0									
Decanoic acid	35.5									
2-Ethyl hexanoic acid	14.1									
2-Ethyl-1-hexanol	61.8							0.10		
Heptanoic acid	56.8									
Hexanoic acid	95.4									
1-(2-Methoxy-1-methylethoxy) -2-propanol	70.8									
1-(2-(2-Methoxy-1-methyl ethoxy)-1-methylethoxy) -2-propanol	43.8									
1-(2-Methoxypropoxy) -2-propanol	50.5									
Octanoic acid	34.0									
2-Phenoxyethoxyethanol	12.0									
3,3,5-Trimethylcyclohexanol	4.8									
3,3,5-Trimethylcyclohexanone	16.2									
2,4,4-Trimethyl-1,3-pentadiol	11.9									
2,4,4-Trmeth-1,3-pent diisobuty diisobutyrate	23.2							0.10		

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC Clean-up Level (ppm)	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
		90815	91250	89033	107384	107385	89034	89035	107389
		Block 78V Depth8'	Block 76A Depth3'	Block 76A Depth8'	Block 72/73Y Depth3'	Block 72/73Y Depth8'	Block 69A Depth3'	Block 69A Depth8'	Block 67S Depth3'
MAJORS - VOLATILES									
1,1-Dichloroethane	2.3				0.05	0.06			
1,2-Dichloroethane	3.2					0.11			0.20
1,1-Dichloroethylene	2.0								
cis-1,2-Dichloroethylene	3.2								
trans-1,2-Dichloroethylene	2.1								
Dichloromethane (meth. chloride)	16.1	0.10	0.10		0.01	0.01			
Tetrachloroethylene	19.5		0.20		0.05				0.80
1,1,2-Trichloroethane	1.9								
C9-C10 Aromatics	90.0								
C5-C11 Aliphatics & Alicyclic	123.3								
MAJORS - SEMI-VOLATILES									
Bis(2-ethylhexyl)phthalate	680.7	0.01			0.04	0.03			1.10
Phenanthrene	4.9								1.20
Butylcellosolve	60.6								
Butylcarbitol	82.8								
2-Phenoxyethanol	59.1								
Triethyleneglycol	60.0								
Phthalate ester matrix	510.3				3.00				8.00
Unidentified glycol ethers	63.3								
2-(2-methoxy-ethoxy)-2-ethano	124.8								
MINORS - VOLATILES									
Acetone	36.7								
2-Butanone (MEK)	32.4		0.70	0.70			0.60	0.50	
Chlorobenzene	11.2								0.80
1,2-Dichloropropane	3.9								
4-Methyl-2-pentanone (MIBK)	17.4			0.30			0.30	0.20	
Tetrahydrofuran	4.9		0.60						
Toluene	3.9								
1,1,1-Trichloroethane	4.6				0.06				0.30
Trichloroethylene	6.4								0.40
Trichlorofluoromethane	3.9								
Xylene, total	3.9								
MINORS - SEMI-VOLATILES									
Benzoic Acid	45.7								
Isophorone	20.7								0.10
Phenol	21.4								
Bis(2-ethylhexyl)adipate	57.4								
2-(2-(2-Butoxyethoxy) ethoxy)ethanol	24.0								
Decanoic acid	35.5								
2-Ethyl hexanoic acid	14.1								
2-Ethyl-1-hexanol	61.8								
Heptanoic acid	56.8								
Hexanoic acid	95.4								
1-(2-Methoxy-1-methylethoxy) -2-propanol	70.8								
1-(2-(2-Methoxy-1-methyl ethoxy)-1-methylethoxy) -2-propanol	43.8								
1-(2-Methoxypropoxy) -2-propanol	50.5								
Octanoic acid	34.0								
2-Phenoxyethoxyethanol	12.0								
3,3,5-Trimethylcyclohexanol	4.8								
3,3,5-Trimethylcyclohexanone	16.2								0.50
2,4,4-Trimethyl-1,3-pentadiol	11.9								
2,4,4-Trmeth-1,3-pent diisobuty diisobutyrate	23.2								

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
	Clean-up	107390	107374	107375	90812	90813	107388	89036	89037
	Level	Block	Block	Block	Block	Block	Block	Block	Block
	(ppm)	67S	67CC	67CC	66Y	66Y	61/62W	61A	61A
		Depth8'	Depth3'	Depth8'	Depth3'	Depth8'	Depth3'	Depth3'	Depth8'
MAJORS - VOLATILES									
1,1-Dichloroethane	2.3	0.01	0.01	0.11	1.20	67.00	0.50		
1,2-Dichloroethane	3.2	0.07			0.10		4.90		
1,1-Dichloroethylene	2.0				0.10	5.00	0.50		
cis-1,2-Dichloroethylene	3.2	0.01							
trans-1,2-Dichloroethylene	2.1								
Dichloromethane (meth. chloride)	16.1	0.09	0.02	0.02	0.20	2.00	0.40	0.10	0.20
Tetrachloroethylene	19.5	0.01			0.70	4.00	3.90	12.00	
1,1,2-Trichloroethane	1.9				0.10				
C9-C10 Aromatics	90.0								
C5-C11 Aliphatics & Alicyclic	123.3								
MAJORS - SEMI-VOLATILES									
Bis(2-ethylhexyl)phthalate	680.7	0.09	2.00	0.08	0.01	0.04	0.20		
Phenanthrene	4.9								
Butylcellosolve	60.6								
Butylcarbitol	82.8								
2-Phenoxyethanol	59.1								
Triethyleneglycol	60.0								
Phthalate ester matrix	510.3		300.00		4.00	20.00	2.00		
Unidentified glycol ethers	63.3								
2-(2-methoxy-ethoxy)-2-ethano	124.8								
MINORS - VOLATILES									
Acetone	36.7	0.01							
2-Butanone (MEK)	32.4	0.04						0.50	0.50
Chlorobenzene	11.2	0.01							
1,2-Dichloropropane	3.9								
4-Methyl-2-pentanone (MIBK)	17.4	0.10					0.01		
Tetrahydrofuran	4.9	2.90					2.00	0.60	
Toluene	3.9				0.10	6.00			
1,1,1-Trichloroethane	4.6	0.02	0.01		11.00	110.00	2.00		
Trichloroethylene	6.4								
Trichlorofluoromethane	3.9								
Xylene, total	3.9				1.10	35.00			
MINORS - SEMI-VOLATILES									
Benzoic Acid	45.7								
Isophorone	20.7	0.09					1.00		
Phenol	21.4								
Bis(2-ethylhexyl)adipate	57.4								
2-(2-(2-Butoxyethoxy)	24.0								
ethoxy)ethanol									
Decanoic acid	35.5								
2-Ethyl hexanoic acid	14.1								
2-Ethyl-1-hexanol	61.8								
Heptanoic acid	56.8								
Hexanoic acid	95.4								
1-(2-Methoxy-1-methylethoxy)	70.8	0.30							
-2-propanol									
1-(2-(2-Methoxy-1-methyl	43.8	0.50							
ethoxy)-1-methylethoxy)									
-2-propanol									
1-(2-Methoxypropoxy)	50.5								
-2-propanol									
Octanoic acid	34.0								
2-Phenoxyethoxyethanol	12.0								
3,3,5-Trimethylcyclohexanol	4.8	0.60							
3,3,5-Trimethylcyclohexanone	16.2	2.00					0.20		
2,4,4-Trimethyl-1,3-pentadiol	11.9	0.20							
2,4,4-Trmeth-1,3-pent diisobuty	23.2								
diisobutyrate									

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC Clean-up Level (ppm)	Sample 90810	Sample 90811	Sample 107398	Sample 107373	Sample 89038	Sample 89039	Sample 107369	Sample 107370
		Block 60AA Depth3'	Block 60AA Depth8'	Block 56S Depth3'	Block 56CC Depth3'	Block 53A Depth3'	Block 53A Depth8'	Block 50/51Y Depth3'	Block 50/51Y Depth8'
MAJORS - VOLATILES									
1,1-Dichloroethane	2.3	3.10	0.50	24.00				0.04	
1,2-Dichloroethane	3.2	0.60	2.30	94.00					0.08
1,1-Dichloroethylene	2.0			10.00					
cis-1,2-Dichloroethylene	3.2			5.00					
trans-1,2-Dichloroethylene	2.1								
Dichloromethane (meth. chloride)	16.1	0.20	0.20	130.00	0.02	0.20	0.20	0.01	0.01
Tetrachloroethylene	19.5	0.80		220.00	0.01	0.30	0.50	0.21	
1,1,2-Trichloroethane	1.9								
C9-C10 Aromatics	90.0								
C5-C11 Aliphatics & Alicyclic	123.3								
MAJORS - SEMI-VOLATILES									
Bis(2-ethylhexyl)phthalate	680.7		0.01	450.00	0.10		0.08	0.03	
Phenanthrene	4.9								
Butylcellosolve	60.6			100.00					
Butylcarbitol	82.8								
2-Phenoxyethanol	59.1								
Triethyleneglycol	60.0								
Phthalate ester matrix	510.3						0.06	0.40	
Unidentified glycol ethers	63.3								
2-(2-methoxy-ethoxy)-2-ethanol	124.8								
MINORS - VOLATILES									
Acetone	36.7								
2-Butanone (MEK)	32.4			80.00			0.60		
Chlorobenzene	11.2								
1,2-Dichloropropane	3.9								
4-Methyl-2-pentanone (MIBK)	17.4								
Tetrahydrofuran	4.9			80.00					
Toluene	3.9								
1,1,1-Trichloroethane	4.6	4.50	0.10	180.00				0.06	0.01
Trichloroethylene	6.4			36.00					
Trichlorofluoromethane	3.9								
Xylene, total	3.9								
MINORS - SEMI-VOLATILES									
Benzoic Acid	45.7								
Isophorone	20.7			420.00					
Phenol	21.4								
Bis(2-ethylhexyl)adipate	57.4								
2-(2-(2-Butoxyethoxy)ethoxy)ethanol	24.0								
Decanoic acid	35.5								
2-Ethyl hexanoic acid	14.1								
2-Ethyl-1-hexanol	61.8								
Heptanoic acid	56.8								
Hexanoic acid	95.4								
1-(2-Methoxy-1-methylethoxy)-2-propanol	70.8								
1-(2-(2-Methoxy-1-methylethoxy)-1-methylethoxy)-2-propanol	43.8								
1-(2-Methoxypropoxy)-2-propanol	50.5								
Octanoic acid	34.0								
2-Phenoxyethoxyethanol	12.0								
3,3,5-Trimethylcyclohexanol	4.8								
3,3,5-Trimethylcyclohexanone	16.2								
2,4,4-Trimethyl-1,3-pentadiol	11.9								
2,4,4-Trmeth-1,3-pent diisobuty diisobutyrate	23.2			60.00					

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
	Clean-up	89040	90801	107371	107372	90838	90839	107367	107364
	Level	Block	Block	Block	Block	Block	Block	Block	Block
	(ppm)	45A	45A	45S	45S	45X	45X	45CC	39/40W
		Depth3'	Depth8'	Depth3'	Depth8'	Depth3'	Depth8'	Depth3'	Depth3'
MAJORS - VOLATILES									
1,1-Dichloroethane	2.3			0.02	0.01		0.10	1.00	0.02
1,2-Dichloroethane	3.2			0.07	0.01			0.04	
1,1-Dichloroethylene	2.0								
cis-1,2-Dichloroethylene	3.2							0.04	
trans-1,2-Dichloroethylene	2.1								
Dichloromethane (meth. chloride)	16.1	0.20	0.20	0.01	0.02	0.10	0.10	2.00	0.02
Tetrachloroethylene	19.5	0.20	0.20	0.06	0.45			2.40	0.02
1,1,2-Trichloroethane	1.9								
C9-C10 Aromatics	90.0								
C5-C11 Aliphatics & Alicyclic	123.3								
MAJORS - SEMI-VOLATILES									
Bis(2-ethylhexyl)phthalate	680.7			26.00	60.00			0.68	
Phenanthrene	4.9								
Butylcellosolve	60.6								
Butylcarbitol	82.8								
2-Phenoxyethanol	59.1								
Triethyleneglycol	60.0								
Phthalate ester matrix	510.3			20.00	200.00				
Unidentified glycol ethers	63.3								
2-(2-methoxy-ethoxy)-2-ethano	124.8								
MINORS - VOLATILES									
Acetone	36.7							2.00	
2-Butanone (MEK)	32.4				0.01				
Chlorobenzene	11.2								
1,2-Dichloropropane	3.9								
4-Methyl-2-pentanone (MIBK)	17.4								
Tetrahydrofuran	4.9								
Toluene	3.9								
1,1,1-Trichloroethane	4.6			0.03	0.01			4.70	
Trichloroethylene	6.4		0.20		0.01			0.50	
Trichlorofluoromethane	3.9								
Xylene, total	3.9								
MINORS - SEMI-VOLATILES									
Benzoic Acid	45.7								
Isophorone	20.7								
Phenol	21.4								
Bis(2-ethylhexyl)adipate	57.4								
2-(2-(2-Butoxyethoxy)	24.0								
ethoxy)ethanol									
Decanoic acid	35.5								
2-Ethyl hexanoic acid	14.1								
2-Ethyl-1-hexanol	61.8								
Heptanoic acid	56.8								
Hexanoic acid	95.4								
1-(2-Methoxy-1-methylethoxy)	70.8								
-2-propanol									
1-(2-(2-Methoxy-1-methyl	43.8								
ethoxy)-1-methylethoxy)									
-2-propanol									
1-(2-Methoxypropoxy)	50.5								
-2-propanol									
Octanoic acid	34.0								
2-Phenoxyethoxyethanol	12.0								
3,3,5-Trimethylcyclohexanol	4.8								
3,3,5-Trimethylcyclohexanone	16.2								
2,4,4-Trimethyl-1,3-pentadiol	11.9								
2,4,4-Trmeth-1,3-pent diisobuty	23.2								
diisobutyrate									

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC Clean-up Level (ppm)	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
		37A@3	37A@3	107366	107365	31V@3	31V@8	89015	89016
		Block 37A	Block 37A	Block 34S	Block 34CC	Block 31V	Block 31V	Block 28/29Y	Block 28/29Y
		Depth3'	Depth8'	Depth3'	Depth3'	Depth3'	Depth8'	Depth3'	Depth8'
MAJORS - VOLATILES									
1,1-Dichloroethane	2.3		0.10	0.07	0.01	0.13			
1,2-Dichloroethane	3.2			0.02					
1,1-Dichloroethylene	2.0								
cis-1,2-Dichloroethylene	3.2								
trans-1,2-Dichloroethylene	2.1								
Dichloromethane (meth. chloride)	16.1			0.02	0.02			0.01	0.01
Tetrachloroethylene	19.5	0.14	0.59	0.22					
1,1,2-Trichloroethane	1.9								
C9-C10 Aromatics	90.0								
C5-C11 Aliphatics & Alicyclic	123.3								
MAJORS - SEMI-VOLATILES									
Bis(2-ethylhexyl)phthalate	680.7			0.03	0.02				
Phenanthrene	4.9								
Butylcellosolve	60.6								
Butylcarbitol	82.8								
2-Phenoxyethanol	59.1								
Triethyleneglycol	60.0								
Phthalate ester matrix	510.3			0.50	0.50				
Unidentified glycol ethers	63.3								
2-(2-methoxy-ethoxy)-2-ethano	124.8								
MINORS - VOLATILES									
Acetone	36.7								
2-Butanone (MEK)	32.4								
Chlorobenzene	11.2	0.34							
1,2-Dichloropropane	3.9								
4-Methyl-2-pentanone (MIBK)	17.4								
Tetrahydrofuran	4.9								
Toluene	3.9								
1,1,1-Trichloroethane	4.6			0.11					
Trichloroethylene	6.4			0.02					
Trichlorofluoromethane	3.9								
Xylene,total	3.9								
MINORS - SEMI-VOLATILES									
Benzoic Acid	45.7								
Isophorone	20.7								
Phenol	21.4								
Bis(2-ethylhexyl)adipate	57.4								
2-(2-(2-Butoxyethoxy)	24.0								
ethoxy)ethanol									
Decanoic acid	35.5								
2-Ethyl hexanoic acid	14.1								
2-Ethyl-1-hexanol	61.8								
Heptanoic acid	56.8								
Hexanoic acid	95.4								
1-(2-Methoxy-1-methylethoxy)	70.8								
-2-propanol									
1-(2-(2-Methoxy-1-methyl	43.8								
ethoxy)-1-methylethoxy)									
-2-propanol									
1-(2-Methoxypropoxy)	50.5								
-2-propanol									
Octanoic acid	34.0								
2-Phenoxyethoxyethanol	12.0								
3,3,5-Trimethylcyclohexanol	4.8								
3,3,5-Trimethylcyclohexanone	16.2								
2,4,4-Trimethyl-1,3-pentadiol	11.9								
2,4,4-Trmeth-1,3-pent diisobuty	23.2								
diisobutyrate									

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
	Clean-up	29A@3	29A@8	89011	89012	89013	89014	21A@3	21A@8
	Level	Block	Block	Block	Block	Block	Block	Block	Block
	(ppm)	29A	29A	23S	23S	23CC	23CC	21A	21A
		Depth3'	Depth8'	Depth3'	Depth8'	Depth3'	Depth8'	Depth3'	Depth8'
MAJORS - VOLATILES									
1,1-Dichloroethane	2.3		0.27			0.01		5.70	3.80
1,2-Dichloroethane	3.2	0.17	0.19						2.40
1,1-Dichloroethylene	2.0								
cis-1,2-Dichloroethylene	3.2								
trans-1,2-Dichloroethylene	2.1								
Dichloromethane (meth. chloride)	16.1			0.01	5.00	0.01	0.01		0.76
Tetrachloroethylene	19.5		1.60					1.50	1.50
1,1,2-Trichloroethane	1.9								
C9-C10 Aromatics	90.0								
C5-C11 Aliphatics & Alicyclic	123.3								
MAJORS - SEMI-VOLATILES									
Bis(2-ethylhexyl)phthalate	680.7			1300.00	31.00				
Phenanthrene	4.9								
Butylcellosolve	60.6								
Butylcarbitol	82.8								
2-Phenoxyethanol	59.1								
Triethyleneglycol	60.0								
Phthalate ester matrix	510.3			1000.00	20.00	3.00			
Unidentified glycol ethers	63.3								
2-(2-methoxy-ethoxy)-2-ethano	124.8								
MINORS - VOLATILES									
Acetone	36.7			0.10		0.20			
2-Butanone (MEK)	32.4								1.50
Chlorobenzene	11.2								
1,2-Dichloropropane	3.9							0.18	0.87
4-Methyl-2-pentanone (MIBK)	17.4			0.04	260.00				
Tetrahydrofuran	4.9								
Toluene	3.9								
1,1,1-Trichloroethane	4.6							0.95	0.24
Trichloroethylene	6.4		2.40					0.34	0.54
Trichlorofluoromethane	3.9								
Xylene, total	3.9				5.00	0.01			
MINORS - SEMI-VOLATILES									
Benzoic Acid	45.7								
Isophorone	20.7								
Phenol	21.4								
Bis(2-ethylhexyl)adipate	57.4								
2-(2-(2-Butoxyethoxy)	24.0								
ethoxy)ethanol									
Decanoic acid	35.5								
2-Ethyl hexanoic acid	14.1								
2-Ethyl-1-hexanol	61.8								
Heptanoic acid	56.8								
Hexanoic acid	95.4								
1-(2-Methoxy-1-methylethoxy)	70.8								
-2-propanol									
1-(2-(2-Methoxy-1-methyl	43.8								
ethoxy)-1-methylethoxy)									
-2-propanol									
1-(2-Methoxypropoxy)	50.5								
-2-propanol									
Octanoic acid	34.0								
2-Phenoxyethoxyethanol	12.0								
3,3,5-Trimethylcyclohexanol	4.8								
3,3,5-Trimethylcyclohexanone	16.2								
2,4,4-Trimethyl-1,3-pentadiol	11.9								
2,4,4-Trmeth-1,3-pent diisobuty	23.2								
diisobutyrate									

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC Clean-up Level (ppm)	Sample 89009 Block 17/18W Depth3'	Sample 89010 Block 17/18W Depth8'	Sample 89007 Block 12S Depth3'	Sample 89008 Block 12S Depth8'	Sample 12X@3 Block 12X Depth3'	Sample 12X@8 Block 12X Depth8'	Sample 89005 Block 12CC Depth3'	Sample 89006 Block 12CC Depth8'
MAJORS - VOLATILES									
1,1-Dichloroethane	2.3								
1,2-Dichloroethane	3.2								
1,1-Dichloroethylene	2.0								
cis-1,2-Dichloroethylene	3.2								
trans-1,2-Dichloroethylene	2.1								
Dichloromethane (meth. chloride)	16.1	0.01	0.01	0.01	0.01				0.01
Tetrachloroethylene	19.5								
1,1,2-Trichloroethane	1.9								
C9-C10 Aromatics	90.0								
C5-C11 Aliphatics & Alicyclic	123.3								
MAJORS - SEMI-VOLATILES									
Bis(2-ethylhexyl)phthalate	680.7								
Phenanthrene	4.9								
Butylcellosolve	60.6								
Butylcarbitol	82.8								
2-Phenoxyethanol	59.1								
Triethyleneglycol	60.0								
Phthalate ester matrix	510.3								
Unidentified glycol ethers	63.3								
2-(2-methoxy-ethoxy)-2-ethanol	124.8								
MINORS - VOLATILES									
Acetone	36.7	0.20		0.20					
2-Butanone (MEK)	32.4			0.05					
Chlorobenzene	11.2								
1,2-Dichloropropane	3.9								
4-Methyl-2-pentanone (MIBK)	17.4								
Tetrahydrofuran	4.9			0.05	0.03				
Toluene	3.9								
1,1,1-Trichloroethane	4.6								
Trichloroethylene	6.4								
Trichlorofluoromethane	3.9								
Xylene, total	3.9	0.01		0.01					
MINORS - SEMI-VOLATILES									
Benzoic Acid	45.7								
Isophorone	20.7								
Phenol	21.4								
Bis(2-ethylhexyl)adipate	57.4								
2-(2-(2-Butoxyethoxy) ethoxy)ethanol	24.0								
Decanoic acid	35.5								
2-Ethyl hexanoic acid	14.1								
2-Ethyl-1-hexanol	61.8								
Heptanoic acid	56.8								
Hexanoic acid	95.4								
1-(2-Methoxy-1-methylethoxy) -2-propanol	70.8								
1-(2-(2-Methoxy-1-methyl ethoxy)-1-methylethoxy) -2-propanol	43.8								
1-(2-Methoxypropoxy) -2-propanol	50.5								
Octanoic acid	34.0								
2-Phenoxyethoxyethanol	12.0								
3,3,5-Trimethylcyclohexanol	4.8								
3,3,5-Trimethylcyclohexanone	16.2								
2,4,4-Trimethyl-1,3-pentadiol	11.9								
2,4,4-Trimethyl-1,3-pent diisobuty diisobutyrate	23.2								

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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TABLE 5. SUMMARY OF THE CHEMICALS OF CONCERN IN 1992 PRETREATMENT SOIL SAMPLES

CHEMICALS OF CONCERN	DTSC	Sample	Sample	Sample	Sample	Sample	Sample
	Clean-up	6T@3	6T@8	89003	89004	89001	89002
	Level	Block	Block	Block	Block	Block	Block
	(ppm)	6T	6T	6/7Y	6/7Y	1S	1S
MAJORS - VOLATILES		Depth3'	Depth8'	Depth3'	Depth8'	Depth3'	Depth8'
1,1-Dichloroethane	2.3						
1,2-Dichloroethane	3.2						
1,1-Dichloroethylene	2.0						
cis-1,2-Dichloroethylene	3.2					0.04	
trans-1,2-Dichloroethylene	2.1						
Dichloromethane (meth. chloride)	16.1					0.04	0.01
Tetrachloroethylene	19.5					0.07	
1,1,2-Trichloroethane	1.9						
C9-C10 Aromatics	90.0						
C5-C11 Aliphatics & Alicyclic	123.3						
MAJORS - SEMI-VOLATILES							
Bis(2-ethylhexyl)phthalate	680.7				0.02		0.04
Phenanthrene	4.9						
Butylcellosolve	60.6						
Butylcarbitol	82.8						
2-Phenoxyethanol	59.1						
Triethyleneglycol	60.0						
Phthalate ester matrix	510.3						
Unidentified glycol ethers	63.3						
2-(2-methoxy-ethoxy)-2-ethano	124.8						
MINORS - VOLATILES							
Acetone	36.7					0.36	
2-Butanone (MEK)	32.4						
Chlorobenzene	11.2						
1,2-Dichloropropane	3.9						
4-Methyl-2-pentanone (MIBK)	17.4						
Tetrahydrofuran	4.9						
Toluene	3.9						
1,1,1-Trichloroethane	4.6						
Trichloroethylene	6.4					0.03	
Trichlorofluoromethane	3.9						
Xylene, total	3.9						
MINORS - SEMI-VOLATILES							
Benzoic Acid	45.7						
Isophorone	20.7						
Phenol	21.4						
Bis(2-ethylhexyl)adipate	57.4						
2-(2-(2-Butoxyethoxy)	24.0						
ethoxy)ethanol							
Decanoic acid	35.5						
2-Ethyl hexanoic acid	14.1						
2-Ethyl-1-hexanol	61.8						
Heptanoic acid	56.8						
Hexanoic acid	95.4						
1-(2-Methoxy-1-methylethoxy)	70.8						
-2-propanol							
1-(2-(2-Methoxy-1-methyl	43.8						
ethoxy)-1-methylethoxy)							
-2-propanol							
1-(2-Methoxypropoxy)	50.5						
-2-propanol							
Octanoic acid	34.0						
2-Phenoxyethoxyethanol	12.0						
3,3,5-Trimethylcyclohexanol	4.8						
3,3,5-Trimethylcyclohexanone	16.2						
2,4,4-Trimethyl-1,3-pentadiol	11.9						
2,4,4-Trmeth-1,3-pent diisobuty	23.2						
disobutyrate							

Values not listed were below detection limit. All listed values are in mg/kg (ppm).

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DISCUSSION OF RESULTS

VOLATILE ORGANIC COMPOUNDS

Individual 1992 Pretreatment Sample Points-Total VOCs

Analytical results of 104 soil samples showed little or no VOCs in most samples. As of the date of this Draft Report, soils from boring locations were analyzed for VOCs in the vadose and/or saturated zones for a total 184 soil samples. Laboratory analysis showed 18 soil samples contained total VOCs greater than 50 ppm at the 3 foot depth and 14 soil samples contained total VOCs greater than 50 ppm at the 8 foot depth (Table 3).

Contours of Total VOCs in the Vadose Zone

Contours of isoconcentration were generated by using advanced geostatistical techniques. The data used as input for the geostatistics resulted from laboratory analyses of soil samples.

Isoconcentration contours of total VOCs in the vadose zone showed several areas containing greater than 50 ppm total VOCs. These areas were predominantly in the eastern areas of the site. In the northeast corner, total VOCs covered a large area from approximately block 5A to 220 (the respective northeastern and southeastern corners of this area).

The central portion of the site has pretreatment of VOCs in soil. Several large areas of VOC concentration in the central eastern portion of the site were the area bounded approximately by 27C to 61S and the area bounded approximately by 87B to 99AA to 110C. Several smaller locations of total VOCs in the central eastern portion are 66V to 66W, 69O to 70F, 75E to 79D, 78S, 113I to 116P, 116W to 118Y, and 124Q.

The southern portion of the site showed two areas with contiguous isocontours delineating 50 ppm total VOCs: 128D to 133BB to 143C and 140 C to 143J.

Contours of Total VOCs in the Saturated Zone

Isoconcentration contours of total VOCs in the saturated zone showed several areas containing greater than 50 ppm total VOCs. As with the VOCs in the vadose zone, the saturated zone VOCs were located in the eastern portion of the site, with several exceptions. In the northeastern portion of the Annex Terminal, total VOCs covered small areas bounded approximately by 24B to 27I to 30E, 33B to 35E, and 23Q to 23T.

In the central eastern portion of the site, several areas contain total VOCs greater than 50 ppm: an irregular area from 47E to 51Q to 53L; and from 47E to 51Q to 53L; a moderate size area 94Q to 99J; a large area 104A to 118L; and two small areas from 23P to 23S and 33B to 35E. In the central western portion of the site, several small areas and one moderate sized area showed greater than 50 ppm: 66X to 66Z, 94Y to 95W, 106BB, and 114V to 120CC. In the southern portion of the site, the following areas were bounded by 50 ppm VOC contours: 127I to 131J, 133T, 131N to 143D, and 143O.

All of the above areas containing VOCs in the saturated zone correspond to areas containing VOCs in the vadose zone; however, the areas in the saturated zone are generally smaller in size. The difference in size between the saturated and vadose zone VOCs is especially noticeable in the northern portion of the site.

Comparison of Soil Gas Contours with Contours of Vadose Zone VOCs

The soil gas contours were compared with the contours of the total VOCs in the vadose zone soil samples. No comparisons were made between the soil gas contours and the total VOC results of the saturated zone soil samples because VOCs in the saturated zone are believed not to be in the vapor phase necessary for soil gas detection. In addition, no comparisons were made between the soil gas contours and the SVC results of soil samples because SVCs are believed to contribute little to the chemical compounds in the vapor phase.

The soil gas samples, taken in the unremediated areas, showed several locations of relatively high chemical concentrations. Comparison of the soil gas contours and the contours of VOCs in the vadose zone showed that the soil gas locations were near or over locations of relatively high chemical concentration in soil samples. The locations of the center points of the local soil gas contours were closely aligned to the corresponding center points of the local soil sample contours. The locations of these comparable contour center points are in or around the following blocks:

<u>Soil Gas</u>	<u>Soil samples</u>
* 15 M	* Over large high concentration area
* 62 Y	* 65 W
* 68 J	* 69 J
* 82 N	* 78 S
* 97 Z	* 95 Z
* 102 N	* 101 N
* 115 Z	* 117 Y
* 130 F	* Over large high concentration area
* 135 O	* Over large high concentration area

The southeastern corner of the site was the only area that the soil gas contours did not compare well with the soil sample contours. Soil gas contours in this area showed low-to-moderate concentration levels, while the soil samples showed moderate-to-high concentrations of VOCs.

GEOSTATISTICAL ANALYSIS

Distribution of the chemicals of concern

The contours show the total size of the source areas are relatively small in comparison with the dispersion areas for this site. Examples of the source areas are the areas within 500 ppm isocontours of total VOCs in the vadose zone.

The concentration of chemicals of concern within the source areas is related to the strength of the release source(s). The levels of contamination in a dispersion area varied from the highest level near the source boundary and gradually decreased toward the clean area. Soil has a certain resistance to the dispersion of organic chemicals from the source area to the clean area. The resistance is usually related to soil type, grain sizes, soil moisture, and other factors. Trends of chemical dispersion observed around the Annex Terminal source areas were approximated mathematically as a logarithm descending curve. This logarithmic descending curve quantifies dispersion areas and, therefore, areas beyond dispersion containing little or no chemicals of concern. Since contaminate transport in the saturated zone is similar to that in vadose zone, a logarithm dispersion curve can generally be observed in both cases.

Dispersion Trend in Unremediated Areas

As mentioned above, a dispersion trend was used to quantify the dispersion areas and the adjacent area which contain little or no chemicals of concern and, therefore, do not require remediation. Figure 2 illustrates the dispersion trends of the ten randomly selected cross sections of contours, along with the typical dispersion trend calculated by the linear regression coefficient of this regression. A factor that measures the strength of the statistical relationship is 0.8, showing a fairly strong and consistent relationship between concentration and distance in the dispersion area.

The typical dispersion trend indicates that the distance between two points of concentration with one order of magnitude difference (such as 0.1 to 1 ppm or 1 to 10 ppm) is approximately 10 feet. This means that within a radius of ten feet of a point containing 1 ppm of total VOCs, the statistical probability of finding any concentration higher than 10 ppm is low.

The application of the dispersion trend to unremediated areas to determine the requirement for treatment depends on the distance between sample points. In the western portion of the site, samples were collected at approximately forty feet apart. This means

that the radius of influence of a particular sample is 20 feet (each sample point contributing 20 feet until overlap occurs). Therefore, if two adjacent samples have total VOCs with concentrations of less than 0.1 ppm, the area anywhere between them with VOC concentrations greater than 10 ppm has a low statistical probability. Such areas, therefore, do not require remediation.

Isocontours

Figures 1 and 2 illustrate dispersion trends in normal and semi-logarithm scale, respectively. Comparison of the two figures shows data on semi-logarithm scale are distributed in a much more linear pattern. Therefore, to provide a more accurate representation of the data, the analytical results from sampled soil required a logarithm transformation before contouring. After logarithm transformation, the relationship between the transformed value and distance was more linear than before transformation. A contour program, which interpolates adjacent points linearly, was thus more accurate than a contour program which used analytical data directly.

Confidence Level

It is proposed to remediate only those Annex Terminal areas containing concentrations of total VOCs greater 50 ppm. Thus the action level, that concentration at which remediation becomes necessary, is 50 ppm.

An important factor in establishing an action level based on a contour of isoconcentration is the confidence level of that contour. In other words, how reliable is the fact that 50 ppm isocontour actually is 50 ppm.?

Figure 2 indicates some that variations occur at 50 ppm isocontour. Therefore, outlying boundary contours around the 50 ppm contour need to be established to provide confidence in the 50 ppm contour. Figure 2 shows tow lines parallel to the typical dispersion trend at one and two standard deviations higher than the typical dispersion trend.

The 10 ppm isocontour was selected to indicate the area which requires remediation instead of the 50 ppm contour. A proposed remediated area could enclose the 50 ppm isocontour with an extra area of two standard deviation from the 50 ppm isocontour. According to Figure 2, the 10 ppm that is 2 standard deviates greater than the 50 ppm contour. Assuming that the statistical population of the deviation belongs to a normal distribution, the two standard deviation contour (10 ppm would enclose 90 percent of the population of the 50 ppm contour. In other words, by using the area enclosed by the 10 ppm isocontour as the remediation area, the area within the 50 ppm isocontour would be captured with statistical confidence level of 90 percent.

CONCLUSIONS

The specific conclusions of this project are:

* Total VOCs in the vadose soil were located predominantly in the eastern portion of the Annex Terminal. The several large areas of VOCs were distributed along the eastern side from north to south, with a few localized small areas within the 50 ppm contour. Overall, the area of the chemicals of concern as measured by total VOCs in the vadose zone was greater than VOCs in the saturated zone or SVCs in both zones.

* The location of the VOCs in the saturated zone showed high association to the location of VOCs in the vadose zone; therefore, communication existed between the vadose and saturated zone. The saturated zone areas containing chemicals of concern are not as large as vadose zone areas, but as in the vadose zone, are generally distributed throughout the eastern portion of the site.

* The soil gas survey was a good screening tool for the subsequent soil sampling effort. The soil gas contours compared well with the contours of the total VOCs in vadose zone soil samples over the entire site. The one area where the soil gas gave only a little indication of soil-bound VOCs was in the southeastern corner of the site, which may have been the result of low permeability in the clayey soil in the southern portion of the Annex Terminal. In addition, the difference between the soil gas contours and the soil sample contours in the southeastern corner maybe the result of the difference between the contours' boundary conditions. The boundary conditions for the soil gas contours at the edge of the remediated area and the site perimeter were set to zero, while the boundaries for the soil sample contours had no restriction or values placed on the concentration values.

* The total size of source areas of chemicals of concern is relatively small in comparison with the entire site. A fairly consistent relationship exists with the chemical dispersion trend from the source areas to the dispersion areas. Chemical concentration distribution in the dispersion area could be approximated statistically by a logarithm descending curve, as described as the typical dispersion trend. Based on theory of typical dispersion trend, the samples at the western portion of the site could adequately characterize the distribution of chemicals of concern.

* The 10 ppm isocontours of total VOCs would contain all areas of concentration of 50 ppm or higher with a 90 percent statistical confidence.

RECOMMENDATIONS

This draft report has identified unremediated areas of the Annex Terminal that contain little or no chemicals of concern. These areas are primarily in the western portion of the Annex Terminal, in addition to the smaller areas along the southern and northern boundaries and in row A (along the eastern perimeter).

The following recommendations are made with regard to the remediation currently being performed at the Annex Terminal in San Pedro:

- * Use 50 ppm total VOCs as the action level to trigger remediation of a specific block. The recommended action level is one-half of the 100 ppm action level proposed earlier during the project; therefore, the recommendation level provides a conservative margin to insure that soil containing chemicals of concern will receive treatment.

- * Remediation of only those proposed blocks, which are shaded in pink on plates 1, 2, 3, and 4, is recommended. The selection of proposed blocks was based on the location of blocks falling within isocontours. All blocks that fell within the 50 ppm isocontour are proposed for remediation. In addition, most of the blocks falling between the 10 and 50 ppm isocontours are also proposed for treatment. Remediation to the 10 ppm contour line will provide a high degree of certainty that most soil containing 50 ppm total VOCs will be treated, since the 10 ppm isocontour is the 90 % confidence interval for the 50 ppm isocontour.

- * The unshaded blocks, which are located outside of the previously remediated blocks (blue shaded) and blocks proposed for remediation (pink shaded), are not recommended for treatment. Plates 1, 2, 3, and 4 show that the unshaded blocks are in areas containing little or no chemicals of concern these blocks generally fall outside of the isocontoured locations. Additionally, the dispersion trend indicates that soil within the zone of influence has a low probability of containing concentrations of total VOCs greater than 50 ppm. Therefore, a list of proposed blocks not requiring remediation has been prepared. This list is presented in Table 6.

**TABLE 6
PROPOSED BLOCKS NOT REQUIRING REMEDIATION
GATX ANNEX TERMINAL
SAN PEDRO, CALIFORNIA**

1K	4T	8AA	14S	19V	26U	32BB	38BB	44V	49Y	55CC	64CC
1L	4U	8BB	14T	19W	26V	32CC	38CC	44W	49Z	56A	65A
1M	4V	8CC	14U	19X	26W	33S	39A	44X	49AA	56W	65AA
1N	4W	9P	14V	19Y	26X	33T	39S	44Y	49BB	56X	65BB
1O	4X	9Q	14W	19AA	26Y	33U	39U	44Z	49CC	56Y	65CC
1P	4Y	9R	14X	19BB	26AA	33V	39V	44AA	50A	56Z	66A
1Q	4AA	9S	14Y	19CC	26BB	33W	39W	44BB	50R	56AA	66AA
1R	4BB	9T	14AA	20S	26CC	33Y	39Y	44CC	50S	56BB	66BB
1S	4CC	9U	14BB	20T	27U	33AA	39AA	45A	50U	56CC	66CC
1T	5N	9V	14CC	20U	27V	33BB	39BB	45S	50V	57A	67A
1U	5O	9W	15S	20V	27W	33CC	39CC	45U	50W	57W	67AA
1V	5P	9X	15T	20W	27X	34R	40A	45V	50X	57X	67BB
1W	5Q	9Y	15U	20X	27Y	34S	40R	45W	50Y	57Y	67CC
1X	5R	9AA	15V	20Y	27AA	34T	40S	45X	50Z	57Z	68A
1Y	5S	9BB	15W	20AA	27BB	34U	40U	45Y	50AA	57AA	68S
1Z	5T	9CC	15X	20BB	27CC	34V	40V	45Z	50BB	57BB	68Y
1AA	5U	10Q	15Y	20CC	28U	34W	40W	45AA	50CC	57CC	68Z
1BB	5V	10R	15AA	21S	28V	34Y	40X	45BB	51A	58A	68AA
1CC	5W	10S	15BB	21T	28W	34AA	40Y	45CC	51R	58W	68BB
2K	5X	10T	15CC	21U	28X	34BB	40AA	46A	51S	58X	68CC
2L	5Y	10U	16S	21V	28Y	34CC	40BB	46R	51U	58Y	69A
2M	5AA	10V	16T	21W	28AA	35S	40CC	46S	51V	58Z	69S
2N	5BB	10W	16U	21X	28BB	35T	41A	46U	51W	58AA	69U
2O	5CC	10X	16V	21Y	28CC	35U	41S	46V	51X	58BB	69V
2P	6P	10Y	16W	21AA	29U	35V	41U	46W	51Y	58CC	69W
2Q	6Q	10AA	16X	21BB	29V	35W	41V	46X	51Z	59A	69Y
2R	6R	10BB	16Y	21CC	29W	35Y	41W	46Y	51AA	59Y	69Z
2S	6S	10CC	16AA	22T	29X	35AA	41X	46Z	51BB	59Z	69AA
2T	6T	11Q	16BB	22U	29Y	35BB	41Y	46AA	51CC	59AA	69BB
2U	6U	11R	16CC	22V	29AA	35CC	41Z	46BB	52A	59BB	69CC
2V	6V	11S	17S	22W	29BB	36R	41AA	46CC	52W	59CC	70A
2W	6W	11T	17T	22X	29CC	36S	41BB	47A	52X	60A	70S
2X	6X	11U	17U	22Y	30S	36T	41CC	47S	52Y	60Y	70U
2Y	6Y	11V	17V	22AA	30T	36U	42A	47U	52Z	60Z	70V
2AA	6AA	11W	17W	22BB	30U	36V	42R	47V	52AA	60AA	70W
2BB	6BB	11X	17X	22CC	30V	36W	42S	47W	52BB	60BB	70X
2CC	6CC	11Y	17Y	23U	30W	36Y	42U	47X	52CC	60CC	70Y
3L	7P	11AA	17AA	23V	30X	36AA	42V	47Y	53A	61A	70Z
3M	7Q	11BB	17BB	23W	30Y	36BB	42W	47Z	53W	61Y	70AA
3N	7R	11CC	17CC	23X	30AA	36CC	42X	47AA	53X	61Z	70BB
3O	7S	12S	18N	23Y	30BB	37A	42Y	47BB	53Y	61AA	70CC
3P	7T	12T	18S	23AA	30CC	37S	42Z	47CC	53Z	61BB	71A
3Q	7U	12U	18T	23BB	31S	37T	42AA	48A	53AA	61CC	71S
3R	7V	12V	18U	23CC	31T	37U	42BB	48R	53BB	62A	71U
3S	7W	12W	18V	24U	31U	37V	42CC	48S	53CC	62Y	71V
3T	7X	12X	18W	24V	31V	37W	43A	48U	54A	62Z	71W
3U	7Y	12Y	18X	24W	31W	37X	43S	48V	54W	62AA	71X
3V	7AA	12AA	18Y	24X	31X	37Y	43U	48W	54X	62BB	71Y
3W	7BB	12BB	18AA	24Y	31Y	37AA	43V	48X	54Y	62CC	71Z
3X	7CC	12CC	18BB	24AA	31AA	37BB	43W	48Y	54Z	63A	71AA
3Y	8P	13S	18CC	24BB	31BB	37CC	43X	48Z	54AA	63Y	71BB
3AA	8Q	13T	19L	24CC	31CC	38A	43Y	48AA	54BB	63Z	71CC
3BB	8R	13U	19M	25U	32S	38R	43Z	48BB	54CC	63AA	72A
3CC	8S	13V	19N	25V	32T	38S	43AA	48CC	55A	63BB	72P
4N	8T	13W	19O	25W	32U	38U	43BB	49A	55W	63CC	72Q
4O	8U	13X	19P	25X	32V	38V	43CC	49S	55X	64A	72R
4P	8V	13Y	19Q	25Y	32W	38W	44A	49U	55Y	64Y	72S
4Q	8W	13AA	19S	25AA	32X	38X	44R	49V	55Z	64Z	72U
4R	8X	13BB	19T	25BB	32Y	38Y	44S	49W	55AA	64AA	72V
4S	8Y	13CC	19U	25CC	32AA	38AA	44U	49X	55BB	64BB	72W

TABLE 6 (Continued)
PROPOSED BLOCKS NOT REQUIRING REMEDIATION
GATX ANNEX TERMINAL
SAN PEDRO, CALIFORNIA

72X	76BB	81N	84AA	88W	94BB	105V	113Q	124K	141X	145E	
72Y	76CC	81O	84BB	88X	94CC	105W	113R	124R	141Y	145F	
72Z	77A	81P	84CC	88Y	95BB	105AA	113U	124S	141Z	145G	
72AA	77O	81Q	85A	88Z	95CC	105BB	114R	124CC	141AA	145H	
72BB	77P	81R	85N	88AA	96AA	105CC	114U	125A	141BB	145I	
72CC	77Q	81S	85O	88BB	96BB	106P	114AA	125R	141CC	145J	
73A	77U	81U	85P	88CC	96CC	106Q	114BB	125S	142A	145K	
73O	77V	81V	85Q	89N	97AA	106R	114CC	125CC	142S	145L	
73P	77W	81W	85R	89O	97BB	106S	115R	126A	142T	145M	
73Q	77X	81X	85S	89P	97CC	106U	115S	126CC	142U	145N	
73R	77Y	81Y	85U	89Q	98Z	106V	115U	127A	142V	145O	
73S	77Z	81Z	85V	89R	98AA	106W	115AA	127CC	142W	145P	
73U	77AA	81AA	85W	89S	98BB	106AA	115BB	128A	142X	145Q	
73V	77BB	81BB	85X	89U	98CC	106BB	115CC	128CC	142Y	145R	
73W	77CC	81CC	85Y	89V	99Z	106CC	116R	129A	142Z	145S	
73X	78A	82A	85Z	89W	99AA	107P	116S	129CC	142AA	145T	
73Y	78O	82N	85AA	89X	99BB	107Q	116U	130A	142BB	145U	
73Z	78P	82O	85BB	89Y	99CC	107R	117Q	130Q	142CC	145V	
73AA	78Q	82P	85CC	89Z	100S	107U	117R	130CC	143A	145W	
73BB	78U	82Q	86A	89AA	100AA	107V	117S	131A	143R	145X	
73CC	78V	82R	86N	89BB	100BB	107W	117U	131CC	143S	145Y	
74A	78W	82S	86O	89CC	100CC	107AA	118Q	132A	143T	145Z	
74P	78X	82U	86P	90O	101R	107BB	118R	132CC	143U	145AA	
74Q	78Y	82V	86Q	90P	101S	107CC	118S	133A	143V	145BB	
74R	78Z	82W	86R	90Q	101AA	108P	118U	133BB	143W	145CC	
74S	78AA	82X	86S	90R	101BB	108Q	119J	133CC	143X	146A	
74U	78BB	82Y	86U	90S	101CC	108R	119K	134A	143Y	146B	
74V	78CC	82Z	86V	90U	102Q	108U	119L	134BB	143Z	146C	
74W	79A	82AA	86W	90V	102R	108V	119M	134CC	143AA	146D	
74X	79O	82BB	86X	90W	102S	108W	119Q	135A	143BB	146E	
74Y	79P	82CC	86Y	90X	102U	108X	119R	135BB	143CC	146F	
74Z	79Q	83A	86Z	90Z	102V	108AA	119S	135CC	144A	146G	
74AA	79R	83N	86AA	90AA	102AA	108BB	119U	136A	144F	146H	
74BB	79S	83O	86BB	90BB	102BB	108CC	120J	136B	144G	146I	
74CC	79U	83P	86CC	90CC	102CC	109P	120K	136C	144H	146J	
75A	79V	83Q	87A	91Q	103P	109Q	120Q	136BB	144I	146K	
75P	79W	83R	87N	91R	103Q	109R	120R	136CC	144J	146L	
75Q	79X	83S	87O	91S	103R	109U	120S	137A	144K	146M	
75R	79Y	83U	87P	91U	103S	109V	121A	137B	144L	146N	
75S	79Z	83V	87Q	91V	103U	109AA	121J	137C	144M	146O	
75U	79AA	83W	87R	91W	103V	109BB	121K	137BB	144N	146P	
75V	79BB	83X	87S	91X	103W	109CC	121Q	137CC	144O	146Q	
75W	79CC	83Y	87U	91Z	103AA	110P	121R	138A	144P	146R	
75X	80A	83Z	87V	91AA	103BB	110Q	121S	138B	144Q	146S	
75Y	80N	83AA	87W	91BB	103CC	110R	121CC	138C	144R	146T	
75Z	80O	83BB	87X	91CC	104P	110U	122A	138E	144S	146U	
75AA	80P	83CC	87Y	92Q	104Q	110AA	122J	138BB	144T	146V	
75BB	80Q	84A	87Z	92R	104R	110BB	122K	138CC	144U	146W	
75CC	80R	84N	87AA	92S	104S	110CC	122Q	139A	144V	146X	
76A	80S	84O	87BB	92Z	104U	111P	122R	139AA	144W	146Y	
76P	80U	84P	87CC	92AA	104V	111Q	122S	139BB	144X	146Z	
76Q	80V	84Q	88A	92BB	104W	111R	122CC	139CC	144Y	146AA	
76S	80W	84R	88N	92CC	104AA	111U	123A	140A	144Z	146BB	
76U	80X	84S	88O	93Q	104BB	111AA	123J	140Y	144AA	146CC	
76V	80Y	84U	88P	93R	104CC	111BB	123K	140Z	144BB		
76W	80Z	84V	88Q	93S	105P	111CC	123R	140AA	144CC		
76X	80AA	84W	88R	93Z	105Q	112P	123S	140BB	145A		
76Y	80BB	84X	88S	93AA	105R	112Q	123CC	140CC	145B		
76Z	80CC	84Y	88U	93BB	105S	112R	124A	141A	145C		
76AA	81A	84Z	88V	93CC	105U	112U	124J	141W	145D		

REFERENCES

1. GeoResearch. Soil-gas Investigation Conducted at GATX Terminal Annex, 208 East 22nd Street, San Pedro, California. November 14, 1991.
2. Proposed Soil Sampling and Analysis Plan for the GATX Annex Terminal Site, 208 East 22nd Street, San Pedro, California. January 14, 1992.
3. Letter to Julia Bussey on the modification of the proposed Soil Sampling and Analysis Plan. January 30, 1992.
4. Laboratory Analyses of the 1992 Pretreatment Samples, GATX Annex Terminal, San Pedro, California. April 13, 1992.
5. Laboratory Analyses of the 1992 Pretreatment Samples - Second Submittal, GATX Annex Terminal, San Pedro, California. April 20, 1992.
6. Laboratory Analyses of the 1992 Pretreatment Samples - Third Submittal, GATX Annex Terminal, San Pedro, California. June 3, 1992.
7. Laboratory Analysis of the 1992 Pretreatment Samples-Fourth Submittal, GATX Annex Terminal, San Pedro, California. In preparation..

APPENDIX A

**TABLES OF ALL KNOWN PREVIOUS
PRETREATMENT SOIL SAMPLES**

TABLE A. TOTAL VOCs IN PREVIOUS SAMPLES FROM THE VADOSE ZONE

North-south coordinate	East-west coordinate	Total VOC (ppm)	Sampling effort	Block Descriptor
8.25	20.50	2421.0	Pretreatment88	8F
8.50	19.50	513.0	Pretreatment88	8G
9.50	21.50	4062.0	Pretreatment88	9E
9.25	20.50	2529.0	Pretreatment87	9F
9.50	19.50	231.0	Pretreatment88	9G
10.25	22.50	1707.0	Pretreatment88	10D
10.25	20.50	4419.0	Pretreatment87	10F
10.50	19.50	258.0	Pretreatment88	10G
11.25	20.50	805.0	Pretreatment87	11F
20.50	21.50	141.0	Pretreatment88	20E
20.25	20.50	466.0	Pretreatment88	20F
21.50	21.50	36.0	Pretreatment88	21E
32.50	19.50	2408.0	Pretreatment88	32G
8.25	19.75	865.0	TenBlockTest	8G-1
8.75	19.25	1433.0	TenBlockTest	8G-2
9.25	19.75	1101.0	TenBlockTest	9G-1
9.75	19.25	547.0	TenBlockTest	9G-2
10.25	19.75	651.0	TenBlockTest	10G-1
10.75	19.25	2086.0	TenBlockTest	10G-2
50.25	16.50	9.7	Pretreatment88	50J
50.50	15.50	1349.0	Pretreatment88	50K
50.25	14.50	2952.0	Pretreatment87	50L
50.50	13.50	398.0	Pretreatment87	50M
51.25	14.50	338.0	Pretreatment87	51L
52.25	14.50	840.0	Pretreatment87	52L
52.50	11.50	160.0	Pretreatment88	52O
53.25	14.50	328.0	Pretreatment88	53L
53.50	11.50	1119.0	Pretreatment88	53O
54.50	11.50	1179.0	Pretreatment88	54O
50.00	12.75	457.0	TenBlockTest	50N-1
50.50	12.25	881.0	TenBlockTest	50N-2

TABLE A. TOTAL VOCs IN PREVIOUS SAMPLES FROM THE VADOSE ZONE

North-south coordinate	East-west coordinate	Total VOC (ppm)	Sampling effort	Block Descriptor
51.25	13.75	1183.0	TenBlockTest	51M-1
51.50	12.25	592.0	TenBlockTest	51N-2
52.25	13.75	1379.0	TenBlockTest	52M-1
52.75	13.25	695.0	TenBlockTest	52M-2
65.25	12.50	180.0	Pretreatment88	65N
65.25	8.50	3.0	Pretreatment88	65R
65.50	3.50	35.0	Pretreatment88	65W
66.50	11.50	40.0	Pretreatment88	66O
66.50	9.50	27.0	Pretreatment88	66Q
66.50	3.50	346.0	Pretreatment88	66W
67.25	12.50	0.0	Pretreatment88	67N
67.25	10.50	3.0	Pretreatment88	67P
67.50	3.50	14.0	Pretreatment88	67W
68.50	11.50	228.0	Pretreatment88	68O
75.25	12.50	0.0	Pretreatment88	75N
75.50	11.50	0.0	Pretreatment88	75O
76.50	11.50	0.0	Pretreatment88	76O
92.50	25.50	1287.0	Pretreatment87	92A
92.50	23.50	9770.0	Pretreatment87	92C
93.50	25.50	1034.0	Pretreatment87	93A
93.50	23.50	4003.0	Pretreatment88	93C
94.50	25.50	1004.0	Pretreatment87	94A
94.50	23.50	1240.0	Pretreatment88	94C
92.00	24.75	185.0	TenBlockTest	92B-1
92.50	24.25	4427.0	TenBlockTest	92B-2
93.00	24.75	2168.0	TenBlockTest	93B-1
93.50	24.25	5272.0	TenBlockTest	93B-2
94.00	24.75	4491.0	TenBlockTest	94B-1
94.50	24.25	7184.0	TenBlockTest	94B-2
113.50	11.50	1338.0	Pretreatment88	113O
128.50	7.50	0.0	Pretreatment88	128S

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TABLE A. TOTAL VOCs IN PREVIOUS SAMPLES FROM THE VADOSE ZONE

North-south coordinate	East-west coordinate	Total VOC (ppm)	Sampling effort	Block Descriptor
48.50	19.50	1308.0	McLarenHart	48G
49.50	19.50	1149.0	McLarenHart	49G
50.50	19.50	813.0	McLarenHart	50G
49.25	10.50	58.0	McLarenHart	49P
50.25	10.50	68.0	McLarenHart	50P
51.25	10.50	169.0	McLarenHart	51P
31.00	27.75	0.1	LoadingDock	LD1@7
54.90	27.75	0.0	LoadingDock	LD2@7
78.80	27.75	0.3	LoadingDock	LD3@7
102.70	27.75	0.3	LoadingDock	LD4@7
126.60	27.75	0.2	LoadingDock	LD5@7
99.25	12.50	1123.0	McLarenHart	99N
100.25	12.50	7783.0	McLarenHart	100N
100.25	10.50	0.0	McLarenHart	100P
101.25	12.50	7627.0	McLarenHart	101N
25.25	16.50	10.0	McLarenHart	25J
30.25	16.50	90.5	McLarenHart	30J
35.25	16.50	517.0	McLarenHart	35J
25.50	21.50	53.5	SITE	25E
26.50	21.50	28.0	SITE	26E
27.50	21.50	641.6	SITE	27E
28.50	21.50	444.1	SITE	28E
29.50	21.50	883.0	SITE	29E
30.50	21.50	420.8	SITE	30E
31.50	21.50	788.0	SITE	31E
32.50	21.50	479.0	SITE	32E
33.50	21.50	919.0	SITE	33E
34.50	21.50	296.0	SITE	34E

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TABLE A. TOTAL VOCs IN PREVIOUS SAMPLES FROM THE VADOSE ZONE

North-south coordinate	East-west coordinate	Total VOC (ppm)	Sampling effort	Block Descriptor
35.50	21.50	339.0	SITE	35E
36.50	21.50	153.0	SITE	36E
22.50	13.50	1519.0	ToxTreatQualCtr	22M
22.25	12.50	2992.0	ToxTreatQualCtr	22N
31.25	12.50	979.0	ToxTreatQualCtr	31N
32.25	13.50	4.0	ToxTreatQualCtr	32M
20.50	11.50	128.0	McLarenHart	200
13.50	11.50	306.0	McLarenHart	130
40.25	12.50	47.0	McLarenHart	40N
43.50	7.50	0.0	McLarenHart	43S
53.50	7.50	169.0	McLarenHart	53S
61.25	22.50	66.0	McLarenHart	61D
85.50	15.50	0.0	McLarenHart	85K
93.25	20.50	10100.0	ToxTreatQualCtr	93F
105.25	20.50	180.0	ToxTreatQualCtr	105F
8.25	12.50	26.7	McLarenHart	8N
27.25	8.50	2300.0	McLarenHart	27R
98.25	8.50	330.0	McLarenHart	98R
101.24	8.50	21.0	McLarenHart	101R
106.25	10.50	2.7	McLarenHart	106R
122.25	6.50	9.6	ToxTreatQualCtr	122T
123.25	4.50	0.0	ToxTreatQualCtr	123V
4.50	11.50	39.8	ToxTreatQualCtr	40
55.25	0.50	0.3	ToxTreatQualCtr	55Z
120.50	-4.50	0.1	ToxTreatQualCtr	120EE
135.31	11.61	28.0	AdditSiteCharact	Location26
136.00	-6.89	0.0	AdditSiteCharact	Location27
131.12	19.83	676.0	AdditSiteCharact	Location25
125.55	22.92	11.9	Phase1,2,3	LocationB71
123.46	12.64	5.0	AdditSiteCharact	Location24
119.97	-3.81	14.9	Phase1,2,3	LocationB5
116.49	-17.17	0.0	AdditSiteCharact	Location23

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TABLE A. TOTAL VOCs IN PREVIOUS SAMPLES FROM THE VADOSE ZONE

North-south coordinate	East-west coordinate	Total VOC (ppm)	Sampling effort	Block Descriptor
177.88	17.78	0.0	AdditSiteCharact	Location21
114.40	22.92	9.0	AdditSiteCharact	LctnMW-3
113.70	6.47	13.0	AdditSiteCharact	Location22
107.43	-20.25	0.0	Phase1,2,3	Location2
109.52	10.58	0.0	AdditSiteCharact	Location20
106.03	21.89	1540.0	AdditSiteCharact	Location19
103.25	10.58	22.2	Phase1,2,3	LocationB14
99.06	23.94	0.0	AdditSiteCharact	Location17
97.67	-2.78	0.0	AdditSiteCharact	Location18
94.19	23.94	3954.0	BaselineTesting	--
91.40	23.94	8040.0	Phase1,2,3	Location10
90.70	8.53	0.0	AdditSiteCharact	Location16
82.34	23.94	1.0	AdditSiteCharact	Location15
78.85	22.92	323.0	AdditSiteCharact	LctnMW-2
76.76	9.56	9.0	AdditSiteCharact	Location14
73.28	20.86	46.0	Phase1,2,3	Location6
70.49	20.86	69.0	Phase1,2,3	Location11
69.09	6.47	0.0	AdditSiteCharact	Location11
67.70	15.72	0.0	AdditSiteCharact	Location9
65.61	11.61	0.0	AdditSiteCharact	Location10
67.00	-4.83	0.0	AdditSiteCharact	Location12
64.22	-17.17	0.0	AdditSiteCharact	Location13
60.03	11.61	847.0	AdditSiteCharact	Location8
55.16	2.36	1.0	Phase1,2,3	Location3
50.97	1.33	0.8	Phase1,2,3	LocationB24
53.07	15.72	1354.0	BaselineTesting	--
50.97	14.69	2808.0	Phase1,2,3	LocationB25
53.07	21.89	302.0	AdditSiteCharact	Location7
45.40	17.78	396.0	AdditSiteCharact	Location6
46.10	26.00	6.0	Phase1,2,3	Location9
37.04	21.89	11.0	AdditSiteCharact	LctnMW-1
37.73	15.72	354.0	AdditSiteCharact	Location5

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TABLE A. TOTAL VOCs IN PREVIOUS SAMPLES FROM THE VADOSE ZONE

North-south coordinate	East-west coordinate	Total VOC (ppm)	Sampling effort	Block Descriptor
37.04	-12.03	0.1	Phase1,2,3	Location1
34.25	7.50	0.0	AdditSiteCharact	Location4
31.46	22.92	3358.0	AdditSiteCharact	Location3
22.40	2.36	53.3	Phase1,2,3	LocationB28
22.40	15.72	663.0	Phase1,2,3	LocationB29
19.61	23.94	1288.0	AdditSiteCharact	Location2
11.25	21.89	1113.0	BaselineTesting	--
7.07	21.89	421.0	Phase1,2,3	Location5
0.79	14.69	0.0	AdditSiteCharact	Location1
0.60	24.97	0.1	Phase1,2,3	Location8
134.00	9.56	2.4	Phase1,2,3	LocationB3C

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TABLE B. TOTAL VOCs IN PREVIOUS SAMPLES FROM THE SATURATED ZONE

North-south coordinate	East-west coordinate	Total VOC (ppm)	Sampling effort	Block Descriptor
50	12.75	64.0	Ten Bock Test	50N-1
50.5	12.25	4908.0	Ten Bock Test	50N-2
51.25	13.75	11.0	Ten Bock Test	51M-1
51.75	13.25	410.0	Ten Bock Test	51M-2
51	12.75	1751.0	Ten Bock Test	51N-1
51.5	12.25	6820.0	Ten Bock Test	51N-2
52.25	13.75	28.0	Ten Bock Test	52M-1
52.75	13.25	90.0	Ten Bock Test	52M-2
48.5	19.5	3218.0	McLarenHart	48G
49.5	19.5	940.0	McLarenHart	49G
50.5	19.5	33.0	McLarenHart	50G
49.25	10.5	15.0	McLarenHart	49P
50.25	10.5	58.0	McLarenHart	50P
51.25	10.5	204.0	McLarenHart	51P
26.25	24.5	179.3	posttreat/rem5'	26B
28.25	24.5	21.6	posttreat/rem5'	28B
30.25	24.5	28.1	posttreat/rem5'	30B
24.5	21.5	1.6	posttreat/rem5'	24B
34.5	21.5	19.2	posttreat/rem5'	34E
36.5	21.5	2.5	posttreat/rem5'	36E
31.25	18.5	1.9	posttreat/rem5'	31H
31	27.75	0.5	Loading Dock	LD1@12
54.9	27.75	1.7	Loading Dock	LD1@12
78.8	27.75	0.1	Loading Dock	LD1@12
102.7	27.75	0.2	Loading Dock	LD1@12
126.6	27.75	0.2	Loading Dock	LD1@12
29.5	17.5	29.5	McLarenHart	29I
27.5	17.5	101.0	McLarenHart	27I

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TABLE B. TOTAL VOCs IN PREVIOUS SAMPLES FROM THE SATURATED ZONE

North-south coordinate	East-west coordinate	Total VOC (ppm)	Sampling effort	Block Descriptor
98.25	12.5	12445.0	McLarenHart	98N
47.5	19.5	80.0	McLarenHart	47G
25.5	17.5	0.0	McLarenHart	25I
26.5	21.5	69.5	DeptToxicSubCtr	26E
35.5	23.5	2921.0	DeptToxicSubCtr	35C
35.5	21.5	1353.0	DeptToxicSubCtr	35E
29.5	21.5	2076.0	DeptToxicSubCtr	29E
32.5	21.5	34.9	DeptToxicSubCtr	32E
25.25	16.5	0.0	McLarenHart	25J
30.25	16.5	0.0	McLarenHart	30J
35.25	16.5	0.0	McLarenHart	35J
24.25	14.5	20.0	ToxTreatQualCtr	24L
20.5	11.5	0.0	McLarenHart	20N
40.25	12.5	1.0	McLarenHart	40N
8.25	12.5	0.0	McLarenHart	8N
27.25	8.5	0.7	McLarenHart	27R
98.25	8.5	12.0	McLarenHart	98R
101.25	8.5	26.2	McLarenHart	101R
106.25	10.5	0.8	McLarenHart	106P
122.25	6.5	17.8	ToxTreatQualCtr	122T
123.25	4.5	2.0	ToxTreatQualCtr	123V
4.5	13.5	2.1	ToxTreatQualCtr	4M
139.49	23.94	0.1	Phase1,2,3	Location7
100.46	15.72	38.4	Phase1,2,3	Location4

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TABLE C. TOTAL SVCs IN PREVIOUS SAMPLES FROM THE VADOSE ZONE

North-south coordinate	East-west coordinate	Total VOC (ppm)	Sampling effort	Block Descriptor
8.25	20.5	1999.00	Pretreatment88	8F
10.5	21.5	767.30	Pretreatment87	10E
20.5	21.5	118.40	Pretreatment88	20E
32.5	19.5	9245.00	Pretreatment88	32G
8.25	19.75	888.00	TenBlockTest	8G-1
8.75	19.25	2218.00	TenBlockTest	8G-2
9.25	19.75	2206.00	TenBlockTest	9G-1
9.75	19.25	1434.00	TenBlockTest	9G-2
10.25	19.75	12403.00	TenBlockTest	10G-1
10.75	19.25	1251.00	TenBlockTest	10G-2
50.25	16.5	204.90	Pretreatment88	50J
51.25	14.5	65.00	Pretreatment87	51L
51.25	13.75	849.30	TenBlockTest	51M-1
51.25	13.25	12010.00	TenBlockTest	51M-2
52.25	13.75	746.70	TenBlockTest	52M-1
52.25	13.25	885.70	TenBlockTest	52M-2
50	12.75	17954.00	TenBlockTest	50N-1
50.5	12.25	6334.00	TenBlockTest	50N-2
51	12.75	4374.00	TenBlockTest	51N-1
51.5	12.25	17311.00	TenBlockTest	51N-2
75.25	12.5	15.50	Pretreatment88	75N
94.5	23.5	178.60	Pretreatment88	94C
92	24.75	209.00	TenBlockTest	92B-1
92.5	24.25	1139.00	TenBlockTest	92B-2
93	24.75	1328.00	TenBlockTest	93B-1
93.5	24.25	1144.00	TenBlockTest	93B-2
94	24.75	483.70	TenBlockTest	94B-1
94.5	24.25	652.40	TenBlockTest	94B-2
136	-6.89	0.00	AdditSiteCharact	Location27
135.31	11.61	0.60	AdditSiteCharact	Location26
131.12	19.83	3003.00	AdditSiteCharact	Location25
123.46	12.64	25.80	AdditSiteCharact	Location24

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TABLE C. TOTAL SVCs IN PREVIOUS SAMPLES FROM THE VADOSE ZONE

North-south coordinate	East-west coordinate	Total VOC (ppm)	Sampling effort	Block Descriptor
116.49	-17.17	0.00	AdditSiteCharact	Location23
113.7	6.47	50.00	AdditSiteCharact	Location22
117.88	17.78	85.60	AdditSiteCharact	Location21
109.52	10.58	0.00	AdditSiteCharact	Location20
106.03	21.89	4480.00	AdditSiteCharact	Location19
97.67	-2.78	0.00	AdditSiteCharact	Location18
99.06	23.94	96.00	AdditSiteCharact	Location17
90.7	8.53	3.00	AdditSiteCharact	Location16
82.34	23.94	119.30	AdditSiteCharact	Location15
76.76	9.56	0.00	AdditSiteCharact	Location14
64.22	-17.17	0.20	AdditSiteCharact	Location13
67	-4.83	0.40	AdditSiteCharact	Location12
69.09	6.47	400.00	AdditSiteCharact	Location11
65.61	11.61	22.00	AdditSiteCharact	Location10
67.7	15.72	128.30	AdditSiteCharact	Location9
60.03	11.61	700.00	AdditSiteCharact	Location8
53.07	21.89	4888.00	AdditSiteCharact	Location7
45.4	17.78	7320.00	AdditSiteCharact	Location6
37.73	15.72	3841.00	AdditSiteCharact	Location5
34.25	7.5	0.00	AdditSiteCharact	Location4
31.46	22.92	1177.00	AdditSiteCharact	Location3
19.61	23.94	1620.00	AdditSiteCharact	Location2
0.79	14.69	0.30	AdditSiteCharact	Location1
37.04	21.89	9500.00	AdditSiteCharact	LctnMW-1
78.85	22.92	43.50	AdditSiteCharact	LctnMW-2
114.4	22.92	45.10	AdditSiteCharact	LctnMW-3
49.25	10.54	3037.00	McLarenHart	49P
50.25	10.5	166.40	McLarenHart	50P
51.25	10.5	550.00	McLarenHart	51P
99.25	12.5	30.50	McLarenHart	99P
100.25	12.5	602.50	McLarenHart	100N
101.25	12.5	301.00	McLarenHart	101N

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TABLE C. TOTAL SVCs IN PREVIOUS SAMPLES FROM THE VADOSE ZONE

North-south coordinate	East-west coordinate	Total VOC (ppm)	Sampling effort	Block Descriptor
48.5	19.5	12051.00	McLarenHart	48G
49.5	19.5	28645.00	McLarenHart	49G
50.5	19.5	6888.00	McLarenHart	50G
99.25	12.5	29.30	McLarenHart	99N
100.25	12.5	103.30	McLarenHart	100N
101.25	12.5	293.80	McLarenHart	101N
25.25	16.5	3.70	McLarenHart	25J
30.25	16.5	10.40	McLarenHart	30J
35.25	16.5	2040.00	McLarenHart	35J
30.5	11.5	567.30	McLarenHart	30O
43.5	7.5	10.50	McLarenHart	43S
53.5	7.5	430.00	McLarenHart	53S
61.25	22.5	0.70	McLarenHart	61D
85.5	15.5	4.00	McLarenHart	85K
25.5	21.5	649.80	SITE	25E
26.5	21.5	1154.00	SITE	26E
27.5	21.5	1409.00	SITE	27E
28.5	21.5	1043.00	SITE	28E
29.5	21.5	1310.00	SITE	29E
30.5	21.5	904.00	SITE	30E
31.5	21.5	520.00	SITE	31E
32.5	21.5	994.00	SITE	32E
33.5	21.5	597.30	SITE	33E
34.5	21.5	698.00	SITE	34E
35.5	21.5	576.70	SITE	35E
36.5	21.5	335.70	SITE	36E
98.25	8.5	0.60	McLarenHart	98R
8.25	12.5	0.10	McLarenHart	8N
31	27.75	0.03	LoadingDock	LD1@7
54.9	27.75	0.54	LoadingDock	LD2@7
78.8	27.75	0.06	LoadingDock	LD3@7
102.7	27.75	0.02	LoadingDock	LD4@7
126.6	27.75	0.00	LoadingDock	LD5@7

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TABLE D. TOTAL SVCs IN PREVIOUS SAMPLES FROM THE SATURATED ZONE

North-south coordinate	East-west coordinate	Total SVC (ppm)	Sampling effort	Block Descriptor
50	12.75	78128.00	Ten Bock Test	50N-1
50.5	12.25	30207.00	Ten Bock Test	50N-2
51.25	13.75	11825.00	Ten Bock Test	51M-1
51.75	13.25	29382.00	Ten Bock Test	51M-2
51	12.75	28913.00	Ten Bock Test	51N-1
51.5	12.25	24320.00	Ten Bock Test	51N-2
52.25	13.75	24.00	Ten Bock Test	52M-1
52.75	13.25	215.00	Ten Bock Test	52M-2
26.25	24.5	32.51	posttreat/rem5'	26B
28.25	24.5	56.80	posttreat/rem5'	28B
30.25	24.5	11.70	posttreat/rem5'	30B
24.5	21.5	3.01	posttreat/rem5'	24B
34.5	21.5	0.59	posttreat/rem5'	34E
36.5	21.5	93.00	posttreat/rem5'	36E
31.25	18.5	13.07	posttreat/rem5'	31H
39.5	21.5	26.90	posttreat/rem5'	39E
39.25	20.5	122.50	posttreat/rem5'	39F
31	27.75	0.04	Loading Dock	LD1@12
54.9	27.75	13.20	Loading Dock	LD2@12
78.8	27.75	0.04	Loading Dock	LD3@12
102.7	27.75	0.56	Loading Dock	LD4@12
126.6	27.75	10.70	Loading Dock	LD5@12
26.5	21.5	83.50	DeptToxicSubCtr	26E
35.5	23.5	75.10	DeptToxicSubCtr	35C
35.5	21.5	482.00	DeptToxicSubCtr	35E
29.5	21.5	1202.00	DeptToxicSubCtr	29E
32.5	21.5	22.10	DeptToxicSubCtr	32E
25.25	16.5	0.00	McLarenHart	25J

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TABLE D. TOTAL SVCs IN PREVIOUS SAMPLES FROM THE SATURATED ZONE

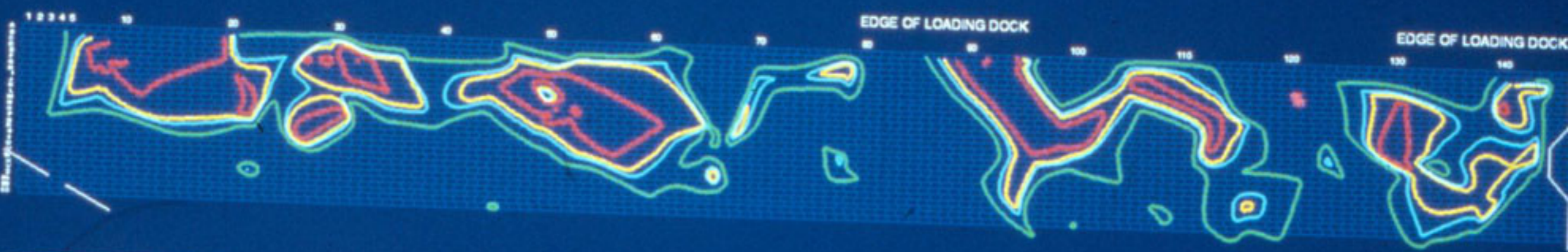
North-south coordinate	East-west coordinate	Total SVC (ppm)	Sampling effort	Block Descriptor
30.25	16.5	35.10	McLarenHart	30J
35.25	16.5	29.80	McLarenHart	35J
8.25	12.5	11.30	McLarenHart	8N
98.25	8.5	16.30	McLarenHart	98R
29.5	17.5	168.50	McLarenHart	29I
27.5	17.5	2097.00	McLarenHart	27I
98.25	12.5	135.80	McLarenHart	98N
47.5	19.5	5745.00	McLarenHart	47G
25.5	17.5	39.30	McLarenHart	25I
48.5	19.5	2224.00	McLarenHart	48G
49.5	19.5	50949.00	McLarenHart	49G
50.5	19.5	232.00	McLarenHart	50G
49.25	10.5	12.00	McLarenHart	49P
50.25	10.5	10.00	McLarenHart	50P
51.25	10.5	7004.00	McLarenHart	51P
20.5	11.5	4.80	McLarenHart	200
40.5	11.5	850.00	McLarenHart	400

APPENDIX B

FIGURES OF GEOSTATISTICALLY CONTOURED CONCENTRATION OF ALL PRETREATMENT SOIL SAMPLES

PRETREATMENT

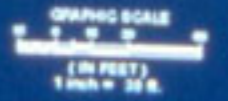
Total VOCs, 0.5 TO 6.0 Feet



KLEENTEK
P.O. BOX 1244
SAN PEDRO, CA
DATE: NOVEMBER 11, 1992
BY: ROBERT EVANGELISTA

LEGEND

	10 ppm
	50 ppm
	100 ppm
	500 ppm



POST TREATMENT

Total VOCs, 0.5 TO 6.0 Feet



KLEENTEK

P.O. BOX 1244
SAN PEDRO, CA

DATE: NOVEMBER 11, 1992

BY: ROBERT EVANGELISTA

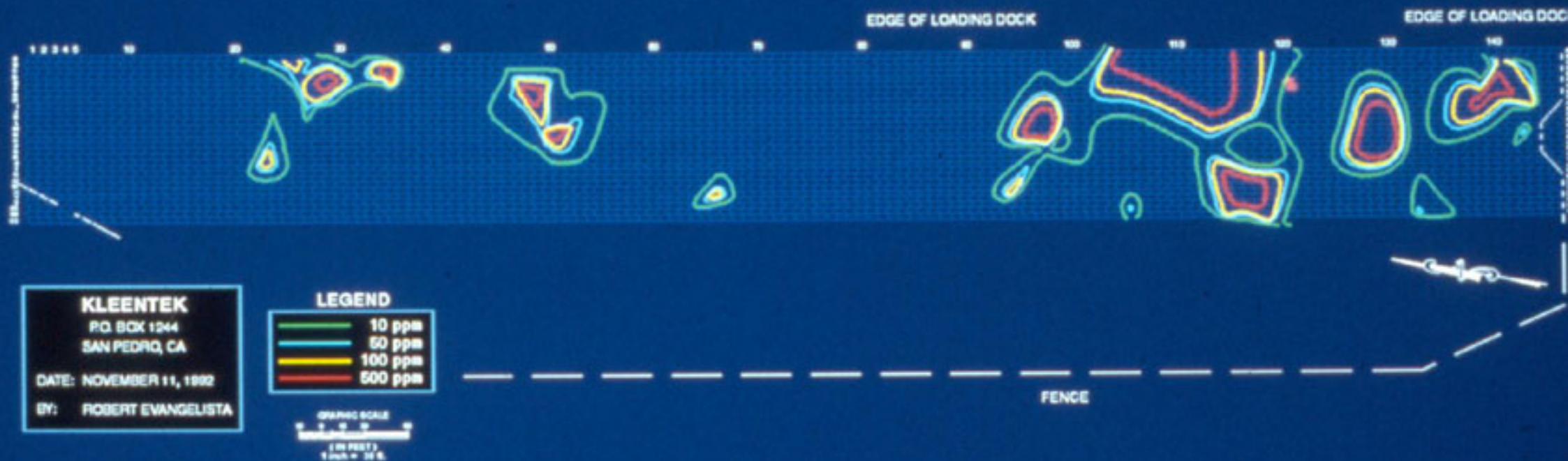
LEGEND



FENCE

PRETREATMENT

Total VOCs, 6.5 TO 10 Feet



POST TREATMENT

Total VOCs, 6.5 TO 10 Feet

