Reviewed on 3/1/95
by Aheeph
see letter
dtd 3/1/95
to RP's.

95 FEB 27

SUMMARY OF FINDINGS
SOIL BORING INVESTIGATION

ENGINE RESEARCH COMPANY/MAX'S AUTO
508 EAST LEWELLING BLVD.
SAN LORENZO, CALIFORNIA 94580

EIA Job 0234005

Prepared For:

Engine Research Company
584 East Lewelling Blvd.
San Lorenzo, California 94580

Prepared By:

EIA Technologies
22390 Thunderbird Place
Hayward, California 94545

James M. Haslett

James M. Haslett, R.G. 5641
Chief Geologist

REGISTERED GEOLOGIST
JAMES M. HASLETT
No. 5641
STATE OF CALIFORNIA

December 16, 1994

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

SUMMARY OF FINDINGS

Engine Research Company/Max's Auto
508 East Lewelling Blvd.
San Lorenzo, California

1.0 INTRODUCTION

Engine Research Company (ERC) contracted with EIA Technologies (EIA) to drill one (1) soil boring near the former underground storage tank (UST) location, at 508 East Lewelling Blvd., San Lorenzo, California. The purpose of the investigation was to evaluate soil and groundwater conditions near the former tank location.

Work conducted by EIA included pulling permits, coordinating drilling, and taking samples. This report describes the work conducted during the investigation, presents the analytical results, and discusses our interpretations and conclusions so as to fulfill the requirements for appropriate local regulatory agencies. Efforts are being coordinated through the Alameda County Environmental Health Service, as well as Zone 7 Flood Control.

2.0 SITE LOCATION AND BACKGROUND

The site is located at 508 East Lewelling Blvd. in San Lorenzo, California. According to information provided by the tank operator, three tanks, two (2) 2,000-gallon, and one (1) 4,000-gallon single-walled steel UST's were used at the site. The tank ages are unknown. The tanks previously contained gasoline. Figure 1 shows the location site of the tank pit and Boring location.

3.0 PERMITTING AND REGULATORY COMPLIANCE

Prior to initiating field activities, EIA obtained a Drilling permit to drill the boring from the Zone 7 Water Agency. EIA, also obtained a permit from Alameda County Public Works for a Street Road Encroachment Permit. A copy of the permits are included in Appendix A.

4.0 FIELD ACTIVITIES

4.1 Soil Boring

On November 14, 1994, EIA personnel and drilling subcontractor BSK and Associates (Lic.# 490942) arrived onsite and prepared the site for drilling. The Drill Rig was mounted on a CME-75 or equivalent truck. A Boring Log was kept on sight for proper documentation. (See Appendix B.) The soil cuttings were placed in (2) 55 gallon DOT approved drums. Drums were labeled Soil Cuttings 1'-20' and 20'-30' and left on site pending disposal. Sampling location shown in figure 1.

4.2 Soil Sampling

On November 14, 1994, soil samples were collected from the boring adjacent to the former UST location. Project and Sampling notification was given to Inspector Juliet Shin, a week prior to the project.

Soil samples were collected from Boring 1 with the below surface grade footage representing the number following B-1. The samples labeled B-1-13, B-1-20, and B-1-25 were collected and anaylzed from the Boring using a California Split-Spoon, and placed in 6-inch brass sample tubes. Boring location is shown in Figure 1.

The soil samples were sealed with a teflon liner and plastic cap, labeled, documented on a chain-of-custody form and held in a pre-cooled ice chest pending delivery to the State-Certified laboratory of Priority Environmental Labs in Milpitas, California.

4.3 Water Sampling

On November 14, 1994, a "grab" ground water sample(s) was taken from the Boring at approximately 26 feet. Three (3) 40ml glass Voas were filled, secured to insure no air was admitted into the containers, and placed in a pre-cooled ice chest. One (1) Ground Water sample was analyzed and labeled B-1-H20. The ground water and rinsate from pressure washing the drilling equipment was drummed in 55 gallon DOT approved drum, and labeled Ground Water and Rinsate, which was left on site pending disposal.

4.4 Backfilling

The boring was backfilled with a Cement Bentonite Grout from total depth to near grade, on November 14, 1994.

5.0 ANALYTICAL RESULTS AND DISCUSSION

Three (3) soil samples and one (1) groundwater sample were collected from Boring 1 and were analyzed for total petroleum hydrocarbons as gasoline (TPHg) in accordance with modified Environmental Protection Agency (EPA) Method 8015, and for benzene, toluene, ethylbenzene, and total xylene isomers (TPHg/BTEX) in accordance with EPA Method 8015/8020.

Results of soil analyses are summarized in Table 1. Copies of the analytical results, QA/QC data and chain-of-custody forms are provided in Appendix D. Based on the results of the soil samples and ground water sample collected from near the former UST location, EIA concludes the following:

- TPHg and BTEX concentrations exceed regulatory action levels for Soil samples B-1-20 and B-1-25.
  TPHg and BTEX concentrations exceed regulatory action levels for Ground Water sample B-1-H2O.

Therefore, we are recommending further investigation to evaluate the extent of hydrocarbon-impacted soil and groundwater.

TABLE 1
RESULTS OF SOIL ANALYSES
Engine Research Company
508 East Lewelling
San Lorenzo, California
(November 14, 1994)

SAMPLE NUMBER	SAMPLE DEPTH*	B	T	E	X	TPHg
B-1-13	13	ND	ND	ND	ND	ND
B-1-20	20	27	47	42	86	6,900
B-1-25	25	76	120	73	160	1,8000 18,000
B-1-H20	26	3.6	8.2	3.9	9.5	1,300

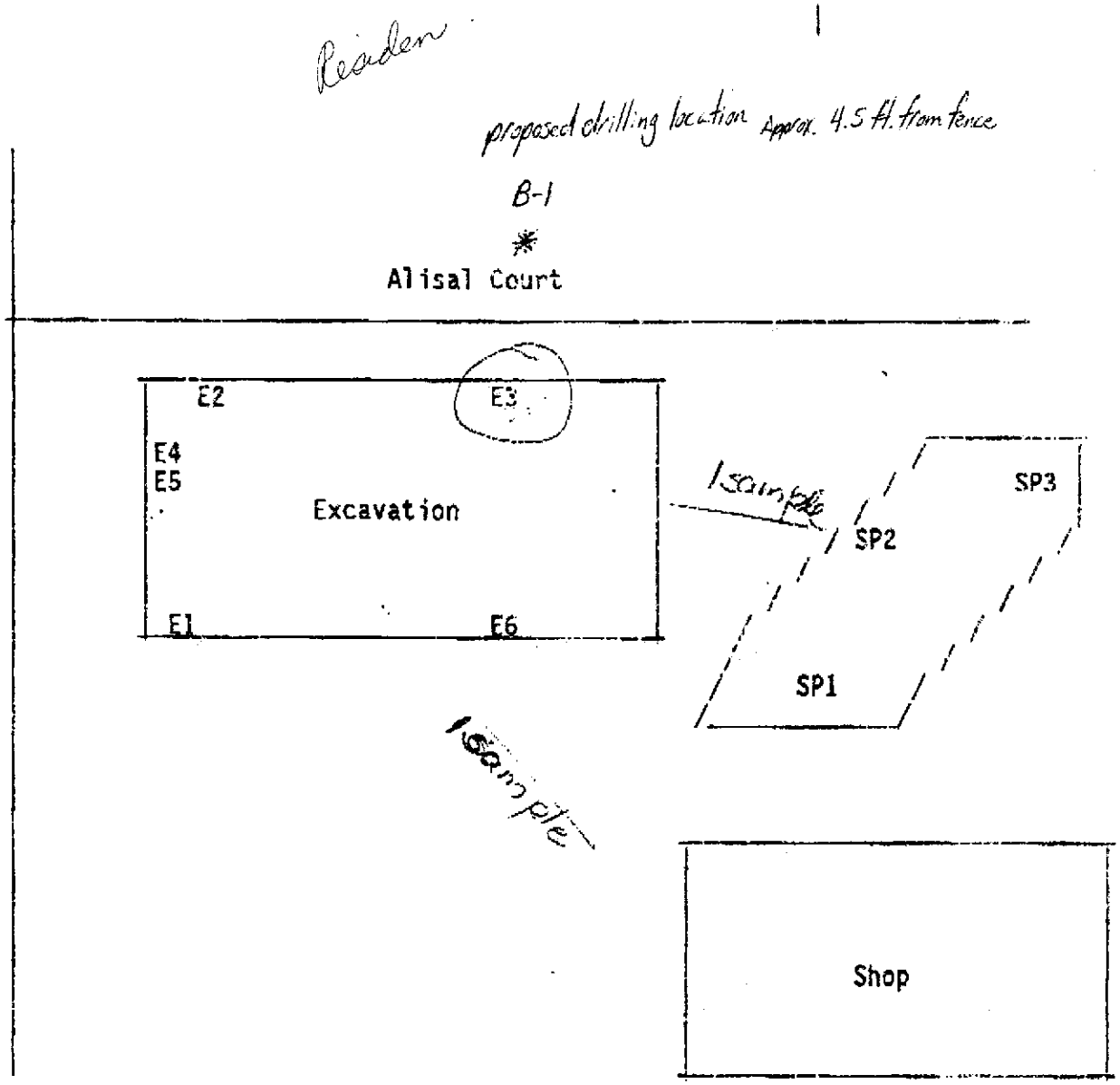
Soil-TPHg results in micrograms per kilogram = parts per billion
Water-TPHg results in micrograms per kilograms=parts per billion
Soil and Water-BTEX results in micrograms per kilogram = parts per billion
* = depth in feet below grade
B=benzene T=toluene E=ethylbenzene X=total xylene isomers
TPHg = total petroleum hydrocarbons as gasoline
ND = not detected at detection limit indicated on laboratory report

file:..user\eng\eshore\tank.rpt

Trace Analysis Laboratory, Inc.

Site: Max's Auto Repair

Address: 508 East Lewelling Boulevard
San Lorenzo, CA 94580



Requester: Max Gracio

Customer: Max's Auto Repair
508 East Lewelling Boulevard
San Lorenzo, CA 94580

Date Sampled: 04/14/94

Log No.: 4305

ALAMEDA COUNTY PUBLIC WORK
399 ELMHURST STREET, HAYWARD, CALIFORNIA 94544
ROAD ENCROACHMENT PERMIT

(In accordance with Chapter 1 of Title 5, Streets and Highways, Ordinance Code, County of Alameda, an ordinance providing for the protection of Public Highways and rights of way thereof regulating the use thereof; and the manner in which the same may be altered, excavated under, obstructed or encroached upon; and providing penalties for the violation of the provisions thereof)

Issued To: EIA TECHNOLOGIES
22390 THUNDERBIRD PLACE
HAYWARD, CA 94545
Phone: 264-9081

Permit Number: R00-940276
Issue Date: 11/ 7/1994
Expiration Date: 11/ 7/95
Permit Issue Receipt: 005359
Assessor Number: - - -
Work Order Number: 80001

Job Site: ALISAL CT,
Township: SLZ

in compliance with and subject to all the terms, conditions and restrictions contained in Chapter 1 of Title 5 of said Ordinance Code and as stated below or printed as general or special provisions on any part of or attached to and made a part of this encroachment permit.

THE ABOVE APPLICANT HEREBY REQUESTS PERMISSION TO:
PERFORM A SOIL BORING OF THE RIGHT-OF-WAY WITHIN THE INTERSECTION OF E. LEWELLING BOULEVARD AND ALISAL COURT.

Attention is directed to the general provisions printed on the attached sheets of this permit and to the special provisions attached hereto and made a part hereof.

ALL MISCELLANEOUS GENERAL PROVISIONS.

This permit does not authorize, and it shall not be construed to authorize any infringement upon the property rights of owners of the fee title of the highway referred to herein. Notice of start of work and other required notices shall be given to the field office, 951 Turner Ct., Suite 300, Hayward Phone (510) 670-5762.

Other Required Permits: NONE
Bond Information: WAIVED
Permit ~~Deposit~~ Fee: $25 Fee

Charging and Billing Instructions:
Bill the Permittee for the listed fees: (Y/N)

By _____ Applicant Reviewed By: JKR
Work Completed: __/__/__
By _____ ALAMEDA COUNTY Inspector: _____

Where no maps or plats are furnished, a sketch of the proposed work, showing location, name of road and other information must be made on a separate sheet, in triplicate.

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 508 E. Lewelling Blvd.
San Lorenzo, CA 94580

CLIENT
Name Engine Research Company
Address 584 E Lewelling Blvd. Voice (510) 276-9334
City San Lorenzo, CA 94580 Zip 94580

APPLICANT
Name Environmental Investigation & Action
Fax (510) 264-9085
Address 22390 Thunderbird Place Voice (510) 264-9081
City Hayward Zip 94545

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	/
Water Supply	___	Contamination	___
Monitoring	___	Well Destruction	___

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger /
Cable ___ Other ___

DRILLER'S LICENSE NO. 490442 (BSK Associates)

WELL PROJECTS
Drill Hole Diameter ___ in. Maximum
Casing Diameter ___ in. Depth ___ ft.
Surface Seal Depth ___ ft. Number ___

GEOTECHNICAL PROJECTS
Number of Borings 1 Maximum
Hole Diameter ___ in. Depth 25 ft.

ESTIMATED STARTING DATE 11/9/94
ESTIMATED COMPLETION DATE 11/9/94

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] Date 10/27/94

FOR OFFICE USE

PERMIT NUMBER 94692
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

A. GENERAL
(1.) A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
(3.) Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(C.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved [signature] Wyman Hong Date 27 Oct 94

91CW2

LOCATION OF BORING

JOB NO.	CLIENT	LOCATION
0234005	E.R.C.	San Lorenzo

DRILLING METHOD: Hollow stem auger (8")

SAMPLING METHOD: Split spoon (2")

BORING NO. 1

SHEET 1 OF 2

WATER LEVEL				
TIME				
DATE				
CASING DEPTH				

DRILLING START TIME / FINISH TIME / DATE

DRILLING CONTR: BSJ & Associates

DATUM ELEVATION

SURFACE CONDITIONS: Asphalt surface ~~over grading~~

SAMPLER TYPE	INCHES DRIVEN / INCHES RECOVERED	DEPTH OF CASING	SAMPLE NO. / SAMPLE DEPTH	BLOWS/FT SAMPLER	NUMBER OF RINGS	DEPTH IN FEET	SOIL GRAPH
				3		5	3
				2/3		6	2
							3
						7	
						8	
				4		9	
				5/8		10	4
						11	5
						12	8
						13	
						14	
				2		15	2
				3/4		16	3
							4
						17	
						18	
						19	
						20	

0'-8' Silt, dark brown, moist

8'-10' Dark brown clayey silt, moist Appears to be staining, no odor

10'-14' Grey silt w/fine sand, moist

Collected sample B-1-13 at 13' bsg Slight Oder.

14'-19' Brown clayey silt, moist

NO.

BY DATE CHK'D BY

623 1 3 - Rev 1 1-80

LOCATION OF BORING

JOB NO. 0234005 | ERC | San Lorenzo

BORING NO. 1

SHEET 2 OF 2

DRILLING METHOD: Hollow stem auger (8")

SAMPLING METHOD: Split spoon (2")

DRILLING: START / FINISH — TIME / TIME — DATE / DATE

WATER LEVEL				
TIME				
DATE				
CASING DEPTH				

DRILLING CONTR. BSK & Associates

No.

DATUM — ELEVATION

SURFACE CONDITIONS:

SAMPLER TYPE	INCHES DRIVEN / INCHES RECOVERED	DEPTH OF CASING	SAMPLE NO. / SAMPLE DEPTH	BLOWS/FT SAMPLER	NUMBER OF RINGS	DEPTH IN FEET	SOIL GRAPH	
				1 / 2 / 5		20		19-23 dark brown clay w/sand very thin layer of med. sand ∠ 3' at 19' ft. moist
						21		Collected sample B-1-20 at 20' BSG
						22	▼	Strong odor in sample. * Static GW level
						23		23'-26' Brown clay w/silt slight odor, moist
						24		Sample B-1-25' at BSG
				7 / 13		25		
				21		26	▽	26'-30' 1st Water encountered Sample B-1-H2O at 26' BS
						27		Light Brown clay w/silt sand, moist
						28		
						29		
				7 / 11 / 13		30		Sample B-1-30 collected at 30' BSG
						1		*Soil/Water interface at 26' bsg
								* Water was measured to be standing at 22 bsg
						2		
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						0		

BY ____ DATE ____ CHK'D BY ____

APPENDIX C

ANALYTICAL RESULTS, QA/QC DATA AND CHAIN-OF-CUSTODY FORMS

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

November 16, 1994 PEL # 9411040

ENVIRONMENTAL INVESTIGATION & ACTION

Attn: Kurt Soto-Gambini
Re: One water and two soil samples for Gasoline/BTEX analysis.

Project name: Engine Research Company
Project location: 508 E. Lewelling Blvd., -- San Leandro
Project number: O 234005

Date sampled: Nov 14, 1994 Date submitted: Nov 14, 199
Date extracted: Nov 14-15, 1994 Date analyzed: Nov 14-15 199

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
B-1-H20	1300	3.6	8.2	3.9	9.5
Detection Limit	50	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	602	602	602	602

SAMPLE I.D.	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
B-1-13	N.D.	N.D.	N.D.	N.D.	N.D.
B-1-20	6.9	27	47	42	86
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	100.1%	81.6%	106.0%	101.3%	104.7%
Detection limit	1.0	5.0	5.0	5.0	5.0
Method of Analysis	5030 / 8015	8020	8020	8020	8020

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

November 18, 1994 PEL # 9411040

ENVIRONMENTAL INVESTIGATION & ACTION

Attn: Kurt Soto-Gambini
Re: One soil sample for Gasoline/BTEX analysis.

Project name: Engine Research Company
Project location: 508 E. Lewelling Blvd., - San Lorenzo
Project number: 0234005

Date sampled: Nov 14, 1994 Date submitted: Nov 14, 1994
Date extracted: Nov 17-18, 1994 Date analyzed: Nov 17-18, 1994

RESULTS:

SAMPLE I.D.	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
B-1-25	18	76	120	73	160
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	90.4%	81.6%	106.0%	101.3%	104.7%
Detection limit	1.0	5.0	5.0	5.0	5.0
Method of Analysis	5030 / 8015	8020	8020	8020	8020

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-963(Fax: 408-946-9663

Environmental Investigation & Actior

22390 Thunderbird Place
Hayward, California 94545 USA

CHAIN OF CUSTODY RECORD AND ANALYSIS

PEL # 9411040

INV # 25432

PROJECT NO.	PROJECT NAME/SITE
0234005	# 0234005 Engine Research Company 508 E. Lewelling Blvd. San Lorenzo CA 94580

SAMPLERS (SIGN) Kurt Soto-Gamboi (PRINT) K.M.

SAMPLE IDENTIFICATION	DATE	TIME	COMP	GRAB	PRES. USED	ICED	NO. CONTAINERS	SAMPLE TYPE	BTEX (8020/8020)	TPHg (8015)/8020	TPHd (8015)	TOG 418.1/5520	601/8010	624/824C	625/8270	REMARKS
B-1-13	11/14/94	9:40														
B-1-20	11/14/94	9:54							V							2 per KURT
B-1-25	11/14/94	10:14							V							Onw 11/15/94 at 8:27 am
B-1-30	11/14/94	10:39														
B-1-H_2O	11/14/94	11:25							V							

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
Kurt Soto-Gamboi	11/14/94	3:44 pm	
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE 11/14/94	TIME 3:44 pm	RECEIVED BY LABORATORY:

LABORATORY: P.E.L.

REQUESTED TURNAROUND TIME: 3 days

RECEIPT CONDITION:

PLEASE SEND RESULTS TO:

Environmental Investigation & Action
Hayward Office:
22390 Thunderbird Place
Hayward, California 94545
Phone: (510) 264-9081
Fax: (510) 264-9083

PROJECT MANAGER: