Tank Removal
9/13/89

CTTS, Inc.
toxic technology services

toxic technology services inc.

September 28, 1989
File No. 89-6

Mr. Tom Peacock
Alameda County Health Care Services Agency
Department of Environmental Health
Hazardous Materials Division
80 Swan Way
Oakland, California 94621

Subject: Underground Tank Removal
19984 Meekland Road, Hayward

Dear Mr. Peacock:

Enclosed is a copy of the tank removal report (not including pictures) from activities conducted at 19984 Meekland Road, Hayward. This property is currently owned by Durham Transportation, also located in Hayward.

The removal investigation indicates gasoline and BTEX contamination. Durham Transportation is aware of this problem and will begin immediately an investigation to determine the extent of contamination.

CTTS, Inc. (Toxic Technology Services) is under contract to Durham Transportation to investigate further the extent of contamination, work with the State and local agencies and prepare a remediation plan.

A report detailing the extent of contamination should be completed in 4-6 weeks. You will receive a copy of said report and be contacted to get your input for the remediation plan. If you have any questions, please contact the undersigned at (415) 799-1140.

Sincerely,

Lisa A. Polos

Lisa A. Polos, R.E.A.
Senior Scientist
Toxic Technology Services

Enclosure

cc: Jack Worthington - Durham Transportation
Chief James Ferdinand - Eden Fire District
Tom Callaghan - Water Quality Control Board

P.O. Box 515 ● Rodeo, California 94572 ● (415) 799-1140

September 13, 1989
File No. 89-6

Mr. Jack Worthington
Durham Transportation
27577 (A) Industrial Blvd.
Hayward, California 94545

Subject: Underground Tank Removal
19984 Meekland Road
Hayward, California

Dear Mr. Worthington:

CTTS, Inc. (Toxic Technology Services) is pleased to present this report on the removal of four (4) underground storage tanks at 19984 Meekland Road in Hayward, California.

This report contains the following five (5) sections:

- Introduction
- Tank Removal Activities
- Analytical Results
- Tank History of Subject Site and Surrounding Area
- Conclusions and Recommendations

The gasoline tank pit area contains significant amounts of gasoline, benzene, toluene, ethylbenzene and xylene (BTEX), in the soil. The groundwater from the existing monitoring well, installed in 1986, is below detection limits for gasoline, benzene and ethylbenzene and contains levels below the state action levels for drinking water for toluene and the state maximum contaminant levels for drinking water for xylene. The results from the waste oil tank pit area indicate the low levels of toluene and ethylbenzene. Xylene is present in an amount that warrants further investigation. Recommendations for further investigation are contained within this report.

This report has been specifically prepared for Durham Transportation with specific application to underground tank removals. Durham Transportation, or its affiliates, shall not use this report for any purpose other than that for which this document was prepared. This report has been prepared in accordance with the care and the skill generally exercised with reputable professionals, under similar circumstances, in this or similar localities. No other warranty, either expressed or implied, is made as to the professional advice presented herein.

It is a pleasure to provide Durham Transportation with these environmental services. If you have any questions, please contact the undersigned at (415) 799-1140.

Sincerely,

Lisa A. Polos

Lisa A. Polos, R.E.A.
Senior Scientist
Toxic Technology Services

Enclosures

LAP/bls

REPORT
UNDERGROUND TANK REMOVAL
AT
19984 MEEKLAND ROAD
HAYWARD, CALIFORNIA

INTRODUCTION

In July, 1989, CTTS, Inc. (Toxic Technology Services) was contracted to manage the removal of four underground storage tanks at 19984 Meekland Road in Hayward, California. The actual excavation and removal was conducted by Verl's Construction of San Leandro.

On July 14, 1989, a kick-off meeting took place at the subject site between Mr. Jack Worthington of Durham Transportation, Mr. Verl Rothlisberger of Verl's Construction and Ms. Lisa Polos of Toxic Technology Services. The purpose of this meeting was to obtain historical information on the subject site, finalize contractual agreements and agree on a tentative work schedule.

All four tanks were excavated and exposed on August 9, 1989. Observations and photographs were taken of the operation by Ms. Polos.

Tank removal took place on August 11, 1989 under the supervision of Ms. Polos and Mr. Jack Alt, Consulting Geologist for Toxic Technology Services and witnessed by representatives of the Eden Fire District. Soil samples were taken as prescribed by state and local regulations. A water sample was taken from the existing groundwater monitoring well. Attempts made to sample the existing non-potable well on-site were unsuccessful. This well supplied water to the service station operations.

Product lines to the gasoline dispensers were excavated and removed on August 15, 1989. Two soil samples were taken.

Samples were submitted to a state certified hazardous waste laboratory under chain of custody procedures. The tanks were rinsed and transported from the site by a state certified hazardous waste transporter and tank destroyer. Rinsate was removed from site by vacuum truck. Excavated soil remains on-site and is covered by plastic.

TANK REMOVAL ACTIVITIES

The subject site is located at the northeast corner of the intersection of Meekland Avenue and Blossom Way in the unincorporated area of Alameda County near the City of Hayward.

The following underground storage tanks were located on site and identified as follows:

#1 - 4000 gallon unleaded gasoline
#2 - 6000 gallon regular gasoline
#3 - 5000 gallon unleaded gasoline
#4 - 500 gallon waste oil

The location of these tanks is presented in Plate 1. According to Scott Owen of the Alameda County Public Works Department, the service station on the subject site was opened in 1946 and concludes that tanks 1, 2 and 4 were installed at that time. However, Mr. Worthington of Durham Transportation thought that these tanks were installed around 1954. Tank 3 was installed in 1972, according to Mr. Owen.

On August 9, 1989, the product lines to all four tanks were removed and the tops and sides of the tanks were exposed.

Tanks 1 & 2 were manifolded together. The unions on these tanks were loose. Upon opening the fill ports, no pressure was released from the tanks, nor was any visible product present. The pit walls around tank 1 were stained and colored green in some areas. The soil also had a gasoline odor.

Tank 3, had a pressure release when opened and contained approximately 3 gallons of gasoline. The pit area around this tank had no visible staining.

The product lines to the three tanks were corroded. The tops of the three tanks had no visible holes, but had some corrosion.

The waste oil tank and the tank line were corroded. There was a distinct solvent odor near the tank, but there were no visible holes in the top of the tank or visible staining of the soil.

All four tanks were removed from the subject site on August 11, 1989.

Each of the gasoline tanks was rinsed with clean water and the rinsate removed by vacuum truck provided by H and H Ship Service. Dry ice was then placed in each tank until the lower explosion level (LEL) was 15% and the oxygen level was 20%.

Each tank was lifted from the excavation by crane and placed on the ground for inspection, photographing, and cleaning.

Representatives of Eden Fire District were present during tank removal and inspection. Mr. Jack Alt, Consulting Geologist and Ms. Lisa Polos of Toxic Technology Services, supervised the removal activities.

The tanks were then placed on a flatbed truck provided by H and H Ship Services for destruction. H and H is a state certified hazardous waste transporter and tank destroyer.

The 500 gallon waste oil tank was removed by backhoe and after inspection was also transported by H and H Ship Services for destruction.

All tanks were transported under EPA manifest.

The results of the tank inspection are as follows:

Tank 1

Tank 1 had several holes, up to a 1/2" in size, near the base of the tank, at the fill pipe end. Other parts of the tank were corroded and locally deeply pitted. No other holes were observed. The excavation area of the tank had several areas of stained soil from both the side and base of the tank.

Tank 2

Tank 2 was corroded and locally deeply pitted, especially along the welds. No holes were observed in the tank however. There were also areas of stained soil at the base of the excavation for tank 2.

Tank 3

Tank 3 was in relatively good condition with minor corrosion. No evidence of significant soil staining was observed in the excavation for tank 3.

Tank 4

Tank 4, the waste oil tank, was lightly rusted and had a small (approximately 1/4") hole near the bottom of the tank. Several additional holes were made during the tank removal, however, the tank was empty at the time. No evidence of soil staining was observed in the excavation from the waste oil tank.

Soil Sampling

Soil samples were collected from beneath each of the tanks. Two samples were collected from below the gasoline tanks, one from each end. One sample was collected from below the waste oil tank. Groundwater was not encountered in the excavations.

Samples were collected by excavating approximately two feet into native soil using the backhoe. A brass sample tube was driven into the soil brought up by the backhoe bucket. The sample tube was capped by teflon tape and plastic slip caps, labeled, and place in an iced cooler for transportation, under chain of

custody, to TMA Norcal, a State certified hazardous waste laboratory, in Richmond, California. Samples were collected and handled using appropriate QA/QC procedures.

Groundwater Sampling

The existing groundwater monitoring well on the site was purged and then sampled. Approximately 10 gallons of water was removed from the well by bailing prior to sampling. The first several bailers of water had a strong odor of petroleum and there was a distinct sheen on the water. The groundwater sample was collected by bailer and place in two glass VOA vials, which contained acid preservative. They were then labeled and placed in an iced cooler for transport under chain of custody to the laboratory.

Attempts to sample the existing non-potable water well, which supplied water to the service station operation, were not successful.

On August 15, 1989, the product lines to the two dispenser islands, as well as the dispensers, were excavated and removed.

The excavation first uncovered vapor recovery lines which were steel and had no outer casing. These lines were capped off at the dispensers.

Approximately 6" deeper, three product lines, two fiberglass and one steel, were uncovered. Nothing unusual about these lines was observed.

Just under the joint where the product line met the tank pit, petroleum odor and stained soil was encountered at a depth of approximately two feet. This seemed to be an isolated spot around the joint.

A soil sample was taken at each dispenser island under the union where the line meets the southern dispenser. Slight staining and odor was noticed at the union at each dispenser, but was very minor and localized. Samples were taken by driving a brass sample tube into the native soil under the dispenser and the union. The sample tube was capped by aluminum foil and plastic slip caps, labeled, and placed in an iced cooler for transport to the laboratory under chain of custody.

Dispensers were removed and placed inside the existing building on the subject site.

Photographs of removal activities are presented under Appendix A.

ANALYTICAL RESULTS

Analytical data from the soil samples taken in the pit excavation show significant gasoline, benzene, toluene, ethylbenzene and xylene contamination, particularly around tanks 1 and 2. This means that further investigation is warranted to determine the extent of the contamination. The contaminated soil must then be remediated. This can be accomplished by employing a treatment technology or hauling the soil to a properly permitted hazardous waste landfill.

Soil from the waste oil excavation is below analytical detection limits for gasoline, diesel, polychlorinated biphenyls (PCBs), and benzene. Low levels of toluene and ethylbenzene were found. Carbon Disulfide was found at the detection limit of 5 parts per billion. Recoverable petroleum hydrocarbons were found at 70 parts per million (ppm), which is below the Alameda County recognized action limit of 100 ppm. However, xylene was found at 140 ppm. This level warrants further investigation by following the same steps as in the gasoline excavation.

The groundwater sample taken from MW-1 is below the analytical detection limits for gasoline, benzene and ethylbenzene. However, low levels of toluene and xylene were found. The toluene is below the action level of drinking water, and the xylene is below the maximum contamination level of drinking water.

Samples taken from under the product line at the dispenser islands are below analytical detection limits for gasoline, benzene, toluene, ethylbenzene and xylene.

Complete analytical results are presented under Appendix B.

TANK HISTORY OF THE SUBJECT SITE AND SURROUNDING AREA

19984 Meekland Road (subject site)

It is assumed that tanks 1, 2 and 4 were installed in 1947 when the service station started operation. Tank 3 was installed in 1972. In July, 1986, when the property was owned by Harbert Transportation, a soils and groundwater investigation was conducted by Applied Geosystems of Fremont, California.

Soil samples indicated that petroleum hydrocarbons were found at a level of over 200 ppm in B-1 and <1 ppm in B-2. Refer to Plate 2 for these locations. Groundwater was encountered at 24', at which point B-1 was converted into a monitoring well (MW-1). MW-1 had 42 ppm of gasoline and BTX values ranging from 5-6 ppm.

Durham Transportation took possession of the property in December, 1986.

In May, 1988, precision tank tests using the Horner Ezy-Chek method were conducted on the gasoline tanks. Tanks 1 & 2 were found to be manifolded together above the tank top and the system appeared to be leaking. The test suggested that the leak was in the piping. Tank 3 tested tight.

Durham shut down the leaking system and pumped out the product. In April, 1989, tanks 3 & 4 were shut down and product was pumped out and removed. The site is now vacant.

A records search was conducted by the Alameda County Department of Environmental Health on the subject site and the surrounding properties. The results are as follows:

19984 Meekland Road - Durham Transportation: Inspected on 3/3/88; interim permits issued for 4 tanks on 4/20/89; closure plans submitted to remove 4 tanks on 7/28/89; no major violations of the state law

50 Blossom Way: No record;
Note: Ms. Polos of Toxic Technology Services spoke to the manager of the store which occupies this site. He indicated that underground tanks had been removed from this site over ten years ago.

20009 Meekland Road - Hoang's Auto Care: Inspected on 3/3/88; no record of soil contamination; no major violations of the state law
Note: Chief Jim Ferdinand of the Eden Fire District indicated that this facility was pumping fuel until 1-2 years ago. He has no record of tank removal on the property, so it is possible that the tanks are still on-site.

20008 Meekland Road: No record

20332 Meekland Road: No record

20228 Meekland Road: No record

Chief Ferdinand indicated that the for at least the last 16 years, the above three addresses did not have underground tanks on-site.

He also said that an earth-moving service formerly operated from 124 Blossom Way, but had no underground tanks, to the best of his knowledge. This site is adjacent to the east side of the subject site.

CONCLUSIONS AND RECOMMENDATIONS

This investigation indicates that none of the neighboring properties seem to be a contaminating source to the subject site. Hoang's Auto Service could be suspect, however, the inferred groundwater gradient would have contamination moving away from the subject site. Analytical results from the existing monitoring well on-site also indicate that it appears that groundwater contamination has decreased over the last three years.

Because of the age and condition of the tanks and the presence of petroleum hydrocarbons in the soil and groundwater on the subject site, it appears that the source of contamination is coming from activities that took place on the subject site. The investigation conducted in July, 1986 proves that the site was contaminated before Durham Transportation took possession. It is most likely that the majority of this contamination took place before the change of ownership in December, 1986. Product release did continue between 1986 and 1988, until the leaking system was shut down, but this probably accounts for no more than 20% of the contamination problem. The apparent improvement of the groundwater lends credence to this.

In light of this investigation, the following is recommended:

- A report of an unauthorized tank product release should be sent to the Regional Water Quality Control Board, the Alameda County Department of Environmental Health and the Eden Fire District. This can be accomplished by sending copies of this report. Names and addresses are presented under Appendix C.

- It is up to the Regional Water Quality Control Board as to whether or not treatment of the groundwater is required. The level of toluene is below the action level for drinking water and the level of xylene is well below the maximum contaminant level for drinking water. However, this result provides only one data point and the Water Quality Control Board may mandate further action. It is recommended that the existing well, MW-1 be sampled and analyzed at least quarterly for the next year. This will provide a broader data base representative of each season.

- A soils investigation to determine the vertical and lateral extent of contamination should be conducted. Our recommendation is to trench around the accessible sides of the gasoline and waste oil excavations as shown in Plate 3. On the sides against the building, the existing trench could be widened slightly. Soil samples, probably three per trench or enlargement should be taken, more if there are areas of odor and/or staining. From around the gasoline excavation, these samples should be analyzed for gasoline,

BTEX, organic lead and ethylene dibromide (EDB). From around the waste oil excavation, the samples should be analyzed for gasoline, BTEX, pentachlorophenol (PCP), creosote and polynucleated aromatics (PNA).

- Once the extent of the contamination is determined, recommendations can be made as to the best remediation method for the soil. This determination would involve working with the pertinent agencies to arrive at the most viable method. These agencies could be the Water Quality Control Board, Alameda County Department of Environmental Health, the Eden Fire District and the Bay Area Air Quality Management District. A formal remediation plan would have to be submitted and approved by one or more of these agencies and permits, if required, would have to be obtained in order to proceed.

- Although the best or most economical remediation method can not be determined until it is known how much soil needs to be remediated, three methods would probably be given close evaluation. These are disposal at a properly permitted landfill, bioremediation and aeration. A combination of these methods could also be used.

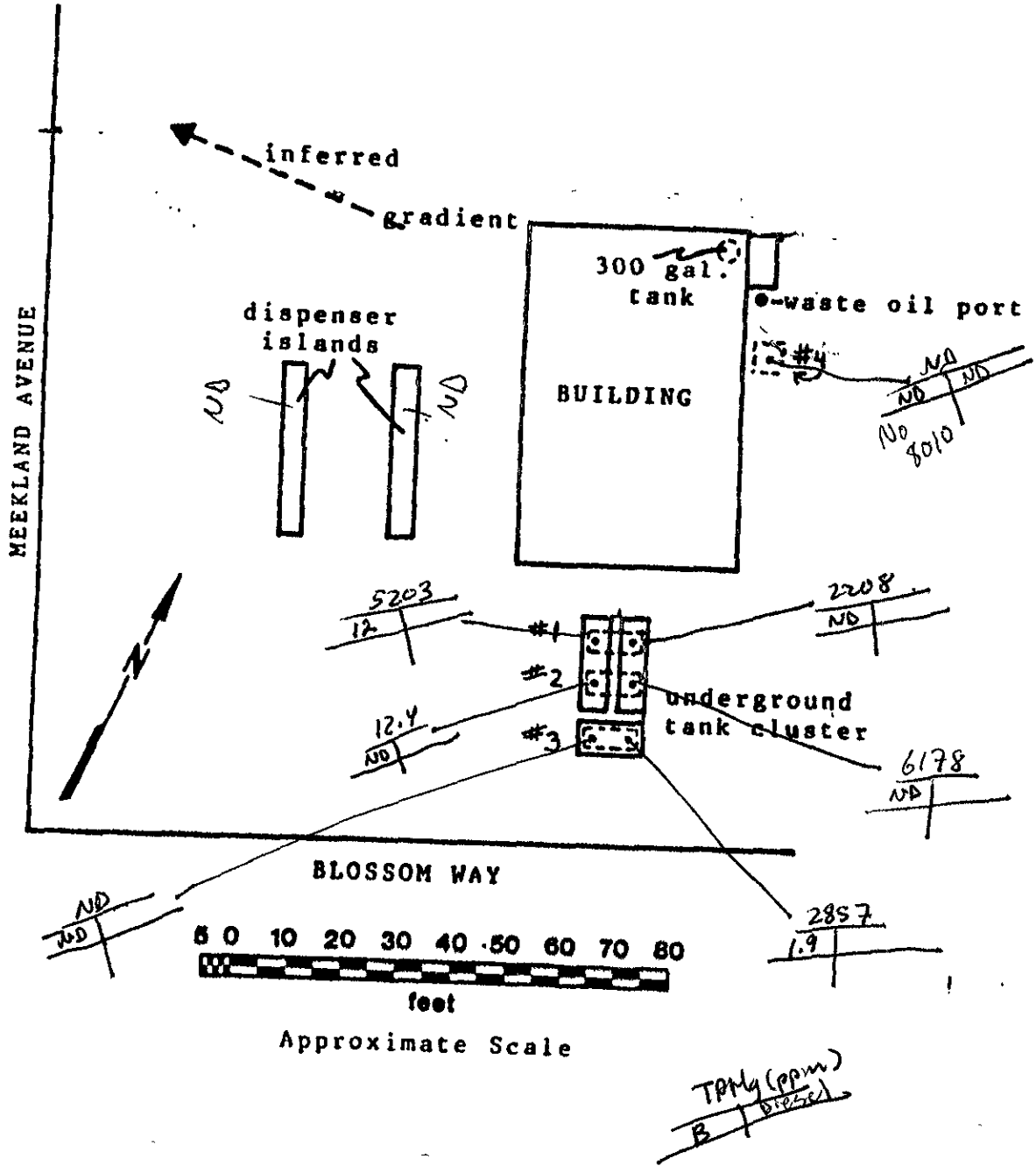

PLATE 1

Underground Storage Tank Locations

Site Location: 19984 Meekland Road, Hayward

Toxic Technology Services
P.O. Box 515
Rodeo, California 94572

Project #89-6
Durham Transportation
27577 (A) Industrial Blvd.
Hayward, CA 94545

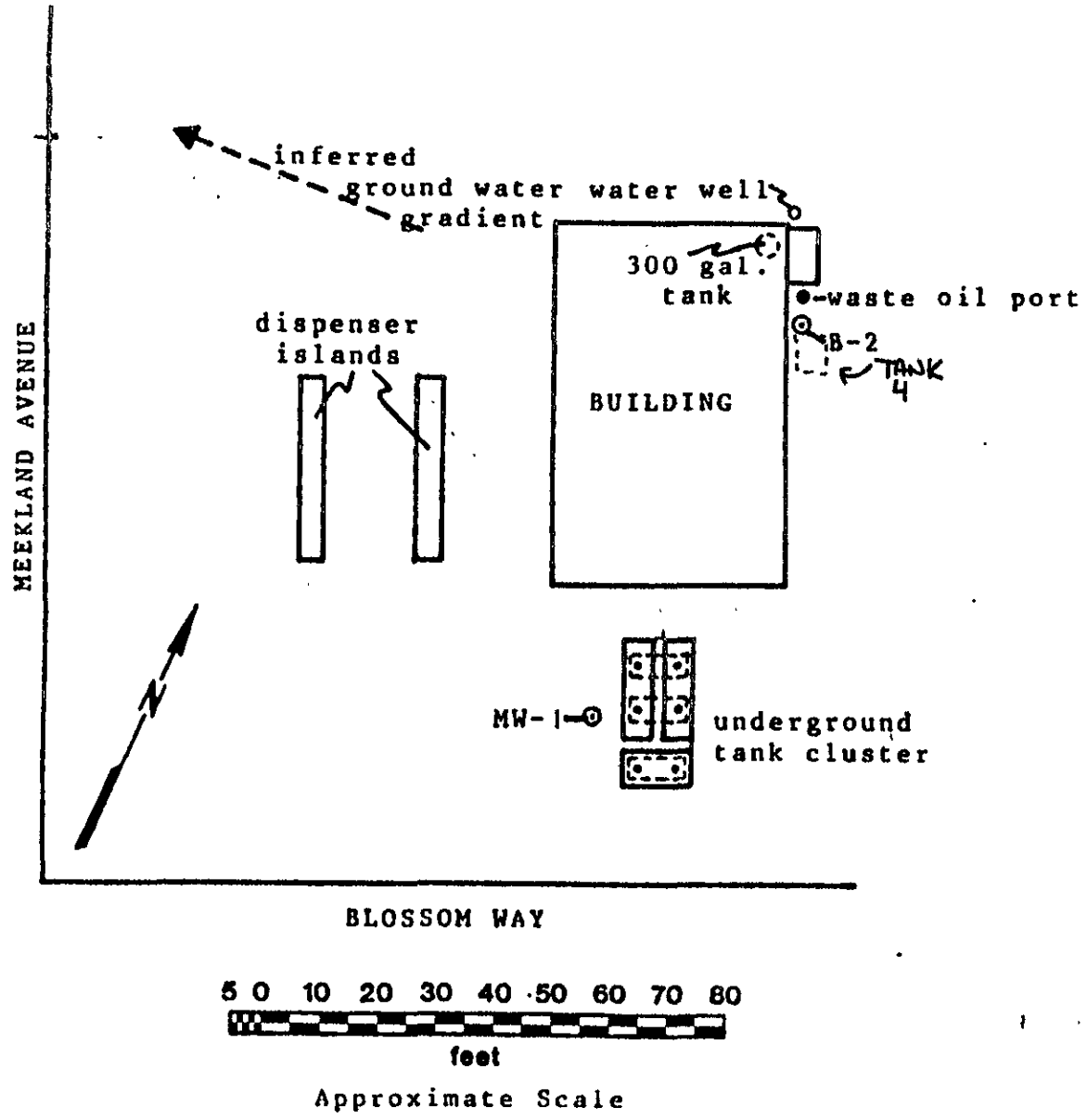

PLATE 2

Boring and Well Locations From 1986

Site Location: 19984 Meekland Road, Hayward

Toxic Technology Services
P.O. Box 515
Rodeo, California 94572

Project #89-6
Durham Transportation
27577 (A) Industrial Blvd.
Hayward, CA 94545

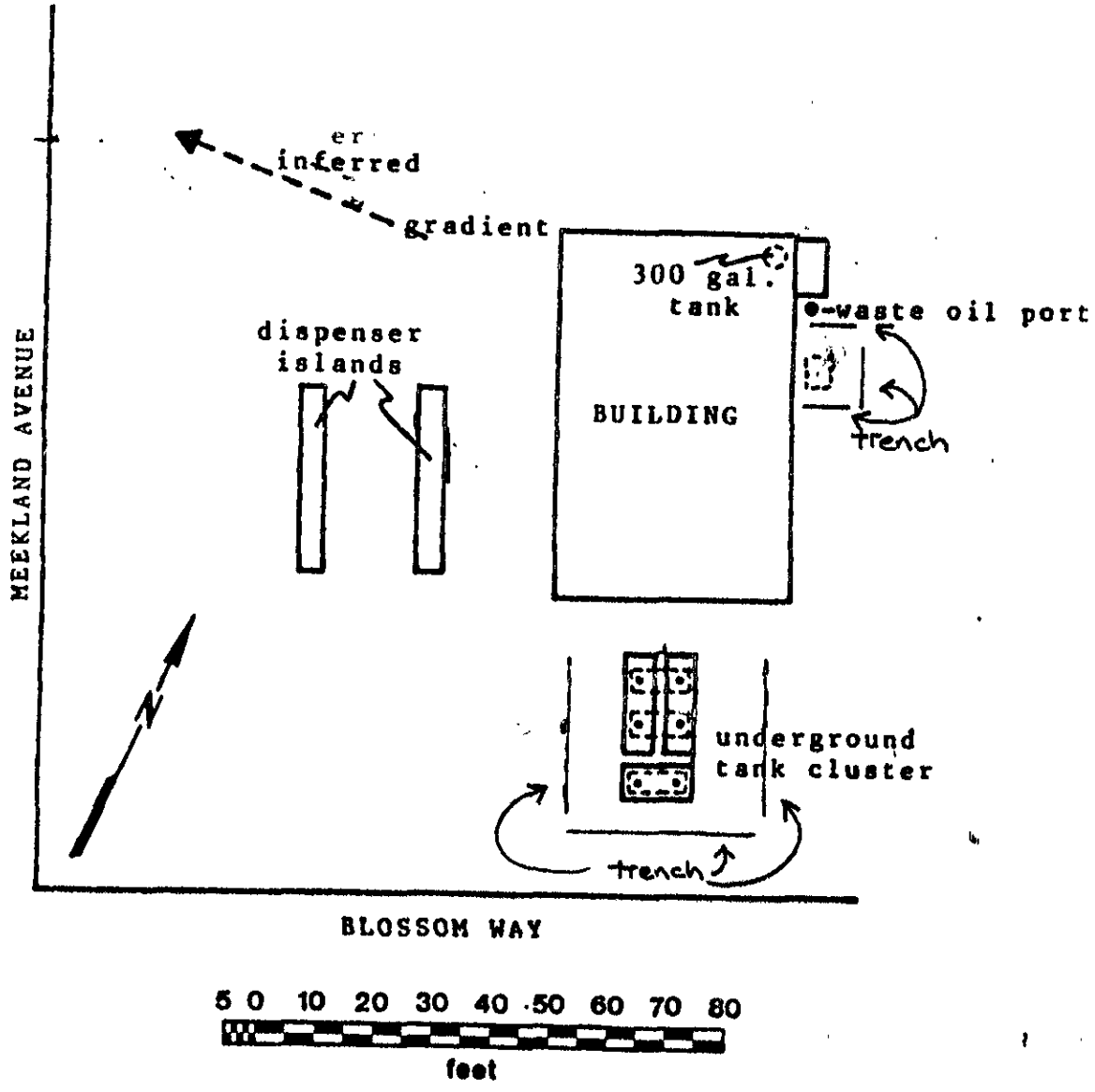

PLATE 3

Proposed Trench Locations

Site Location: 19984 Meekland Road, Hayward

Toxic Technology Services
P.O. Box 515
Rodeo, California 94572

Project #89-6
Durham Transportation
27577 (A) Industrial Blvd.
Hayward, CA 94545

APPENDIX A

PLEASE REFER TO PHOTOGRAPHS LOCATED IN ATTACHED ENVELOPE

APPENDIX B

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
P O Box 4040
Richmond, CA 94804-0040

(415) 235-2633

September 11, 1989

Toxic Technology
P.O. Box 515
Rodeo, CA 94572

Attention: Lisa Polos

TMA/Norcal I.D.#: 6721-2

Subject: This report is to supercede report dated September 5, 1989, regarding seven soils and one water submitted for routine analysis on August 11, 1989.

Procedure: The samples were analyzed for total petroleum hydrocarbons as gasoline, benzene, toluene, ethylbenzene, and xylene content. One of the soils was also analyzed for diesel, PCB's, volatile organics, and total recoverable petroleum hydrocarbons.

The results are attached. If you have any questions, please call.

Submitted by:

for Julie Wose

Julie Wose
G.C. Supervisor

Prepared by:

Deborah Fisher

Deborah Fisher
Program Manager

JW/DF/td
Attachments

Toxic Technology
Page 2
September 11, 1989

TMA/Norcal I.D.#:		6721-2-8, -9	Detection Limit	Method
Client I.D.#:		T4 @ 7.5'		
Total Recoverable Petroleum Hydrocarbons (mg/kg)	TPH	70	1	SM 503E
Poly-Chlorinated Biphenyl Compounds (PCB's) (mg/kg)		<0.5	0.5	EPA "The Analysis of PCB's in Transformer Oil"

SM = Standard Method

Jank

Analysis Results Report
Total Petroleum Hydrocarbons
Soil Matrix

Client: TOXIC TECHNOLOGY SERVICES
Sample Delivery Group: 2
Analysis/Method: PURGE AND TRAP ?

Date Received: 8/11/89
Date Analyzed: 8/18-22
Date Report: 8/25/89

TMA Sample ID	Client ID	Gasoline ug/Gm (ppm)	Detection Limits ug/Gm
6721-2-1	T1-W @ 11'	5203	10.0
6721-2-2	T1-E @ 13'	2208	10.0
6721-2-3	T2-W @ 13'	12.4	10.0
6721-2-4	T2-E @ 13'	6178	10.0
6721-2-5	T3-W @ 13'	< 10	10.0
6721-2-6	T3-E @ 13'	2857	10.0
6721-2-7	T4 @ 7.5'	< 10	10.0

R. S. Smith
Analyst

Data Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: TOXIC TECHNOLOGY SERVICES
Client Sample ID: T1-W @ 11'
TMA/Norcal SAMPLE ID: 6721-2-1

Date Received: 8/11/89
Date Analyzed: 8/21/89

CAS. No	COMPOUND	RESULTS (ug/kg)	DETECTION LIMITS (ug/kg)
71-43-2	benzene	12000	5
108-88-3	toluene	83000	5
100-41-4	ethylbenzene	67000	5
108-38-3	xylenes	420000	15

G D Sarill
Analyst

Data Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: TOXIC TECHNOLOGY SERVICES
Client Sample ID: T1-E @ 13'
TMA/Norcal SAMPLE ID: 6721-2-2

Date Received: 8/11/89
Date Analyzed: 8/22/89

CAS. No	COMPOUND	RESULTS (ug/kg)	DETECTION LIMITS (ug/kg)
71-43-2	benzene	< 5	5
108-88-3	toluene	59000	5
100-41-4	ethylbenzene	33000	5
108-38-3	xylenes	180000	15

G. D. Scott
Analyst

Data Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: TOXIC TECHNOLOGY SERVICES
Client Sample ID: T2-W @ 13'
TMA/Norcal SAMPLE ID: 6721-2-3

Date Received: 8/11/89
Date Analyzed: 8/18/89

CAS. No	COMPOUND	RESULTS (ug/kg)	DETECTION LIMITS (ug/kg)
71-43-2	benzene	< 5	5
108-88-3	toluene	< 5	5
100-41-4	ethylbenzene	< 5	5
108-38-3	xylenes	< 15	15

G. D Smith
Analyst

Date Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: TOXIC TECHNOLOGY SERVICES
Client Sample ID: T2-E @ 13'
TMA/Norcal SAMPLE ID: 6721-2-4

Date Received: 8/11/89
Date Analyzed: 8/22/89

CAS. No	COMPOUND	RESULTS (ug/kg)	DETECTION LIMITS (ug/kg)
71-43-2	benzene	< 5	5
108-88-3	toluene	68000	5
100-41-4	ethylbenzene	56000	5
108-38-3	xylenes	360000	15

G. V. Smith
Analyst

Data Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: TOXIC TECHNOLOGY SERVICES
Client Sample ID: T3-W @ 13'
TMA/Norcal SAMPLE ID: 6721-2-5

Date Received: 8/11/89
Date Analyzed: 8/22/89

CAS. No	COMPOUND	RESULTS (ug/kg)	DETECTION LIMITS (ug/kg)
71-43-2	benzene	< 5	5
108-88-3	toluene	26	5
100-41-4	ethylbenzene	13	5
108-38-3	xylenes	110	15

C. S. Smith
Analyst

Data Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: TOXIC TECHNOLOGY SERVICES
Client Sample ID: T3-E @ 13'
TMA/Norcal SAMPLE ID: 6721-2-6

Date Received: 8/11/89
Date Analyzed: 8/22/89

CAS. No	COMPOUND	RESULTS (ug/kg)	DETECTION LIMITS (ug/kg)
71-43-2	benzene	1900	5
108-88-3	toluene	17000	5
100-41-4	ethylbenzene	36000*	5
108-38-3	xylenes	220000*	15

* * Xylenes and Ethybenzene are over range. Sample data could not be reanalyzed due to the sample had expired.

Analyst

Data Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: TOXIC TECHNOLOGY SERVICES
Client Sample ID: T4 @ 7.5'
TMA/Norcal SAMPLE ID: 6721-2-7

Date Received: 8/11/89
Date Analyzed: 8/22/89

CAS. No	COMPOUND	RESULTS (ug/kg)	DETECTION LIMITS (ug/kg)
71-43-2	benzene	< 5	5
108-88-3	toluene	30	5
100-41-4	ethylbenzene	12	5
108-38-3	xylenes	140	15

G. D. Smith
Analyst

Data Release Authorized By

ANALYTICAL REPORT FOR SAMPLE SET # 6721-2

CLIENT: TOXIC TECHNOLOGY
DATE RECEIVED: 08/11/89
DATE EXTRACTED: 08/18/89
DATE ANALYZED: 08/21/89

METHOD: GC/FID #8015
TOTAL PETROLEUM HYDROCARBONS AS DIESEL

TMA/NORCAL I.D.	CUSTOMER I.D.	COMPOUND	RESULTS mg/Kg	RESULTS mg/Kg
6721-2-7	T4 @7.5'	DIESEL	<10.0	10.0

RAW DATA IN CHROMATOGRAM FILE.

ANALYZED BY: _____

DATA RELEASED BY: _____

Received: 08/18/89 08/25/89 11:03:42

REPORT TMA/NORCAL
TO 2030 Wright Avenue
Richmond, CA 94804

ATTEN Ms. Susan Smith

CLIENT TMA NORCAL SAMPLES 1
COMPANY TMA/NORCAL
FACILITY Richmond, CA

WORK ID 6721-2-9
TAKEN Unknown
TRANS By UPS
TYPE Soils
P.O. # 6721-2-9
INVOICE under separate cover

PREPARED Thermo Analytical, Inc.
BY 160 Taylor Street
Monrovia, CA 91016

Wendy Coates
CERTIFIED BY

ATTEN
PHONE 818-357-3247 CONTACT WMC

This report is for the sole and exclusive use of the client to whom it is addressed and represents only those samples herein described. Samples not destroyed in testing are retained a maximum of 30 days unless otherwise requested.

SAMPLE IDENTIFICATION

01 6721-2-9

T4 @ 7.5'

TEST CODES and NAMES used on this report

VOA S Volatile Organics by GC/MS

Received: 08/18/89 Results by Sample

SAMPLE ID 6721-2-9 FRACTION 01A TEST CODE VOA S NAME Volatile Organics by GC/MS
Date & Time Collected not specified Category

CLIENT I.D.: T4 @ 7.5'

VOLATILE ORGANIC RESULTS

COMPOUND	RESULT	DET LIMIT	COMPOUND	RESULT	DET LIMIT
Chloromethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Bromomethane	ND	10	1,2-Dichloropropane	ND	5
Vinyl chloride	ND	10	trans-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	Trichloroethene	ND	5
Methylene chloride	ND	10	Dibromochloromethane	ND	5
Acetone	ND	40	1,1,2-Trichloroethane	ND	5
Acrolein	ND	20	Benzene	ND	5
Acrylonitrile	ND	5	cis-1,3-Dichloropropene	ND	5
Carbon disulfide	5	5	2-Chloroethyl Vinyl Ether	ND	10
1,1-Dichloroethene	ND	5	Bromoform	ND	5
1,1-Dichloroethane	ND	5	2-Hexanone	ND	10
1,2-Dichloroethene	ND	5	4-Methyl-2-Pentanone	ND	10
Chloroform	ND	5	Tetrachloroethene	ND	5
1,2-Dichloroethane	ND	5	Toluene	ND	5
Methylethyl ketone	ND	10	Chlorobenzene	ND	5
1,1,1-Trichloroethane	ND	5	Ethyl benzene	ND	5
Carbon tetrachloride	ND	5	Styrene	ND	5
Vinyl acetate	ND	10	Xylenes (Total)	ND	5
Bromodichloromethane	ND	5			

NOTE: All results reported in ug/Kg unless otherwise specified
ND = Not detected at the specified limits

SURROGATE COMPOUNDS	% RECOVERY
d8-Toluene	100
Bromofluorobenzene	92
1,2-Dichloroethane-d4	104

ANALYST WA
DATE INJECTED 08/23/89
DILUTION FACTOR 1.00

SAMPLE ID 6721-2-9 FRACTION 01A TEST CODE VOA S NAME Volatile Organics by GC/MS
Date & Time Collected not specified Category

CLIENT I.D.: T4 @ 7.5

TENTATIVELY IDENTIFIED VOLATILE COMPOUNDS

COMPOUND	APPR. CONC. ug/Kg
None Detected	

TMA/NORCAL

As requested, one sample was analyzed for the volatile organic compounds listed in US EPA method 8240. Please see the attached tables for the results.

Analysis Results Report
Total Petroleum Hydrocarbons
Water Matrix

Client: TOXIC TECHNOLOGY SERVICES
Sample Delivery Group: 2
Analysis/Method: PURGE AND TRAP

Date Received: 8/11/89
Date Analyzed: 8/22/89
Date Report: 8/25/89

TMA Sample ID	Client ID	Gasoline (mg/l)	Detection Limits (mg/l)
6721-2-11	MW-1	< 1.0	1.0

G. D. Smith
Analyst

Data Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: TOXIC TECHNOLOGY SERVICES
Client Sample ID: MW-1
TMA/Norcal SAMPLE ID: 6721-2-11

Date Received: 8/11/89
Date Analyzed: 8/22/89

CAS. No	COMPOUND	RESULTS (ug/L)	DETECTION LIMITS (ug/L)
71-43-2	benzene	< 0.3	0.3
108-88-3	toluene	26	0.3
100-41-4	ethylbenzene	< 0.3	0.3
108-38-3	xylenes	50	0.3

C.D. Smith
Analyst

Data Release Authorized By

2030 Wright Avenue
Richmond, California 94804
(415) 235-2633
(TWX) 910-382-8132

TMA

Thermo Analytical Inc.

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME	NO. OF CONTAINERS	analyses: TPH-Gasoline	BTX	Oil & Grease	8240	PCB screen	TPH-diesel	REMARKS
	Durham on Maeland								
	(Signature)								

	depth ft.	media											
T1-W	11	soil				X	X						
T1-E	13	"				X	X						
T2-W	13	"				X	X						
T2-E	13	"				X	X						
T3-W	13	"				X	X						
T3-E	13	"				X	X						
T4	7½	"				X	X	X	X	X	X		
MW-1		water				X	X						

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	8/11/89 4:30	Lisa A. Polat			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Lisa A. Polat	8/11/89 5:20	[signature]			
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]			

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
P.O. Box 4040
Richmond, CA 94804-0040
(415) 235-2633 Fax No. (415) 235-0438

September 1, 1989

Toxic Technology
P.O. Box 515
Rodeo, CA 94572

Attention: Lisa Polos

TMA/Norcal I.D.: 6721-1

Subject: Two soils submitted for routine analysis on August 16, 1989.

Procedure: The soils were analyzed for total petroleum hydrocarbons as gasoline, and benzene, toluene, ethylbenzene, and xylene content.

The results are attached. If you have any questions, please call.

Submitted by:

Julie Wose
G.C. Supervisor

Prepared by:

Deborah Fisher
Program Manager

JW/DF/mac

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: TOXIC TECHNOLOGY SERVICES
Client Sample ID: DISP.1 EAST
TMA/Norcal SAMPLE ID: 6721-1-1

Date Received: 8/16/89
Date Analyzed: 8/22/89

CAS. No	COMPOUND	RESULTS (ug/kg)	DETECTION LIMITS (ug/kg)
71-43-2	benzene	< 5	5
108-88-3	toluene	< 5	5
100-41-4	ethylbenzene	< 5	5
108-38-3	xylenes	< 15	15

G D Smith
Analyst

Data Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: TOXIC TECHNOLOGY SERVICES
Client Sample ID: DISP.2 WEST
TMA/Norcal SAMPLE ID: 6721-1-2

Date Received: 8/16/89
Date Analyzed: 8/18/89

CAS. No	COMPOUND	RESULTS (ug/kg)	DETECTION LIMITS (ug/kg)
71-43-2	benzene	< 5	5
108-88-3	toluene	< 5	5
100-41-4	ethylbenzene	< 5	5
108-38-3	xylenes	< 15	15

G. D. Smith
Analyst

Date Release Authorized By

Analysis Results Report
Total Petroleum Hydrocarbons
Soil Matrix

Client: TOXIC TECHNOLOGY SERVICES
Sample Delivery Group: 1
Analysis/Method: PURGE AND TRAP

Date Received: 8/16/89
Date Analyzed: 8/18-22
Date Report: 8/25/89

TMA Sample ID	Client ID	Gasoline ug/Gm	Detection Limits ug/Gm
6721-1-1	DISP.1 EAST	< 10.0	10.0
6721-1-2	DISP.2 WEST	< 10.0	10.0

G W Smith
Analyst

Data Release Authorized By

Richmond, California 94804
(415) 235-2633
(TWX) 910-382-8132

TMA

Thermo Analytical Inc.

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
89-6	Durham-Neckland

(Signature)
Lisa A. Pilot

DATE	Description	NO. OF CONTAINERS	analyses: BTEX	TPH-Gas	REMARKS
8-15-89	Disp. 1 East	1 Core	X	X	Please return brass cores
8-15-89	Disp 2 West	1 Core	X	X	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Lisa A. Pilot	8-15-89 1:18pm	Deborah Fisher			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

APPENDIX C

Please send a copy of this report with a cover letter providing a Durham Transportation contact name and a brief explanation of what Durham Transportation intends to do over what period of time to the following:

Chief James Ferdinand
Eden Fire District
427 Paseo Grande
San Lorenzo, California 94580

Mr. Tom Peacock
Alameda County Health Care Services Agency
Department of Environmental Health
Hazardous Materials Division
80 Swan Way
Oakland, California 94621

Mr. Tom Callaghan
Water Quality Control Board
1111 Jackson, Room 6000
Oakland, California 94607