

Underground Contamination Investigations, Groundwater Consultants, Environmental Engineering

REPORT OF ADDITIONAL SUBSURFACE INVESTIGATION

QUALITY TUNE-UP

14901 East 14th Street San Leandro, California

January 6, 1997

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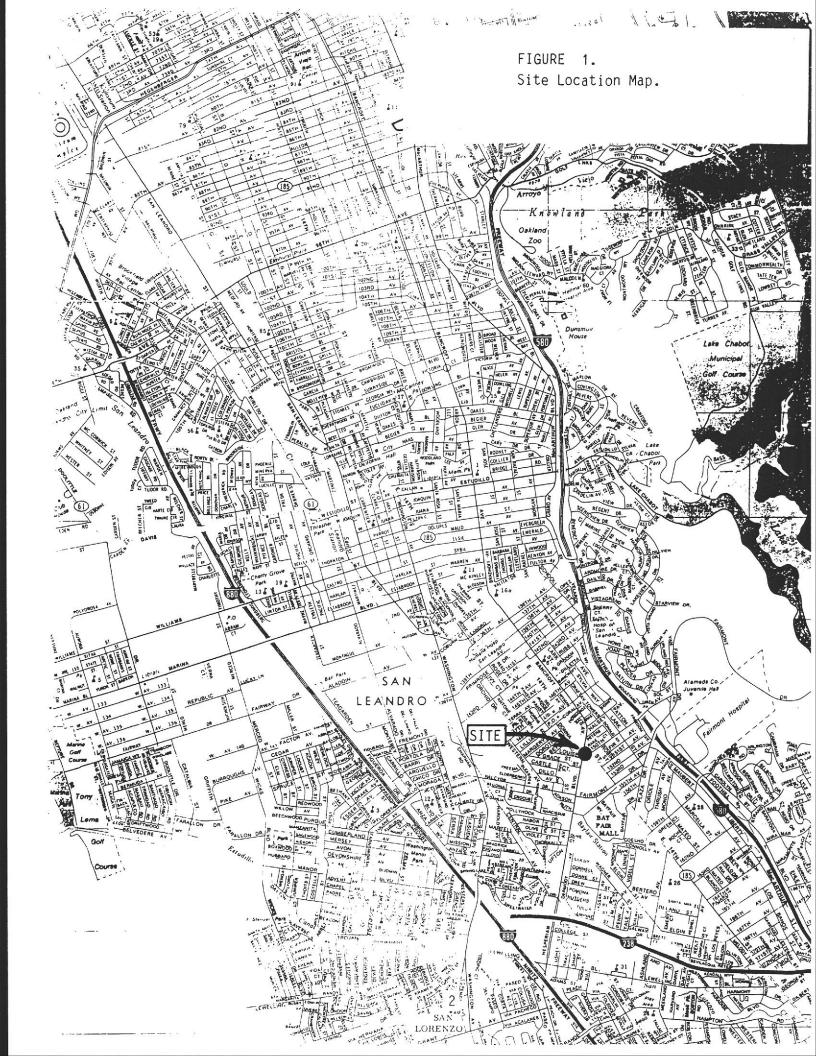
I. INTRODUCTION

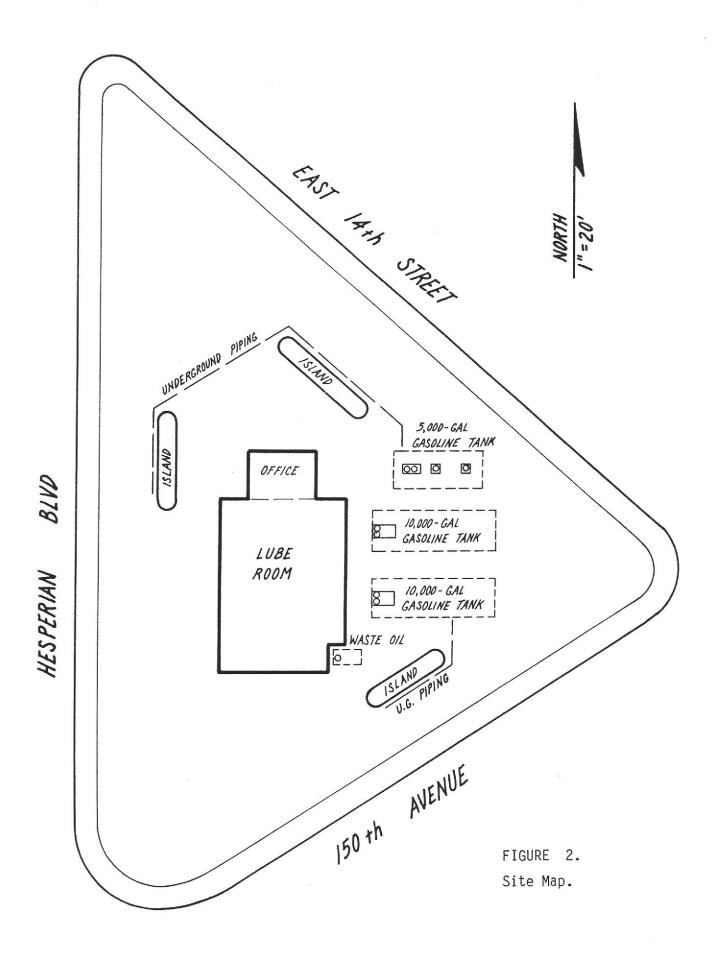
The site location is the Quality Tune-up facility located at 14901 East 14th Street in San Leandro, California. The location of the site is shown in Figure 1. In conjunction with a previous service station operation, the site has historically operated three underground Gasoline storage tanks for a number of years. The tanks have been out of use for more than 10 years. The layout of the site is shown in Figure 2 (site map).

Results of Previous Investigation

On October 15, 1993, a subsurface investigation was conducted by Hageman-Aguiar, Inc. The scope of work involved the collection of soil samples for laboratory analysis at four locations in the immediate vicinity of the existing underground storage tanks. The results of the investigation were presented in the "Report of Limited Soil Investigation" by Hageman-Aguiar, Inc., dated October 26, 1993.

The results of the 1993 investigation indicated that Gasoline concentrations were detected in the vicinity of the existing underground storage tanks at concentrations of up to 180 mg/kg (ppm). Low level residual Benzene concentrations were detected in the vicinity of the existing underground storage tanks at concentrations of up to 230 µg/kg (ppb). The low-level residual Gasoline contamination in the vicinity of the existing underground storage tanks appeared to coincide with the location of the water table interface beneath the site. All of the near-surface soils encountered in the borings appeared to be unaffected by any subsurface petroleum contamination.





Based upon analysis of the data generated from the limited soil investigation conducted in 1993, the low-level residual Gasoline concentrations found in the vicinity of the existing underground storage tanks may be due to one or more of the following: 1) tank leakage and/or overfill at one or more of the existing underground storage tank locations, 2) migration of subsurface contamination from another on-site source, such as leakage and/or spillage along piping runs or at one or more of the three existing dispenser islands, or 3) migration of subsurface contamination in the shallow groundwater from an off-site source.

Purpose of Additional Subsurface Investigation

The purpose of this subsurface investigation was to collect soil samples at several "Geoprobe" locations in order to assess the subsurface environmental conditions of the site at several locations additional to the underground tank locations. Areas of specific interest are the locations of underground piping runs and the existing pump islands.

II. SITE DESCRIPTION

Hydrogeologic Setting

The location of the site is shown on the site location map (Figure 1). The soils beneath the site consist of Quaternary Alluvium overlying uplifted Cretaceous Marine deposits that comprise the surrounding San Leandro Hills (Geologic Map of California, San Francisco Sheet, State of California Division of Mines and Geology, 1980). Based upon the surface topography, as well as the various hydrologic features in the vicinity of the site, the general regional shallow groundwater can be expected to flow from the San Leandro Hills to the north and to the east of the site (areas of groundwater recharge) and move toward San Lorenzo Creek to the south of the site or toward San Francisco Bay to the southwest (areas of discharge). Subsurface investigation at other nearby service station sites indicates that the localized shallow groundwater flow is in the south- to southeasterly direction.

The site is underlain by fine-grained alluvial deposits, the major portion of which appear to consist of silt and clay. Based upon this most recent subsurface investigation conducted by Hageman-Aguiar, Inc., the shallow groundwater is present beneath the site at a depth of approximately 11.5 feet below the ground surface. During the previous 1993 investigation, the shallow groundwater table was found to be located approximately 13 feet below the ground surface. The data indicate seasonal variations in the shallow groundwater elevation.

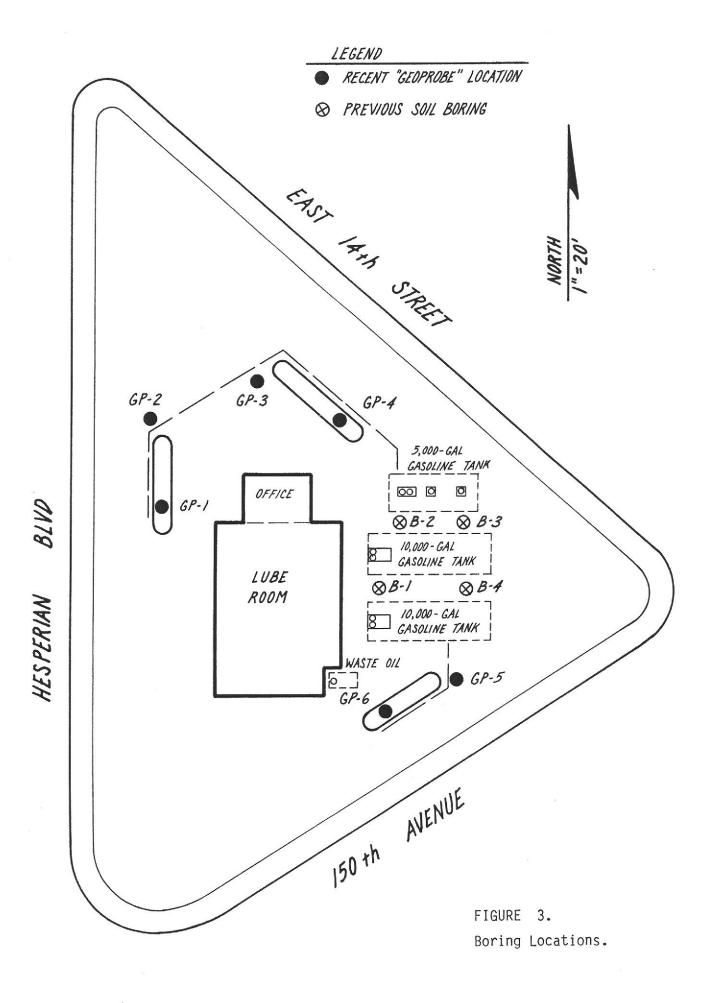
III. FIELD WORK

Sampling Locations

The soil and groundwater sampling operation was conducted on December 5, 1996, by Gregg Drilling of Martinez, CA. The various "Geoprobe" sampling locations are shown in Figure 3. The locations were selected based upon an attempt to assess the subsurface environmental conditions of the site at several locations additional to the underground tank locations. Areas of specific interest are the locations of underground piping runs and the existing pump islands.

Soil Sampling

Soil samples were collected at each of the "Geoprobe" locations GP-1, GP-2, GP-3, GP-4, GP-5, and GP-6. At each sampling location, a "Geoprobe" barrel was hydraulically driven into the ground. For each drive, the entire 4 feet of barrel length was fitted with a clear acrylic plastic insert. Soil samples for chemical analyses were collected at 5-foot intervals down to a depth of 15 feet. At the desired depth, the plastic "Geoprobe" insert was cut to produce a six-inch cylinder of soil packed in clear plastic. The ends of the plastic cylinder were sealed with Teflon film, over which was placed a plastic end-cap. The end-caps were then sealed with clean plastic adhesive tape. All samples were immediately placed on ice, then transported under chain-of-custody to the laboratory upon completion of the field work.



Groundwater Sampling

Shallow "grab" groundwater samples were collected at Geoprobe locations GP-1, GP-4 and GP-6. At each "Geoprobe" location, 3/4" PVC casing and slotted well screen were installed following the completion of the soil driving activities. A "grab" groundwater sample was immediately collected using a decontaminated stainless steel bailer. The water samples were placed inside 40 ml VOA vials free of any headspace. The samples were immediately placed on ice, then delivered under chain-of-custody to the laboratory at the conclusion of the field work.

Boring Logs

The soil sampling operation was conducted under the supervision of Gary Aguiar (Registered Civil Engineer #34262). The boring logs are included as Attachment B.

Hole Sealing

Following the completion of the groundwater sampling operation, each "Geoprobe" hole was filled with neat cement grout.

Equipment Decontamination

Prior to the conduct of field work, all equipment, including "Geoprobe" barrels and rods, was steam-cleaned. All steam-cleaning was conducted by Gregg Drilling at their permitted steam-cleaning facility located in Martinez, California. Any field decontamination was conducted by washing in a water/TSP solution, followed by a double water rinse.

IV. ANALYTICAL RESULTS

Laboratory Analysis

All analyses were conducted by a California State DOHS certified laboratory in accordance with EPA recommended procedures. The laboratory analyses were performed by Priority Analytical Laboratory located in Milpitas, California.

Soil samples were analyzed for:

- Total Petroleum Hydrocarbons as Gasoline (EPA method 8015),
- Benzene, Toluene, Ethylbenzene, and Total Xylenes (EPA method 8020),
- Methyl Tertiary Butyl Ether (MTBE)
 (EPA method 8020).

Groundwater samples were analyzed for:

- Total Petroleum Hydrocarbons as Gasoline (EPA method 8015),
- 2) Benzene, Toluene, Ethylbenzene, and Total Xylenes (EPA method 602),
- 3) Methyl Tertiary Butyl Ether (MTBE) (EPA method 602).

Analytical Results: Soil

Table 1 presents the results of the laboratory analysis of the shallow "grab" groundwater samples collected from each of the three "Geoprobe" locations. A copy of the laboratory certificate for the soil sample analyses is provided in Attachment C.

As shown in Table 1, there appear to be very low residual Gasoline concentrations in the soil at the 10-foot depth in the vicinity of location GP-1, and at the 15-foot depth at locations GP-1, GP-4, GP-5 and GP-6. Gasoline was found in the soil at concentrations of up to 29 mg/kg (ppm).

Also shown in Table 1, Benzene was detected in the soil samples at concentrations of up to 41 μ g/kg (ppb), respectively.

TABLE 1.
Soil Sampling Results

Boring	Depth (feet)	TPH as Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl- benzene (ug/Kg)	Total Xylenes (ug/Kg)
GP-1	05	ND	ND	ND	ND	ND
	10	4.3	6.6	ND	6.5	10
	15	4.4	41	5.2	ND	28
GP-2	05	ND	ND	ND	ND	ND
	10	ND	ND	ND	ND	ND
	15	ND	ND	ND	ND	ND
GP-3	05	ND	ND	ND	ND	ND
	10	ND	ND	ND	ND	ND
	15	ND	ND	ND	ND	ND
GP-4	05	ND	ND	ND	ND	ND
	10	ND	ND	ND	ND	ND
	15	5.9	7.9	5.0	12	20
GP-5	05	ND	ND	ND	ND	ND
	10	ND	ND	ND	ND	ND
	15	7.1	9.7	5.1	6.9	10
GP-6 05 10 15		ND	ND	ND	ND	ND
		ND	ND	ND	ND	ND
		29	24	8.0	12	31
Detection	Limit	1	5	5	5	5

ND = Not Detected

TABLE 1. (continued)

Soil Sampling Results

Boring	Depth (feet)	TPH as Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl- benzene (ug/Kg)	Total Xylenes (ug/Kg)
Previous B-1	05 10 15	ND 4.5 180	ND 5.8 230	ND 8.1 320	ND 14 560	ND 35 1,400
Previous B-2	05 10 15	ND ND 31	ND ND 35	ND ND 49	ND ND 84	ND ND 210
Previous B-3	05 10 15	ND ND ND	ND ND ND	ND ND ND	ND ND ND	ND ND ND
Previous 05 B-4 10 15		ND ND 58	ND ND 75	ND ND 97	ND ND 170	ND ND 420
Detection	Limit	1	5	5	5	5

ND = Not Detected

Analytical Results: Groundwater

Table 2 presents the results of the laboratory analysis of the "grab" groundwater samples collected from "Geoprobe" locations GP-1, GP-4 and GP-6. A copy of the laboratory certificate for the groundwater sample analyses is provided in Attachment D.

As shown in Table 2, Gasoline was detected in the "grab" groundwater samples collected at locations GP-1, GP-4 and GP-6 at concentrations of 4,400 μ g/L (ppb), 22,000 μ g/L (ppb) and 210,000 μ g/L, respectively.

TABLE 2.

Shallow "Grab" Groundwater Sampling Results

Boring	Date	TPH as Gasoline (ug/L)	MTBE (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Total Xylenes (ug/L)
GP-1	12-05-96	4,400	ND	0.7	ND	1.4	2.0
GP-4	12-05-96	22,000	ND	4.0	5.7	10	23
GP-6	12-05-96	210,000	ND	200	180	180	420
Detection	n Limit	50	0.5	0.5	0.5	0.5	0.5

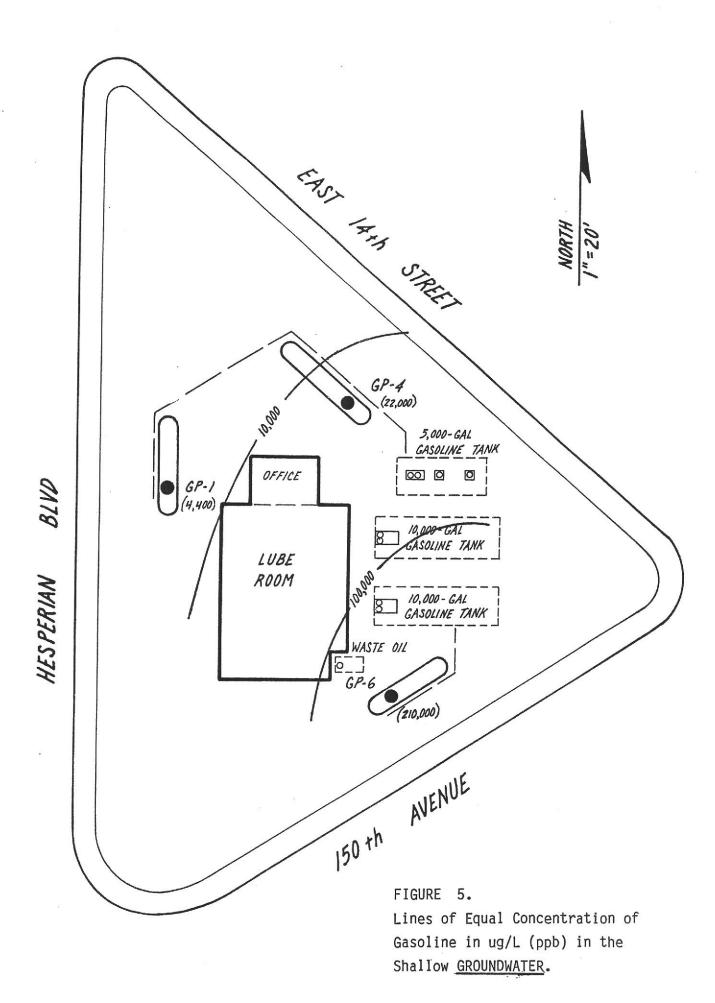
ND = not detected

V. DATA ANALYSIS

The data presented in Table 1 clearly indicate that the near-surface soils encountered in the borings are largely unaffected by any subsurface petroleum contamination. The presence of Gasoline in the soil appears to coincide with the presence of the shallow groundwater table. Seasonal variation in the water table elevation is the likely reason for the presence of Gasoline concentrations in the soils at the 15-foot depth, which is clearly beneath the present shallow groundwater table.

Figure 4 shows a plot of lines of equal concentration of Gasoline in the soil at the 15-foot depth. As indicated by Figure 4, low-level residual Gasoline contamination appears to be centered around the existing underground storage tank area. Figures 5 shows lines of equal concentration for Gasoline in the shallow groundwater. Since these lines have been drawn based upon relatively limited data (three data points), the plot represents only a small portion of the respective concentration plume. The plot suggests, however, that the dissolved concentrations are centered around the existing underground storage tank area and is somewhat open-ended toward 150th Avenue.

The data analysis described above clearly indicates that Gasoline concentrations in the soil and groundwater are centered around the existing underground storage tank area. During both the previous 1993 investigation and the current investigation, the shallow groundwater table has been found to be present at, or above, the bottoms of the two 10,000-gal underground storage tanks. The data collected to date provide strong evidence that the presence of Gasoline concentrations beneath the site is due to tank leakage and/or overfill at one or more of the existing underground storage tank locations.



VI. SUMMARY

- During this most recent subsurface investigation, shallow groundwater was found to be present beneath the site at a depth of approximately 11.5 feet below the ground surface. During the previous 1993 investigation, the shallow groundwater table was found to be located approximately 13 feet below the ground surface. The data indicate seasonal variations in the shallow groundwater table elevation.
- 2. The site is underlain by fine-grained alluvial deposits, the major portion of which appear to consist of silt and clay.
- 3. Low level residual Gasoline was detected in the soil at concentrations of up to 29 mg/kg (ppm). Benzene was detected in the soil samples at concentrations of up to 41 μg/kg (ppb), respectively.
- 4. Gasoline was detected in the "grab" groundwater samples collected at locations GP-1, GP-4 and GP-6 at concentrations of 4,400 μ g/L (ppb), 22,000 μ g/L (ppb) and 210,000 μ g/L, respectively.
- 5. The analytical data indicate that the near-surface soils encountered in the borings are largely unaffected by any subsurface petroleum contamination. The presence of Gasoline in the soil appears to coincide with the presence of the shallow groundwater table.

- 6. Based upon analysis of soil sampling data for the 15-foot depth, low-level residual Gasoline contamination appears to be centered around the existing underground storage tank area.
- 7. Based upon analysis of "grab" Groundwater sampling data, dissolved Gasoline concentrations appear to be centered around the existing underground storage tank area, with a concentration plume that is somewhat open-ended toward 150th Avenue.
- 8. The data collected to date provide strong evidence that the presence of Gasoline concentrations beneath the site is due to tank leakage and/or overfill at one or more of the existing underground storage tank locations.

REPORT OF ADDITIONAL SUBSURFACE INVESTIGATION QUALITY TUNE-UP

14901 East 14th Street, San Leandro, CA.

January 6, 1997

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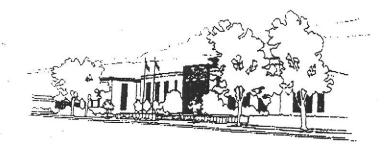
Gary Aguiar

RCE 34262

ATTACHMENT A

Correspondence

City of San Leandro Civic Center, 835 E. 14th Street San Leandro, California 94577



November 22, 1996

Ms. Diana Pagano 6912 Broadway Terrace Oakland, CA 94611

Dear Ms. Pagano:

Approval of Additional Subsurface Investigation Workplan for 14901 East 14th

The City of San Leandro's Hazardous Materials Division has reviewed Hageman-Aguiar's proposed workplan, dated November 4, 1996. The workplan is approved subject to the following conditions:

- That this office be notified at least 48 hours prior to start of field work.
- That at least one groundwater sample be collected from the area surrounding each former island.
- That the soil sampling depths be specified and approved by this office.
- That at each island one boring be punched through the former island and the second be punched immediately adjacent to a piping run.

The City of San Leandro's Hazardous Materials Division will oversee all remedial activities at your site. A check for \$480 must be submitted to this office to pay for staff time associated with review of reports and oversight of this project. Please make the check payable to the City of San Leandro Hazardous Materials Division. The deposit will be placed into an account from which money will be drawn at the rate of \$60 per hour for time spent on this project. At the end of this project all unused funds will be returned to you.

Financial assistance to pay for the cost of investigating, remediating, and monitoring your leaking underground storage tank site is available through the state underground storage tank cleanup fund. For more information on the fund and to obtain an application package please refer to the enclosed brochure.

If you have any questions, please call me at 577-3331.

Sincerely,

Michael Bakaldin

Hazardous Materials Coordinator

attachment

cc:

Kevin Graves, SFBRWQCB Gary Aguiar, Hageman-Aguiar

Ellen M. Corbett, Mayor

City Council: Joanne M. Lothrop;

Gordon A. Galvan; Julian P. Polvorosa;

Bob Glaze; Shelia Young; Garry A. Loeffler:

ATTACHMENT B

Boring Logs

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				1130	▼ ¹					CLAY	LAS	: L), T/C17	SI	UGHT MC	TLY	RAT	TELY	ST.	SILTY		
					3			→ .	SAT <i>URI</i>	ATED,		FT	ומ	R)							
				1136	5			GRAS	(CLA	ч (сн)	,_	MOIS	T,	HIC	GH	PH	AST	CI	TY.		
150	CAR	H . A 6	OART CHUNE		7				T	OTAL D	EP	TH =	: /	16 1	FEE	T	B	GS			
1	No.	C-34	202 EEE		9	4															
1	TE	AIT	5		20	1															

EXP. 9-30-99 HAGEMAN - AGUIAR, INC.

LOC	CATIO	N OF E	BORING	9				27 27	PROJE	CT NAME	& LOCA	TIOI	N			
	4	EAST /	4th STREET						QUAL	G METHO	UNE-	-Uf	SAM	1 LEAN	IDRO	
									DŘILLIN	G METHO	D:		-			
			GP.A	CAL THE	*				GEOPF	ROBE					GP-	- 4
			Ch.	J. SERVINE X				//	CAMPLI	NG METHO	20.				SHT	,
				()	CAL TANK	>		//	SAMELI	NG METHO	טט:					of /
1		/		(A)	SOUNE	1		//	-							LLING
/		_/	OFFICE	V. 6	10.80	ME THE	_	//	WATE	R LEVEL	11.4	91	· · · · · · · · · · · · · · · · · · ·		START	
)		($\sim \Sigma'$	/	O Copy	n) /	/ /		TIME	123				TIME	TIME 1210
	//	1	, \ Lus	SE NOOM	MASTE OF			/		DATE	12/5/	91		+	1/45 DATE	DATE
	_ /	/	10 / K		(E)	(//	//	/	CASIN	G DEPTH	1.5/3/	16	SCREEN	1	12/5/01	12/5/90
Œ			BLOW			T		SURF	ACE CON	DITIONS:				•	13/76	1/3/90
P.E.	Les Per	Sec 3	COUNT	l W	E	<u> </u>	Ś									
SAMPLER	inches	inches	per	TIME	DEPTH	= = = = = = = = = = = = = = = = = = =	nscs									
S		" "	6 inches		- L	-	ے				,					
						1		 								
					0	0.	0.0	CON	CRETE	PUMF	2 151	ALIF				
						10		00,0	CALIZ	EVIII	1341	JAL				
					1			BIAC	KCIA	YEY SIL	TIM	1	עמת -	ומשוומי	,	
					2	П		0010	MODER	PATELY	CLAYE	EV	DNI, C	KUPIBLY	,	
					_	Ш			WUSI	(NO C		-10				
					3					1710	DUA.					
					-		++									
					4			BRN	SILT	ML), L	XRY. (CRU	MRIY.	SUCHTA	Y CLAYL	EV
		-				Ш							1001)	O SHITTITE	CEPIIA	- [-
				lur3	5				***************************************	(NO	ODOR					
				1152						•						
					6	41										
				-		+1										
					7	++				/ \						
				+-+		վ: ;		BRN	SANI	(SM)	SLIG	HTL	Y MOIS	ST. CRI	UMBLY.	
					8	-[:]:			VERY	FINE	GRAIN	VED	VER	SILTY	,	
			1	+-+	}	-:::	;		-	1.10		_				
					9	1:				(NO	ODOR					
				 	- }	17										
				1200	10		1	ADAL	V CIIT	W and	1/01		-11011-	14 14		
							/ }	GNA	1011	Y CLAS	(CL)	45	SLIGHTL	Y MOIS	sT,	
					\mathbf{v}^1	Y,	/		LOW	PLAST	CHY.					
		_			2	V.	1	> R	EC AM E	S SOF	T 1	MAI	CT			
WA	TE	9 3	SAMPLE		2	\vee	1	- 0	LSVIIL	SOF	<i>'</i>	101	21			
- 1	- 1				3	1/	1					·				
004	ECT	ED	@ 1215		3	/	4									
					4	1	1	DK	GRAY	CLAY	EY S	AN	DISCI	SATII	RATED	SIET
					-	1:	1	- /	EINE I	CRAINE	D 54	WD	MAN	PRATEIN	RATED,	1
				12.	5	/ :	1			,				×	SHITE!	_
				1207	3	<u> </u>	1			(GAS	OLIN	E	ODOR	1		
	100	OFES	SIDE		6	/	1							-		
- 1	E GRE	TH.	SIONAL				I	GRAY	5127	Y CU	14 (C	2).	SATUR	RATED.	SOFT	
REGIST	149		GUINA ENGINEER		7				VERY	SILTY		-,			/	
1/5	-		151													
E E	N	. C-3	1262		8		L		TOTA	L DEP	TH =	16	FEE 7	BGS		
112	0	,. U·S	1202		-		-									
1/2	X.	11	13		9		-									
X	***	CIVI			-		-									
7	KE	FICA	LIFUY		20		-		***************************************							
		77		<u> </u>												

LOC	ATIO	OF B	ORING				-	PROJECT NAME &					
	E	AST 14+	h STREET					QUALITY T	UNE-U	P. SAM	I LEAN!	DRO	
								DRILLING METHOD);			BORING	ì
				ep 40	pt.))	GEOPROBE				GP	-5
		,		5. to LUNE	<u> </u>		//					SHT	
		/		To o	14.18	>	//	SAMPLING METHO	D:			7 /	of /
/		/	200		A BOOLINE THE	\wedge	//					DRIL	LING
11	See	/		\wedge	() () () ()	AL TANK	,.5 / /					START	FINIS
		10	OFFICE	/	CYSON	() ()		WATER LEVEL	11.18			TIME	TIME
		11	· / "	BE.	JE OIL		//	TIME	1235			1215	1230
	//	1 1) / "	BE NOOM	Jan S	/ //	//	DATE	12/5/96			DATE	DATE
	,	ì			-	0,	1 &	CASING DEPTH		SCREEN		DATE 12/5/96	12/5/9
SAMPLER	g Z	inches RECOVER	BLOW		I.	_	1	FACE CONDITIONS:					
AP.	용물	S & S	COUNT	TIME	DEPTH in feet	2	3						
3AN	inches DRIVEN	흥입	per	F	DEPTH in feet	000	<u> </u>			-			
		Œ	6 inches										
					0								
						0.00	8. AS	PHALT					
					1	300	SA/	VD & GRAVEL	(F111	1			
] '					-	***************************************		
					2		BLAC	CK SILT (ML)	, DRY	MODER	ATELY C	LAYEV	
] -			CRUMBLY.	-	LIVULIY	11001 6	-41161	-
					3			(NO	ODOI	?			
								(1)		` ,		-	
					4								
] [\mathcal{H}	BRN	SILT (ML).	DRY				
				1220	5								
_				1620				(NO O	DOR				
- 1					6	1	7						
							: BRN	SAND (SM), D VERY SILTY,	XY. SI	IGHTLY	IDASE.		
					7		:	VERY SILTY.	VERY A	TINE GR	AIN.		
				-		1	<u> </u>						
					8		BRN	CLAYEY SILT (ML).	SLIGHTLY	MOIST		
					1 1			CRUMBLY.	1.0		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1	
	1				9								
\rightarrow				-	1	111		(NO OL	DOR)				
		1		1225	10			****					
-				1223		ببليليا	/						
					V 1	1:/.	BRN	CLAYEY SAN	D/SC	, SATU	PATED.		
\dashv	\rightarrow					1:/.	•	FINE GRAIN,	SOFT.	MODERA	TELY C	LAYEY.	
					2	1.1							
\dashv	-			-	-	1.		(NO O	DOR)				
					3	:/:			-				
+	+					1.:/:							
					4	1.1	1	22214					
-+	-+					//	DK	GRAY CLAY (C	CHI, M	DIST.			
				1230	5	//	1	HIGH PLASTIC	174.	MODERA	TELY SI	LTY,	
+	1	TEOL		120		//	1	,					
1	PP	H. AC	ON		6	/	4	(NC	ODO,	R)			
1/19	57 A	H. AG	ORA E		H				2),,				
3	Ch.		THE THE		7								
6	+		1=1		Н			TOTAL DEP	TH = 1	6 FEE	T BGS		
REG	, No.	. C-342	62 FE		8		-		·				
A.			1121	_	Н								
XX	34	1	Man	190	9						provide succession		
AK	77	EVIL	100//		H								
	156	FICAL	FOR		20								
		EVA	9-30-99	3									

LOC			ORING STREET				-		100		& LOCATIO		/CALIN	00	
	E/I.	oi iath	O STALL!	·				_	YUA	LIIY /	UNE-UP,	SAN A	EMNU		
								1		NG METHO	D:			BORING	
				THE THE))	GEUF	ROBE				GP	-6
		10		Significant of				//	SAMDI	ING METHO	20.			SHT,	
		/			CAL TANK	•		//	SAMPL	ING METH	טע:				of /
/		/	^	IR. BOX	DUNE	$\langle \hat{\alpha} \rangle$		//	-			-			LING
//		/	OF FICE	18	10.20 M	0	/	/ /	WAT	ER LEVEL	11111111			START	
/,		(16	O Carry	0		/	WAI		11.40			TIME	TIME
	//	1//	LUBE	, \	A MASTE OIL	1	//	/		DATE	1255			1235	
	//	1 1) / KOV		(E) 4 (E)	9/	II		CACIA	IG DEPTH	12/5/96			DATE	DATE 12/5/9
· r		T ==	T _ ·		•	_	, ,	Tours			1	SCREEN		12/5/96	145/9
SAMPLER	inches DRIVEN	l s ii	BLOW	1	I			SURF	ACE CO	NDITIONS:					
₹	흥	150	COUNT	TIME	DEPTH	In feet	nscs								
SA	<u>-</u>	inches	per 6 inches	-	B .	=	S	-							
		Н.	o inches			\perp									
					10	H									
		+		+	٦ ,	1 19	0 0	CON	CRETE	PUMI	ISLAI	VD			
					1	10	0.0	<u>ė</u>							
		-			1	Н		BLAC	CK CLF	YEY SI	IT (ML).	DRY, C	RUMBLY.		
					2	Н			MODE	RATELY	CLAYE	DRY, C/)		
		-		+	4	Н									
					3	H				(NO	ODOR)				
\rightarrow				-	4	4	$\dashv \uparrow$								
					4	Ш	-11	BRN	CLAYE	FY 5117	(ML).	DRY, CR	UMBLY.		
-		-		-	1				MODE	PATELY	CLAYEY	<i>'</i> . <i>'</i>	-		
				1235	5										
-				1233	1	НΙ				(NO	ODOR)				
					6	НΙ									
\rightarrow				-	1	Hot	111			/	-				
					7	H'.	1:1:		SANDI		Y, 1005	E.			
-+				-	-	H.			VERY 1	INE GI	RAIN, M	DERATEL	Y SILTY		
					8	H:1	• ::		SLIGHT	LY CLA	YEY.				
_				-		Ц÷I				(NO	ODOR))	0		
					9	44	17			`					
\rightarrow						₩.	//	BRN		CLAY		RY, VER	Y SILT	Y.	
				1240	10		//		CRUMB	24. RE	D STRE	AKS.		-	
-				1670		/	/			(NO	ODOR)				
					V 1	17	/	4		.,					
-				-	-	1/		GRA	SILT	Y CLAY	(CL).	SLIGHTLY	MOIS.	Τ,	
MA	TER	c	MPLE		2	1/	//		SLIGH	TLY CR	UMBLY.	VERY S	ILTY.		
VVII	141	- SF	1116			₽.	//			(GA	SOLINE	ODOR)			
CAL	1=1	TEN	@ 1255	_	3	1	1	4	,						
WH	LEC	IEU	C 1255	-		1%	:/	GRA		AYEY S	AND (SC	SATU	RATED.		
					4	1:/	A		FINE	GRAIN.	SOFT,	VERY CA	AYEY.		
-+							//			(GA	SOLINE	ODOR			
				1245	5	V.	//								
-				1-10		\checkmark		DK C	RAY	CLAY (CH), MC	IST, HIC	TH PLA:	STICIT	7.
	100	OFES	SIDA		6	1/	/			(5216	HT GH	SOLINE	ODOR)		
-N	CO !	VH.	GUIND NEER		-	+				•					
1/2	CAR		4/21		7	4	-				S-11				
/////////////////////////////////////	, ~	-	GUINA ENGINEE		- 1	-	-		TOTA	L DEF	TH=	16 FEE	T BGS	3	
12	A.L		Z Z		8	-	-								
Ha	IND	· U-34	262	\vdash	-	-	-				va				-
WT	()	11	1 Stx 18	as.	9	-	-								
1	X	CIVIL	13/1	-	-	-	-								
1	(F)	FLA	FOR		20	-	-						****		
	1	LAL	-												

LO	CATIO	V OF E	BORING				PROJECT NAME & LOCATION
							14901 EAST 14th STREET, SAN LEANDRY DRILLING METHOD: BORING 6" HOLLOW STEM AUGER B-1
	<	SEE	517	E	MAI	ρ .	SAMPLING METHOD: 2" SPLIT BARREL SAMPLER WITH BRASS LINERS WATER LEVEL 13.2' TIME 0930 SHT ORILLING START FINISH ORIC 0840
SAMPLER	inches	inches	BLOW COUNT per	TIME	DEPTH in feet	T	DATE 10/15/93 DATE DATE CASING DEPTH SCREEN 10/15/93 10/15/93 SURFACE CONDITIONS:
35		H H	6 inches		0	5	ASPHALT RED-BRN, CLAYEY GRAVEL (BASEROCK), LOOSE,
					2		BLACK CLAY (CL), SLIGHTLY MOIST
					3 4	1	BRN SILTY CLAY (CL), SLIGHTLY MOIST, SOFT.
2" SFLIT	18	8	4/5/5	0825	5		(SLIGHT PETROLEUM ODOR) PID = Z50 PP
					7		
2" SP11T	18	14	4/5/11	0832	9		GREY-BRN CLAY (CL), MOIST, GREY COLOR WITH RED-BRN STREAKS, LOW TO MOD. PLASTICITY.
					2	-	(PETROLEUM ODOR)
2" SPLIT	18	18	6/6/8	0840	3 4 5		SAME, SATURATED, LOW TO MOD, PLASTICITY, VARIEGATED LT GREY & BRN COLOR, SLIGHTLY STICKY, (SLIGHT PETROLEUM ODOR) TIME! DEOTH - LEW SIZE PPM
					7 8		TOTAL DEPTH = 15 1/2 BLS PROFESSION REPTH - 15 1/2 BLS
					20 20		No. C-34262

LO	CATIC	N OF	BORING				PROJECT NAME & LOCATION
							14901 EAST 14+h, SAN LEANDRO
							BORING
		5 E	E 51	TE	MA	p	SHT
		JL	L SI	1 =	MAI		SAMPLING METHOD:
							2" SPLIT BARREL SAMPLER DRILLING WITH BRASS LINERS START FINIS
	0:						WATER LEVEL 13.2 TIME TIME
							TIME 1030 0900 093
				S	CALE:	1" =	DATE 10/15/93 DATE DATE CASING DEPTH SCREEN 10/15/93 10/15/93
E.	0.7		BLOW				SURFACE CONDITIONS:
SAMPLER	inches	inches	COUNT	TIME	DEPTH in feet	8	
SAN	ı.E E	ie F	per 6 inches	F	DE!	USCS	
-		+	- O inches	-	-		
					0		ASPHALT
					1 1		GREY SAND & GRAVEL (BASEROCK), DRY, LOOSE, ANG + SUB-ANGULAR TO 1".
		+	+	-	1 . H		
					2		BLACK CLAY (CL), SLIGHTLY MOIST,
					3		MODERATE PLASTICITY. (NO ODOR)
		ļ	-] "		(NO CLOR)
					4	7	
2"	1.0	1.0	11.1	+	<u>-</u> H		BRN SILTY CLAY (CL), SLIGHTLY MOIST,
SPLIT	18	18	6/7/10	0900	5		SLIGHTLY CRUMBLY, MOD. TO VERY FINE SAND.
					6		(NO CDOR)
				+	H		
					7		
					8		
				+	Н		
					9	1	GREY-BRN CLAY (CI). SLIGHTLY MOIST.
Z" SPLIT	18	111	5/5/7	201	/0		GREY-BRN CLAY (CL), SLIGHTLY MOIST, MODERATELY SILTY, LOW TO MOD. PLASTICITY,
SPZIT	70	17	75//	0115	10		OCCASIONAL BLACK STREAKS THROUGHOUT.
					1 H		
					2		(NO ODOR) PID = 123 PPM
					- [
					3	V	
					4	-	
2"							SAME, SATURATED, MODERATE PLASTICITY
PLIT	18	18	5/6/7	0925	5	I	SAME, SATURATED, MODERATE PLASTICITY, SLIGHTLY SILTY, VARIEGATED LT GREY + BRA
15/1				0750		H	
					6	+	(SUGHT PETROLEUM ODOR)
					7	F	PID = 140 PPM
					8	F	TOTAL DEPTH = 15/2 BLS PHOFESSION
					9 🖯	H	AND H. AGU
-					Ī		15 8 M
					20	-	
	1						No. C-34262

LO	CATIO	N OF	BORING				PROJECT NAME & LOCATION
							14901 EAST 14+1 STREET, SAN LEANDRO DRILLING METHOD: BORING 6" HOLLOW STEM AUGER B-3
		SF	E 517	TF	MAI	P	SAMPLING METHOD
		0 -	2 311	_	170		2" SPLIT BARREL SAMPLER DRILLING
							2" SPLIT BARREL SAMPLER DRILLING WITH BRASS LINERS START FINISH
							WATER LEVEL 13,1' TIME TIME
							TIME 1100 0930 1005
				0	O		DATE 10/15/93 DATE DATE
			Ţ	<u> </u>	CALE:	1" =	DATE 10/15/93 DATE DATE CASING DEPTH SCREEN 10/15/93 10/15/93
EH	ωZ	inches	BLOW		_		SURFACE CONDITIONS:
립	l å ∃	Je 2	COUNT	TIME	e d	1 93	
SAMPLER	inches	1 in 1	per	=	DEPTH in feet	nscs	
S	_	a a	6 inches		10 -	1 -	
							ASPHALT
					0	1	GREY SAND & GRAVEL (BASEROCK)
				1	1 .	1	SIND & GRAVEL (BANERUCK)
					1	-	BLACK CLAY (CL). NEARLY DRY.
					1 1	1	BLACK CLAY (CL), NEARLY DRY, MODERATE PLASTICITY, SLIGHTLY SILTY,
					2	1	OCCASIONAL FINE SAND.
					1 .1	1	(NO OPOR)
					3 _	1	[NO OPOR]
					1 .		BRN CLAYEY SAND (SC). SLIGHTLY MOIST
					4	h	
2"	1	, ,	2//		1 _		SLIGHT TO MOD. CLAYEY. SAND FINE TO MEDIUM GRAIN
SPLIT	18	11	3/7/10	0950	5		SAND FINE TO MEDIUM GRAIN.
						۲	(NO ODOR)
					6		(NO ODOR)
				1	1 <u>.</u> H		
					7		
					l all		
					8		GREY-BRN CLAY (CL), SLIGHTLY MOIST.
					l "H		GREY-BRN CLAY (CL) SLIGHTLY MOIST,
					9	7	SLIGHTLY CRUMBLY, MOD. SILTY.
SPLIT	1		3/./		l H		LOW TO MOD. PLASTICITY.
SPLIT	18	12	3/5/7	1000	10		OCCASIONAL THIN BLACK STREAKS THROUGHOUT.
						_	(NO ODOR)
					1 H		(NO ODOK)
					_ H		
					2		
					, H	_	
					3	-	
					ĻΗ	. 1	
					4	1 1	SAME CATHOATED MAN STIFF
2"	10	10	5/1		ĻΗ	1	SAME, SATURATED, MOD. STIFF, MODERATE PLASTICITY, VARIEGATED LT GREY & BRW COLOR.
PLIT	18	18	5/7/11	1005	5	1 1	VARIECATED AT COEL & COU CALAR
					آ ۽	'	WHITE LI GREY & DAN COLOR.
					6 H	F	(SLIGHT PETROLEUM ODOR)
					, H	+	DIN-150
					7 H	H	TOTAL DEPTH = 15/2' BLS
					,H	<u> </u>	101116 061 111- 12/2 13/2
					8	r	PROFESSION
					9 🛚	r	MAD HAD TANK
					"H		
					20		
							No. C-34262

LOC	CATIO	N OF	BORING				PROJECT NAME & LOCATION		
							14901 EAST 14+h STREET, S DRILLING METHOD: 6" HOLLOW STEM AUGER	BORING BORING	
		CF	E SI	TF I	MA	2	SAMPLING METHOD:	SHT	1
		- L	2 0/	/ Im.	17 11		2" SPIT BARREL SAMPLER	DRIL	of J
							LIVITA DRASS LINERS	START	FINISH
							WATER LEVEL 13'	TIME	TIME
							TIME 1045	1020	1045
				S	CALE:	1" =	CASING DEPTH SCREEN	DATE	DATE 10/15/93
Œ	_		BLOW	T	T		CASING DEPTH SCREEN SURFACE CONDITIONS:	19/5/93	15/93
SAMPLER	inches	inches	COUNT	TIME	DEPTH in feet	S	CONTROL CONDITIONS.		
AM	in H	inct	per	F	무드	nscs	1		
S		ä	6 inches						
					0-		ASPHALT,		
\vdash	-	+-		-			BRN SAND & GRAVEL (BASEROCK), ANG	WLAR,	
					1 1		GRADED 1/8" TO 1/2"		
				1	2				
		-			*		BLACK CLAY (CL), SLIGHTLY MOIST.		
					3		BLACK CLAY (CL), SLIGHTLY MOIST, MODERATE PLASTICITY.		
		-	-	-	H		(NO ODOR)		
					4	7	CON CLOVER STATE (SA)		
2"	10	10	11		5		BRN CLAYEY SAND (SC), NEARLY DR SLIGHTLY STIFF MOD. CLAYEY.	<i>Y</i> ,	-
SPLIT	18	10	5/8/8	1030	5		SAND FINE GRAIN,		
					6	_	STATE STATE STATES		
					H		(NO ODOR)		
					7				
					, H				
					8				
					9	_	GREY BRN CLAY (CL), SLIGHTLY MOIS	ST. SN	FT
211			, ,		Н		VARIEGATED LT GREY & BRN COLON	۹、 ٔ	-
Z" SPLIT	18	14	4/4/5	1040	10		OCCASIONAL THIN BLACK/RED-BRI THROUGHOUT,	V STRE	AKS
			7,70			,	TAKOUGHOUT,		
					1	Ì	(NO ODOR) PID:	- 60 f	PM
					2				
+				\vdash	Н	_ [
					3 -	_			
					ΑH	-	SAME SATURATED SUMMEN -		
- 1/					4	1	SAME, SATURATED, SLIGHTLY STIFF, LOW TO MOD, PLASTICITY, VARIEGATED LT GREY & BRN C		
Z'I SPLIT I	18	15	5/7/10	1045	5		VARIEGATED IT GREY & ARN C.	OLOR.	
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ATTACHMENT C

Analytical Results: Soil



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

December 09, 1996

PEL # 9612016

HAGEMAN - AGUIAR, INC.

Attn: Gary Aguiar

Re: Eighteen soil samples for Gasoline/BTEX with MTBE analysis.

Project name: Quality Tune-Up - San Leandro

Project location: 14901 E. 14th St., - San Leandro

Date sampled: Dec 05, 1996

Date extracted: Dec 05-09, 1996

Date submitted: Dec 05, 1996 Date analyzed: Dec 05-09, 1996

RESULTS:

SAMPLE I.D.	Gasoline	MTBE	Benzene	Toluene	Ethyl	
1.0.	(mg/Kg)	(ug/Kg)	(ug/Kg)	(ug/Kg)	Benzene (ug/Kg)	Xylene (ug/Kg)
GP-1 @ 5'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
GP-1 @ 10'	4.3	N.D.	6.6	N.D.	6.5	10
GP-1 @ 15'	4.4	N.D.	41	5.2	N.D.	28
GP-2 @ 5'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
GP-2 @ 10'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
GP-2 @ 15'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
GP-3 @ 5'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
GP-3 @ 10'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
GP-3 @ 15'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
GP-4 @ 5'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
GP-4 @ 10'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
GP-4 @ 15'	5.9	N.D.	7.9	5.0	12	20
GP-5 @ 5'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
GP-5 @ 10'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
GP-5 @ 15'	7.1	N.D.	9.7	5.1	6.9	10
GP-6 @ 5'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
GP-6 @ 10'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
GP-6 @ 15'	29	N.D.	24	8.0	12	31
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked recove:	ry 106.8%		97.7%	104.7%	88.9%	100.4%
Detection lim	it 1.0	5.0	5.0	5.0	5.0	5.0
Method of	5030 /					
Analysis	8015	8020	8020	8020	8020	8020

David Duong Kaboratory Director

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

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CHAIN OF CUSTODY RECORD

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CHAIN OF CUSTODY RECORD

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ATTACHMENT D

Analytical Results: Groundwater



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

December 09, 1996

PEL # 9612015

HAGEMAN - AGUIAR, INC.

Attn: Randal Wilson

Re: Three water samples for Gasoline/BTEX with MTBE analysis.

Project name: Quality Tune-Up - San Leandro

Project location: 14901 E. 14th St., - San Leandro

Date sampled: Dec 05, 1996
Date extracted: Dec 05-07, 1996

Date submitted: Dec 05, 1996 Date analyzed: Dec 05-07, 1996

RESULTS:

ESC(TS	6(A) 100		100	40	30	13
SAMPLE I.D.	Gasoline	MTBE	Benzene	Toluene	Ethyl	Total
	(ug/L)	(ug/L)	(ug/L)	(ug/L)	Benzene (ug/L)	Xylene (ug/L)
GP-1W GP-4W GP-6W	4400 22000 210000	N.D. N.D. N.D.	0.7 4.0 200	N.D. 5.7 180	1.4 10 180	2.0 23 420
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	106.8%		97.7%	104.7%	88.9%	100.4%
Detection limit	50	0.5	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	602	602	602	602	602

David Duong Laboratory Director

1764 Houret Court Milpitas, CA. 95035

Tel: 408-946-9636

Fax: 408-946-9663

PEL # 9612015 **INV** # 27455

CHAIN OF CUSTODY RECORD

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