

Phone: (925) 283-6000

Fax: (925) 283-6121

July2, 2002

Leroy Griffin
Oakland Fire Prevention Bureau
505 14th Street
Oakland, CA 94612

Subject:

Final Report and Over Excavation Workplan

2201 West Street Oakland, CA

AEI Project No. 5251

Dear Inspector Griffin:

Enclosed is the final report for 2201 West Street. Also enclosed is the work plan for the over excavation. After speaking with Dusty and our phase II person, I did not include soil borings in the work plan since we will be taking all the soil possible due to the constricted location of the excavation.

Please call me at (925) 283-6000 if you have any questions.

Sincerely,

Nathan Garfield

Project Manager

UNDERGROUND STORAGE TANK REMOVAL FINAL REPORT

2201 West Street Oakland, California

Jdy 2002

Project No. 5251

Prepared For

Santilli and Forster Construction

111 Myrtle Street Oakland, CA 94607

Prepared By

AEI Consultants

3210 Old Tunnel Road, Suite B Lafayette, CA 94549 (800) 801-3224



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1.0 INTRODUCTION

AEI Consultants (AEI) has prepared this final report to document the underground storage tank closure activities performed at 2201 West Street in Oakland, California (Figure 1: Site Location Map). One (1) 300-gallon diesel underground storage tank (UST) was removed. The tank was located on the northwest corner of the property (Figure 2: Site Plan).

AEI was contracted to obtain all necessary permits, excavate to expose the tank, remove and dispose of residual liquids, remove and dispose the tank, perform soil sampling and analysis, backfill and resurface the excavation.

2.0 PERMITS

On June 3, 2002 the Oakland Fire Services Agency Office of Emergency Services (OFSA) issued a permit for the removal of the UST. Inspector Leroy Griffin was assigned to represent the OFSA, and observed the tank closure activities at the site. On June 12, 2002, Cal OSHA and the Bay Area Air Quality Management District (BAAQMD) were notified of the tank removal activities. The excavation areas were marked and the property representative was notified of the specific time plan.

Copies of the permit and notification documents are located in Appendix A: Permits and Notification Documents.

3.0 MOBILIZATION, EXCAVATION AND REMOVAL

On June 19, 2002, the AEI field staff was briefed and the Site Health and Safety Plan reviewed prior to the initiation of work. A copy of the Site Health and Safety Plan is located in Appendix B. Ground cover was broken and the soil above the tank was excavated. Upon exposure it was determined that the tank was 300 gallons in size, and not the originally estimated 500 gallons. A single stockpile of the excavated soil was created adjacent to the excavation (Figure 2: Site Plan).

Excel Environmental Services, Inc. removed 75 gallons of waste liquid from the tank prior to removal. Dry ice was introduced into the tank until the Lower Explosive Limit (LEL) and oxygen content reached acceptable levels.

The tank was removed on June 19, 2002, and was visually inspected prior to loading for transport. The tank was rectangular in shape and constructed of unwrapped steel. Corrosion and several small holes were noted on the top of the tank and the upper portion of the sidewalls.

The tank was loaded onto an Ecology Control Industries (ECI) truck and transported under non-hazardous waste manifest to the ECI disposal facility at 255 Parr Boulevard in Richmond, California, where the tank was triple rinsed, cut, and scrapped.



Soil samples were collected prior to backfilling. The excavation was lined with Visqueen, then backfilled with stockpiled soil and clean fill material to replace the volume of the tank.

The non-hazardous waste manifests for the waste liquid and tank are located in Appendix C: Transport and Disposal Documents.

4.0 SAMPLING AND ANALYSES

All samples were collected under the direction of Inspector Leroy Griffin of the OFSA. A total of two (2) soil samples were collected from the tank removal activities. One sample, labeled EB-9', was collected nine (9) feet below ground surface (bgs) beneath the center of the tank. four (4) discrete soil samples were collected from the stockpile, and were composited into a single sample (STKP 1-4) for analysis. Please refer to Figure 3: Sample Location Plan for the sample locations.

Native material consisted of silty clays. Groundwater was not encountered during the removal activities.

All soil samples were collected in brass tubes that were driven into the soil until completely full, then sealed with Teflon tape and plastic caps. The secured sample tubes were immediately placed into a cooler with ice. Chain of Custody documentation was initiated. The cooler and samples were brought to McCampbell Analytical, Inc. (State Certification #1644) of Pacheco, California on June 19, 2002 for analysis.

The samples were analyzed for Total Petroleum Hydrocarbons as gasoline (EPA 8015), Total Petroleum Hydrocarbons as diesel (EPA 8015), Total Petroleum Oil and Grease (SM 5520E/F), methyl-tert-butyl ether (MTBE), benzene, toluene, ethyl-benzene, and xylenes (BTEX) (EPA Method 602/8020), volatile organics (EPA 8260), and volatile halocarbons (EPA 8010). The analytical results are summarized in the following table:

TABLE 1 - Soil Sample Analyses

	EB-9	STKP 1-4
TPH-GASOLINE (nig/kg)		<1.0
TPH-DIESEL (ing/kg)	€ 660	160
MTBE (mg/kg)	<5.0	<0.5
BENZENE (mg/kg)	1.5	≤0.05
TOLUENE (mg/kg)	3.1	<0.05
ETHYL BENZENE (mg/kg)	20	0.098
TOTAL XYLENES (mg/kg)	63	0.32
ISOPROPYLBENZENE (mg/kg)	4.2	ND<0.1
NAPTHELENE (mg/kg)	## 10 ###	-ND<0.1
1,2,4-TRIMETHYLBENZENE (mg/kg)	48	ND≤0.1
4-ISOPROPYL TOLUENE (mg/kg)	∂ 4.5.2 □	ND<0.1



		EB-9' STKP 1.4
n-PROPYL BENZENE		8.5 ND≤0.1
1,3,5-TRIMETHYLBE	VZENE (mg/kg)	19 ND<0.1

mg/kg = milligrams per kilogram (ppm)

Copies of all analytical results and Chain of Custody documentation are located in Appendix D: Analytical Documentation.

5.0 CONTAMINATED SOIL EXCAVATION AND DISPOSAL

Due to the presence of hydrocarbon contamination, the OFSA has requested the contaminated soil be over excavated and replaced with clean fill material. AEI will prepare a workplan and issue a report for over excavation activities under separate cover.

6.0 SUMMARY AND CONCLUSIONS

On June 19, 2002, a 300-gallon diesel UST was removed from the property located at 2201 West Street in Oakland, California. Prior to removal, 75 gallons of waste liquid were removed, transported and disposed off-site. The tank was transported under non-hazardous waste manifest to the Ecology Control Industries' disposal facility in Richmond, California where the tank was cleaned and disposed of as scrap metal.

A total of two (2) soil samples were collected during the tank removal activities. Concentrations of TPH (d) present in EB-9' (660 mg/kg) and STKP 1-4 (160 mg/kg) indicate that contamination exists. Sample EB-9' also contained detectable levels of volatile organics.

Based on sample analytical results, the OFSA has requested that contaminated soil be excavated and disposed at a licensed landfill. AEI will prepare a workplan for these activities and issue a report under separate cover.



7.0 REPORT LIMITATIONS AND SIGNATURES

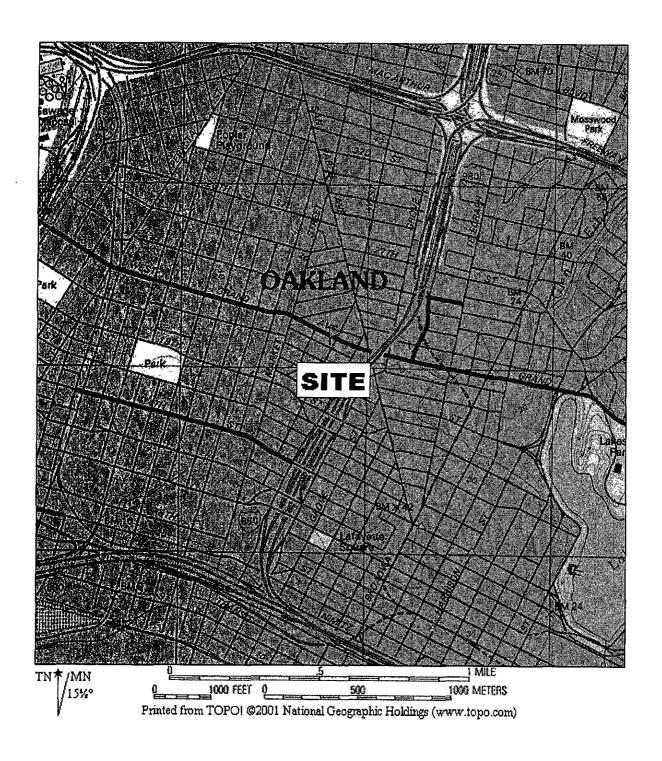
This report presents a summary of work completed by AEI Consultants, including observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide required information, but it cannot be assumed that they are representative of areas not sampled. All conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

All services were performed in accordance with generally accepted practices, in the environmental engineering and construction field, which existed at the time and location of the work.

AEI Consultants

Nathan Garfield Staff Geologist

FIGURES

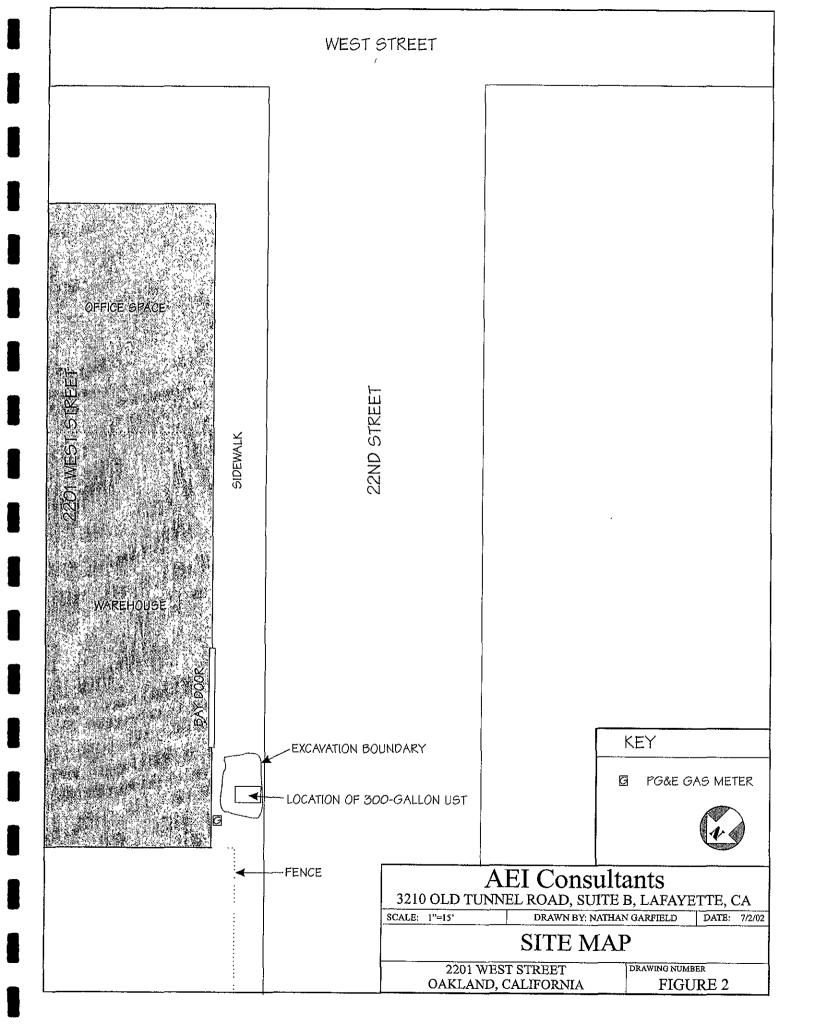


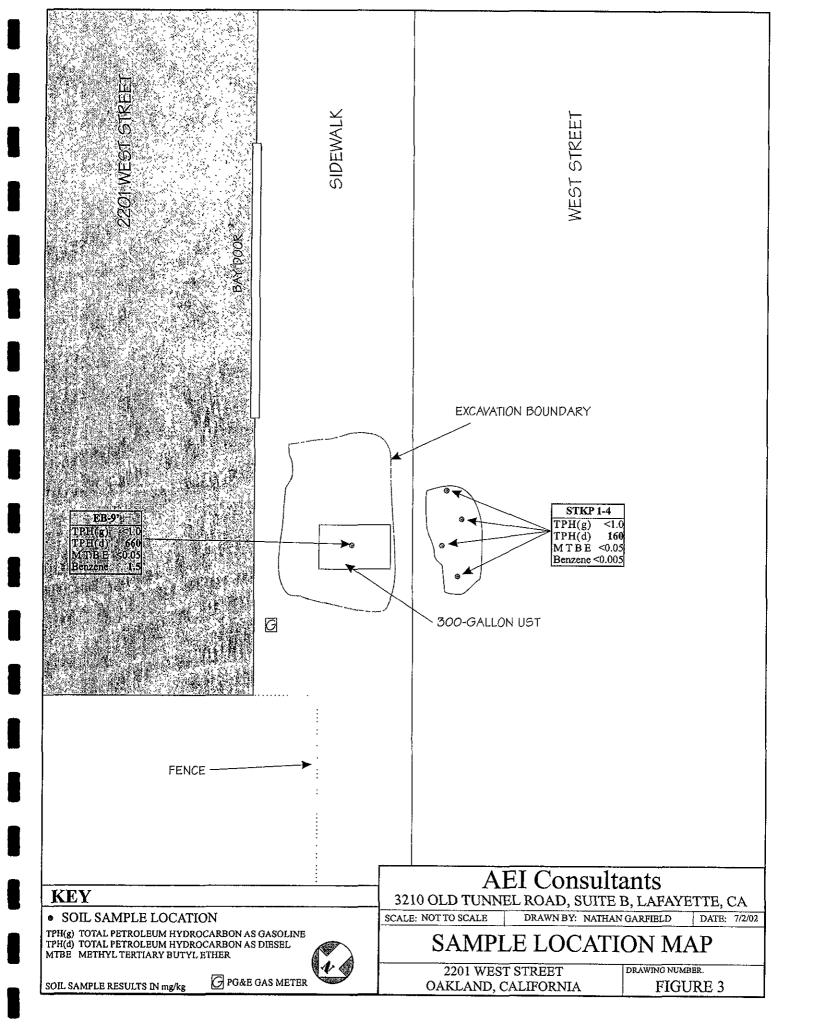
AEI CONSULTANTS 3210 OLD TUNNEL RD, STE B, LAFAYETTE, CA

SITE LOCATION MAP

2201 WEST STREET OAKLAND, CALIFORNIA

FIGURE 1 PROJECT NO. 5251





APPENDIX A PERMITS AND NOTIFICATION DOCUMENTS

City Of Oakland FIRE PREVENTION BUREAU



Permit To Excavate And Instau, Repair, Or Remove Inflammable Liquid Tanks

250 Frank Ogawa Plaza, Ste. 3341 Oakland California 94612-2032 510-238-3851

Oakland, California

June 3, 2002

Tonk Downie March

		Tauk Permit N	umber: 33-02
Permission Is Hereby Granted To:			
Remove fuel oil Tank And Exce	avate Commencing:	Feet Inside: property	Line.
On The: W side of West street, 200 feet N of 22nd Street			
Site Address: 2201 West Street	Present Storage	e: Fuel Oil	
Owner: Santilli & Foster Construction	Address: 111 Myrt	de St., #201B, Oakland, 9460'	Phone: (510) 893-49
Applicant: AEI Consultants	Address: 3201 Old	Tunnel Rd., Lafayette, 9454	Phone: (925) 283-60
Dimensions Of Street (sidewalk) Surface To Be Disturbed :	X No. (Of Tanks 1 Capacity	500 Gallons, Eac
Remarks	•		
CERTIFICATE OF TAI	ing Tanks, No Open Flame To Be o NK AND EQUI Type Of Inspe	PMENT INSPECT	TION
		Inspected And Passed On	•
Sulve 1: mills	UST/AST Insta	By allations/modifications:	
Approved: Of Mariland		t: Inspected By:	Date:
Inspection Fee Paid: \$ 540.00	Primary Piping Tes	et: Inspected By:	Date:
	condary Containment &	& Sump Testing:	
		Inspected By:	Date:
	Fina	al: Inspected By:	Date:
Before Covering Tanks, Above Certification Must Be	Signed When Ready For In	spection Notify Fire Prevention	Bureau 238-3851

THIS PERMIT MUST BE LEFT ON THE WORK SITE AS AUTHORITY THEREFORE

OAKLAND FIRE DEPARTMENT/OFFICE OF EMERGENCY SERVICES HAZARDOUS MATERIALS UNIT

1605 Martin Luther King Jr. Way, Oakland, CA 94612 • (510) 238-3938

HAZARDOUS MATERIALS INSPECTION REPORT

Site Number Facility Name		Facility Addr	ess	Zip Code
	2201	WEST	51	467
Inspection			ar confictoria de la company	Щ
PERMISSION TO I	NSPECT (GRANTED		
ECI - MANIFEST TAUK- 212950	25	MANIFEST	- 10	
ECI-MANIFEST TAUK-213950	201)	WEST	AGI	
CONSULTING ON SITE.	· · · · · · · · · · · · · · · · · · ·		116	
TANK 15 A SCARR STR	EL I	WARAC	and Capua	Tilham
And holds were prote	of m	Hei	1006 n S4C	T.150
			-	
Discoloration Moted in	ANCAY	ations	PIT / Wh	ro.
Wiff PASITIC AND BAKKTILL I	VACED	BAIK AIL	AITIN TEST	Mrs. Ch
* NEED TO AMEND DERM!	I Lx	TEST	ENA TIPE	/ ルンひく ふ
Discoloration Moted in wiff Pastic And BAKKIII i * NEED to AMENIA DEPMI due to possible use o	1 58/	VENTS 1	LA TA	1 1 M
	·	y the first first	/ / / / / / / / / / / / / / / / / / /	~ C
TANK # 29797 FC1				
			,	
Ho other problems 110	toc1			
				<u>.</u>
Facility Contact/Print Name:	Inspec	ted By:	GAIFFIRE	
TO SELECT STATE OF THE SELECTION OF SELECTION			nsp. Matthews	238-2396
Facility Contact/Signature:	238	3-3938	Insp. Craford	238-7758
		<u> </u>	Insp. Gomez	238-7253
		Date:	6/19/02	

-156 (9/01)

OAKLAND FIRE DEPARTMENT, OES UNDERGROUND STORAGE TANK CLOSURE/REMOVAL FIELD INSPECTION REPORT

Site Address: 222/	1£ >7				Name of Facility: (On that TIAL: COLOR					
Inspector:	1				Contact on site: Af 1 COUSUITING					
	19/02	1 //;	15		Contractor/Consultant:					
General Requireme	ents	7 Y	es N	o N/A	General Require	ments	Yes	No	N/A	
Approved closure plan on site.					Site Safety Plan properly signe		100	- 110	1 1728	
Changes to approved plan noted.					40B:C fire extinguisher on site		\ <u>`</u>	, 		
Residuals properly stored/transported.					"No Smoking" signs posted.	·		_	-	
Receipt for adequate dry ice noted			_		Gas detector challenged by ins		 	-		
m1-01	- m 44	TD 4/2		/ 						
Tank Observations Tank Capacity (gailons)	T #1	T #2	T #3	T #4	Tank Observations Obvious corrosion?		T #2	Γ #3	T #4	
Material last stored	7		 		Obvious odors from tank?	YES VES				
Dry ice used (pounds)	100/6	 	 		Seams intact?	YES			·······	
Combustible gas concentration as			z samplii	ag noint)	Tank bed backfill material	 /'<2 -				
(1)	12			78757	Obvious discoloration?	YES				
(2)	 		 		Obvious odors ex tank bed?	1/15				
(3)					Water in excavation?	1/0				
Oxygen concentration as % volum	ic. (Note i	time &san	pling po	oint.)	Sheen/product on water?	II/A				
(1)	(b)		[Tank tagged by transporter?	1/25				
(2)					Tank wrapped for transport?	YE3		.		
(3)					Tank plugged w/ vent cap?	YES			• • • • • • • • • • • • • • • • • • • •	
Tank Material	STEEL				Date/time tank hauled off?					
Wrapping/Coating, if any	HOHE				No. of soil samples taken?	2				
Obvious holes?	I		<u> </u>		Depth of soil samples (ft. bgs)			+ y		
Piping Removal	· · · · · · · · · · · · · · · · · · ·	Y	es N	o N/A	General Observ	ations	Yes	No	N/A	
All piping removed hauled off w/t	tanks?	x	,		Leak from any tank suspected?	'		 	 	
Obvious holes on pipes?	***************************************		×	7	"Leak Report" form given to the	ne operator?		 	+	
Obvious odors from pipes?	^		//		Obviously contaminated soil ex			 		
Obvious soil discoloration in pipin	g trench?	_ ×			Soil stockpile sampled?	- V	-			
Obvious odors from piping trench			_	+	Stockpile lined AND covered?		— <u> </u>			
	· · · · · · · · · · · · · · · · · · ·		- 12		Water in excavation sampled?			 		
Water in piping trench?			_ <u> </u>					<u> </u>		
Number & depth of soil samples fi					Number/depth of water sample	*		4		
Number & depth of water samples	i irom pipir	ig trench?		i	All samples properly preserved	for transport?	- Little			
Additional Observat		Y	es N	o N/A	SITE & SA	MPLING DI	AGRAM			
Soil/water sampling protocols acce		_			77,	10 ST	Mark	, 51/	1-1	
Sampling "chain of custody" noted	i? 	\ \			SIDEL		1	<u></u>		
Tank pit filled in or covered?				,	31176	PLK L			-13	
Tank pit fenced or barricaded?		7				_	1		7	
Transporter a registered HW haute	r?	1	7					7		
Uniform HW Manifest completed?	?		7		135 12 1	111		1		
Contractor/Consultant reminded of UST Removal Report due within 3		/	1		The Doir	1147	1			
		eted?	_							
Date/Time removal/closure operati	totin cottibi									
OT hours or additional charges due				ϕ			N.			

7



BAY AREA AIR QUALITY **MANAGEMENT DISTRICT**

939 EELIS STREET SAN FRANCISCO, CALIFORNIA 94109 (415)-7.71-6000

REGULATION 8, RULE 40 NOTIFICATION FORM Check √ X Removal or Replacement of Tanks

☐ Excavation of Contaminated Soil

ESSENTIAL SECTIONS	STATION -
Site Address 2201 West Street	
City, State Oakland California	Zip 94612
Owner Name Santill RForster Construction	
Specific location of project Southwest side of	roperty under sidewalk
Tank Removal	Contaminated Soil Excavation
Scheduled startup date 6/19/02	Scheduled Startup Date 6
Vapors:removed by:	Stockpiles will be covered? YesNo
☐ Water wash	Indicate below the method used to comply with
Vapor freeing (CO ²)	Regulation 8, Rule 40, Section 402.4:
☐ Ventilation	Check (√) 8-40-301 □ 8-40-302 □ (permit required)
Indicate below if an A/C was obtained for tank replacement:	A/C or P/O #
Yes No If yes, A/C or P/O #	A/C = Authority to Construct $P/O = Permit$ to Operate
What other public agency have you notified (e.g., Fire District, H	azardous Materials Department, City or County)?
Agency Leroy Griffin City of Oaklan	services Agency Phone # (510) 238 - 7459
HE TO THE PARTY OF	NAMES OF STREET
Name AEI Consultants	Contact Nathan Garfield
Address 3210 Old Tunnel Road, Suite B	Phone (925) 283-6000
City, State, Zip Lafayette, CA 94549	
CONSULTENCE	Review Burner (Branding Die 2012)
Name same as contractor	Contact
Address	Phone ()
City, State, Zip	
HORGERIDI FURGETIE OKTANE AND	
Date Received Fax:	Date Postmarked:
Inspector No.:	Date: By
Update: Contact Name	Date: By
Update: Contact Name	Date: By
	See reverse for instructions

ACTIVITY NOTIFICATION FORM

Buildings Structures Scaffolding Falsework Demolition Trenches/Excavations

Company Name: All Environmental Inc.	Field Phone: (925) 283-6000
Annual Permit Number: 99-900632	
Specific Activity Location: 2201 West Street	7
Nearest Major Cross Street: 22 ×2 Stree +	Starting Date: 6/19 /02
city: Oakland	
County: Alameda	High Voltage Lines in Proximity? No Yes
INSTRUCTIONS: The appropriate item(s) must be completed and signed by a personal permit. Please fill in or check off the blanks where appropriate	on knowledgeable about the project for each activity covered by
Construction: Building Structure Type: Steel Frame	Tiered Concrete
Tilt-up Wood Frame Liftslab Precast	
Description:	
(See 8 CCR 1709-30: Appendix A Plate A-2a & b)	
Metal Wood W	ood over 60 Feet Metal over 125 Feet
Metal>1 25 Feet or Wood>60 Feet requires design by California Registered Civil Engine	er & Plans at Site.(See 8 CCR 1644(c)(7))
Description:	
Falsework/Vertical Shoring: Maximum Height	
Falsework/Vertical Shoring: Maximum Height Maximum S	pan Material
Description:	
(See 8 CCR 1717)	_
Demolition Of: Building Structure Height	No. of Stories Type: Steel Frame
Wood Frame Concrete Demolition Ball Clam) ————————————————————————————————————
Loader/Tractors Other	
(See 8 CCR 1734 - 37)	
Trenches/Excavations: Depth Range(Min/Max) * 3/5' W	/idth Range(Min/Max) 4/7 Total Length
Ground Protection Method: Shoring Sloping Tr	ench Shield Professional Engineer
Underground Services Alert(USA) Number 265481	(NORTH 1-800-642-2444/SOUTH 1-800-422-4133)
Soil Analysis to be done? Yes No If No, You	Must Slope 1.5 to 1.
Description: Removal of one 500 gall	on gasoline underground
1 /1 //	Jasone Procesora
storage tank. No one will enter exe	· · · · · · · · · · · · · · · · · · ·
1	cavation.
N Company of the comp	cavation.
Ground protection methods for excavations deeper than 20 feet must be designed by	
• Ground protection methods for excavations deeper than 20 feet must be designed be See 8 CCR 1541.1, Appendix F.	



EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL

PAGE 2 of 2

ENGINEERING

FAGE 2 OI 2					; '
PERMIT NUMBER		SITE ADDRESS/LOCATION			
X02	-00591	2201 West	Stree	<u> </u>	
APPROX, START DATE	APPROX. END DATE	24-HOUR EMERGENCY PHONE NU	MBER		
6/17/02	6/14/02	(Permit not valid without 24-Hour num	xt) (510)	893-4969	,
CONTRACTOR'S LICENSE # AND	CKASS	CITY BUSINESS TAX #			-
654919 A	7/H4Z			,	
ATTENTION:	/	<u> </u>	····		
State law requires that the inquiry identification num	e contractor/owner call <i>Underground Ser</i> aber issued by USA. The USA telephon	vice Alert (USA) two working days before e number is 1 (800) 642-2444. UNDERG	excavating. 7	This permit is not valid unless applicant has VICE ALERT (USA) #: 265481	secured an
2) 48 hours prior t	o starting work, YOU MU	JST CALL (510) 238-3651	ro schi	EDULE AN INSPECTION.	•
OWNER/BUILDER					
construct, alter, improve, demolish, of provisions of the Contractor's Licens, alleged exemption. Any violation of Contractor's professions Code: The Contractor's provided that such improvements are burden of proving that he did not buil I, as owner of the property, am eye performed prior to sale, (3) I have structures more than once during any Contractor's as owner of the property, am eye does not apply to an owner of property.	or repair any structure, prior to its issuant e law Chapter 9 (commencing with Sec. Section 7031.5 by any applicant for a per my employees with wages as their sole of License Law does not apply to an owner not intended or offered for sale. If how lid or improve for the purpose of sale), exempt from the sale requirements of the activation of the resided in the residence for the 12 month of the experience of the 12 month of the experience of the 20 contracting with licensed with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed	ace, also requires the applicant for such per 7000) of Division 3 of the Business and Pr rmit subjects the applicant to a civil penalty compensation, will do the work, and the strong property who builds or improves therefever, the building or improvement is sold valored to: (1) I am improving my print his prior to completion of the work, and (4) and Professions Code). The actors to construct the project, (Sec. 7044, who contracts for such projects with a contracts.	mit to file a si ofessions Coc of not more ucture is not on, and who d vithin one yea ipal place of I have not ch Business and ractor(s) licen	Code: Any city or county which requires a gigned statement that he is licensed pursuant to the, or that he is exempt therefrom and the bathan \$500): intended or offered for sale (Sec. 7044, Bustices such work himself or through his own or of completion, the owner-builder will have residence or appurtenances thereto, (2) the valued exemption on this subdivision on most professions Code: The Contractor's License law	to the asis for the siness employees, e the work will re than two
	ficate of consent to self-insure, or a certi	ficate of Worker's Compensation Insurance	e, or a certific	ed copy thereof (Sec. 3700, Labor Code).	
Policy # ARI 106	6 1 Company Nam	e Phoenix Assurance	<u> </u>		
☐ I certify that in the performance of California (not required for work v	of the work for which this permit is issue valued at one hundred dollars (\$100) or l	d, I shall not employ any person in any ma ess).	nner so as to	become subject to the Worker's Compensati	ion Laws
comply with such provisions or this p upon the express condition that the pe the obligations with respect to street r employees, from and against any and sustained or arising in the constructio	permit shall be deemed revoked. This pe ermittee shall be responsible for all claim maintenance. The permittee shall, and by all suits, claims, or actions brought by a on of the work performed under the perm	rmit is issued pursuant to all provisions of as and liabilities arising out of work perform y acceptance of the permit agrees to defend any person for or on account of any bodity	Chapter 6, A ned under the indemnify, s injuries, disea o perform the	n provisions of the Labor Code, you must for rticle 2 of the Oakland Municipal Code. It is permit or arising out of permittee's failure to save and hold harmless the City, its officers ase or illness or damage to persons and/or pie e obligations with respect to street maintenant	is granted to perform and
I hereby affirm that I am licensed und this permit and agree to its requireme	der provisions of Chapter 9 of Division 3 ints, and that the above information is tru	of the Business and Professions Code and the and correct under penalty of law.	my license is	in full force and effect (if contractor), that	I have read
/ him			6	110/02	
Signature of Permittee	Agencier Contractor Owne	7	Date		
DATE STREET LAST	SPECIAL PAVING DETAIL	HOLIDAY RESTRICTION?		LIMITED OPERATION AREA?	
RESURFACED	REQUIRED? - YES ANO	(NOV 1 - JAN 1) DYES	MNO	(7AM-9AM & 4PM-6PM) O YES	Ø\$¥Q
ISSUED BY		DATE ISSUED		1	
	<u> </u>		6/1	1/2	
		"	77	· •	

APPENDIX B SITE HEALTH & SAFETY PLAN

HEALTH AND SAFETY PLAN

Prepared for:

UST Removal at 2201 West Street Oakland, CA

A. INTRODUCTION

This Site Specific Health and Safety Plan is written for the UST Removal project located at 2201 West Street in Oakland, California. All job site personnel will follow CAL OSHA safe operating practices as outlined in 29 CFR 1910 and 1926, as well as established guidelines set forth by AEI Consultants or their respective companies.

B. WORK DESCRIPTION

Prepared by: Nathan Garfield

Site Manager: Dusty Roy

Address: 2201 West Street

Oakland, CA

Scope of Work: AEI Consultants (AEI) will remove (1) 500 gallon diesel underground storage tank located at the above address. The tank will be emptied, removed, and disposed of according to federal, state and local regulations. 1 soil sample(s) will be taken from the native material beneath each tank. One composite sample will be made from 4 discrete soil samples from the excavated material.

C. SITE/WASTE CHARACTERISTICS

Hazard Level: Serious: Low: XXX

Moderate: XXX Unknown:

Waste Type: Solid: Underground Storage Tank

Sludge: None

Liquid: Remaining Product Inside Tank

Gas: None

Hazard Characteristics: Combustible, Toxic

There will be a three feet boundary surrounding the excavation pit and the stockpiled material. The area within this boundary is considered an exclusion zone and only qualified personnel will be allowed to enter. All personnel arriving or departing the site should log in before entering the exclusion zone. All activities on site must be cleared through the Site Manager.

D. HAZARD EVALUATION

Potential chemical hazards include skin and eye contact or inhalation exposure to potentially toxic concentrations of hydrocarbon vapors. The potential toxic compounds that may exist at the site are listed below with descriptions of specific health effects of each. The list includes the primary potential toxic constituents that may be found at sites which previously handled petroleum hydrocarbons, including home heating diesel fuel.

1. Benzene

- a. Colorless to light yellow, flammable liquid with an aromatic odor.
- b. Toxic hazard by inhalation, adsorption, ingestion and skin and/or eye contact.
- c. Exposure may irritate eyes, nose and respiratory system and may cause acute restlessness, convulsions, nausea, or depression. Benzene is carcinogenic.*
- d. Permissible exposure level (PEL) for a time weighted average (TWA) over an eight hour period is 1.0 ppm.

2. Toluene

- a. Colorless liquid with a sweet, pungent, benzene like odor.
- b. Toxic hazard by inhalation, adsorption, ingestion and skin and/or eye contact.
- c. Exposure may cause fatigue, weakness, confusion, euphoria, dizziness, headaches, dilated pupils, lacrimation, nervousness, insomnia, paresthesia, and dermatitis.
- d. Permissible exposure level for a time weighted average over an eight hour period is 100 ppm.

3. Xylene

- a. Colorless liquid with an aromatic odor.
- b. Toxic hazard by inhalation, adsorption, ingestion and skin and/or eye contact.
- c. Exposure may irritate eyes nose and throat and may cause dizziness, excitement, drowsiness, incoordination, corneal vacuolization, anorexia, nausea, vomiting, and dermatitis.
- d. Permissible exposure level for a time weighted average over an eight hour period is 100 ppm.

4. Ethylbenzene

- a. Colorless liquid with an aromatic odor.
- b. Toxic hazard by inhalation, ingestion, and skin and/or eye contact. Ethylbenzene is carcinogenic.*
- c. Exposure may irritate eyes and mucous membrane and may cause headaches, dermatitis, narcosis and loss of consci ousness.
- d. Permissible exposure level for a time weighted average over an eight hour period is 100 ppm.

^{*} Known to the State of California to cause cancer.

5. Lead

- a. A heavy ductile soft grey metal.
- b. Toxic hazard by inhalation, ingestion, and skin and/or eye contact.
- c. Exposure may cause weakness, nausea, lassitude, diarrhea, insomnia, anorexia, inflamed mucous membranes and abdominal pains. Lead is carcinogenic.*
- d. Permissible exposure level for a time weighted average over an eight hour period is .05 ppb (in vapor).

6. Diesel

- a. Colorless to dark brown, combustible liquid with an aromatic odor
- b. Toxic hazard by inhalation, ingestion, skin and/or eye contact.
- c. Inhalation of vapors may depress the central nervous system, increasing reaction times, and decreasing pulse rate and blood pressure. Skin irritant.
- d. Occupational exposure limit 5.0 ppm (in vapor).

7. Gasoline

- a. Colorless liquid with a strong aromatic odor. Highly volatile and extremely flammable.
- b. Toxic hazard by inhalation, adsorption, ingestion and skin and/or eye contact.
- c. Inhalation of vapors can cause depression of the central nervous system with symptoms such as headache, dizziness, nausea and loss of coordination. Skin contact can cause defatting of the skin, skin irritation and dermatitis. Benzene is a major constituent of gasoline.
- d. Permissible exposure level for a time weighted average over an eight hour period is 300 ppm.

8. Waste Oil

- a. Toxic hazard by **ingestion** and possibly **inhalation**.
- b. Prolonged contact may cause skin irritation and dermatitis. Waste oil may be carcinogenic.*
- c. Waste oil may contain metals or toxic organics from thermal breakdown of the oil. In some cases, chlorinated solvents may be present.
- d. Permissible exposure level for a time weighted average over an eight hour period is 5 ppm (in vapor).

^{*} Known to the State of California to cause cancer.

Dusty Roy has been designated to coordinate access control and security on site. All work will strictly follow OSHA guidelines. A safe perimeter has been established at a three feet radius surrounding the site. These boundaries are identified by yellow caution tape and orange safety cones. Personnel shall maintain the maximum distance from the pit while performing their duties. No one shall enter an excavation pit that is greater than five feet in depth unless the excavation is shored or sloped and no one shall climb on the stockpiled material except to cover it with plastic. Additional hazards on site include heavy equipment and overhead lifting equipment. Heavy equipment used for performing the tank removal project may include a backhoe, an excavator, or a crane for lifting the tank out of the excavation. Only 40 hour trained personnel will operate equipment or perform any duty associated with this project. A hard hat and steel toed boots are mandatory for all personnel associated with the tank removal.

<u>A FIRST AID KIT AND A 40 POUND BC FIRE EXTINGUISHER WILL BE AVAILABLE ON SITE.</u>

EMERGENCY SERVICES ARE AVAILABLE BY DIALING 911 ON THE TELEPHONE LOCATED IN THE SITE MANAGER'S VEHICLE. THIS VEHICLE WILL BE ON SITE AT ALL TIMES.

E. PERSONAL PROTECTIVE CLOTHING

Based on evaluation of potential hazards, level "D" protective clothing has been designated as the appropriate protection for this project. The level of protective clothing will be upgraded if the organic vapor levels in the operator's breathing zone exceeds 5 ppm above background levels continuously for more than five minutes, or if any single reading exceeds 25 ppm. If this occurs then level C protection will be used. If the organic concentration in the operator's breathing zone exceed's 200 ppm for 5 minutes and/or the organic vapor concentration two feet above the excavation exceeds 1,000 ppm or 10% of the lower explosive limit, then the equipment will be shut down and the site evacuated. If organic vapor concentrations exceed 200 ppm and work continues then level B protection will be required.

"EPA Standard Operating Safety Guidelines" defines the levels of protective clothing as follows:

LEVEL A:

Fully encapsulating suit / SCBA / Hard hat / Steel toe boots / Safety gloves.

LEVEL B:

Splash resistant suit / SCBA / Hard Hat / Steel toe boots / Safety gloves.

LEVEL C:

Half face respirator / Hard hat / Safety glasses / Steel toe boots / Coveralls / Gloves.

LEVEL D:

Coveralls / Hardhat / Safety Glasses / Steel toe boots / Gloves.

If air purifying respirators are authorized, organic vapor w-filter is the appropriate canister for use with the involved substances and concentrations. A competent individual has determined that all criteria for using this type of respiratory protection have been met.

NO CHANGES TO THE SPECIFIED LEVELS OF PROTECTION SHALL BE MADE WITHOUT THE APPROVAL OF THE COMPANY SAFETY OFFICER, JOHN ORMEROD.

F. MONITORING INSTRUMENTS

The following environmental monitoring instruments shall be used on site at specified intervals.

Lower Explosive Limit (LEL) Meter that will also check the tank for Oxygen levels will be used to check the tank for removal and transportation.

G. EMERGENCY HOSPITAL

The closest hospital with an emergency room is:

Summit Medical Center Emergency (510) 655-4000

911

DIRECTIONS FROM THE JOB SITE:

EXIT JOBSITE AND GO:

RIGHT (EAST) ON WEST STREET LEFT (NORTH) ON TELEGRAPH AVENUE RIGHT (EAST) ON 29TH STREET HOSPITAL LOCATED ON LEFT AT 400 29TH STREET

APPENDIX C TRANSPORT AND DISPOSAL DOCUMENTS

	oroved OMB No. 2050-0039 (Expires 9-30-99) int or type. Form designed for use on elite (12-pitch) typewriter.	See Instructions	on back	of page	6.		ent of Toxic Substances Contr lacramento, California		
1	UNIFORM HAZARDOUS WASTE MANIFEST	ĺ	est Documen	اما	2. Page 1	Information	n in the shaded areas ired by Federal law.		
	3 Generator's Name and Mailing Address	forder Cont		A. State N	Nanifest Document N	2.	1183377		
		US EPA ID Number			ansporter's ID [Rese	Brved.}			
	7. Transporter 2 Company Name	US EPA ID Number	حادلد		ansporter's ID (Rese	7(0-(0 arved.]	₩		
	9. Designated Facility Name and Site Address 10. Riscont a Time.	US EPA ID Number		G. State F	orter's Phone acility's ID	Julal	olelol		
		and 1D Number)			13, Total	4. Unit			
G	" Non-Rein Hazardons was		No.	Туре	Quantity	Wt/Vol	State State FPA/Other		
GENERATOR	b.	,				<u>C</u>	State EPA/Other		
A T O R	c. :				1) 1 1		State EPA/Other		
	d.		· .		- 		State EPA/Other		
	J. Additional Descriptions for Materials Listed Above			K. Handlin	g Codes for Wastes	Listed Abov	e .		
	15 Special Handling Instructions and Additional Information	<u> </u>	'	с.		d.			
	Encycron Phonon and Additional Intermation								
	16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of t marked, and labeled, and are in all respects in proper condition for the	his consignment are fully and accurating to	rately describ applicable in	ed above by iternational	proper shipping na and national govern	me and are a	classified, packed, tions.		
	If I am a large quantity generator, I certify that I have a program in practicable and that I have selected the practicable method of treatme and the environment; OR, if I am a small quantity generator, I have ravailable to me and that I can afford.	ent starage, or disposal currently	available to	me which mi	inimizes the present	and future	throat to human hoalth		
↓	Printed/Typed Name Nathon (-sff. 710) 17 Transporter 1 Acknowledgement of Receipt of Materials	Signature		يو الإستانة للوائدة المتأونة ا		Mont	h Day Year		
CANSPOR	Printed/Typed Name 18. Transporter 2)Acknowledgement of Receipt of Materials Printed/Typed Name	Signature				Monti			
T E R	19. Discrepancy Indication Space	Signature	ital	4		Month Month			
A C L L	20 Facility Owner or Operator Certification of receipt of hazardous mater	rate covered by this a wife t	t as poted ?-	Itam 10					
T Y	Printed/Typed Name	Signature	us noted III	iidii i z		Month	Day Year		

DO NOT WRITE BELOW THIS LINE.

	Printed/Typed Name	Signature	Month OG	Doy / 9	Year
	17. Transporter 1 Acknowledgement of Receipt of Materials	A Company of the Comp			1 2000 1 1000
	Printed/Typed Name	Signature	Month	Day	Year
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i	18. Transporter 2 Acknowledgement of Receipt of Materials				1
	Printed/Typed Name	Signature	Month	Day	Year
4			{ } }	1	1
ļ	19, Discrepancy Indication Space				

DO NOT WRITE BELOW THIS LINE.

APPENDIX D ANALYTICAL DOCUMENTATION

Sent By:

McCampbell Analytical Inc.

110 Second Avenue South, #D7 Pacheco, ('A 94553-5560 (925) 798-1620

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 0206306

Client:

All Environmental, Inc. 3210 Old Tunnel Rd., Ste. B Lafayette, CA 94549-4157

TEL:

(925) 283-6000

FAX: ProjectNo:

(925) 283-6121

PO:

5251; Santilli & F

										26-Jun-02
Sample ID	CilentSampID	Matrix	Collection Date	Bottle	SM5520E/F	ŠW8015Č	SW8021B	Requested Tests 8021B/8015	- SW8260B	
0206306-001 0206306-002	EB-9' STKP 1-4	Soil Soil	6/19/02 12:00:00 PM 6/19/02 12:00:00 PM		A	A	A A	A	A 1	

Comments: diesel rushes added 06-26-02 per rusty

Date/Time	ate/Time
Relinquished by:	tte/ I title
Relinquished by:	• .
Relinquished by: Received by:	

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

	McCampi	bell Analy	tical Inc.			110 2nd A	venue South, #E	7, Pacheco, CA	94551 7566	
1	nvironniental,		Client	Project ID: 525	1; Santilli & 1	IRM://w/u/u/	ecampbell com	E-mail: maingir	/98-1622 necampbell.co	m
3210	Old Tunnel Rd	l., Ste. B					Date Samp			
Lafaye	ette, CA 94549	-4157	Client (Contact: Nathan	Garfield			ived: 06/19		
			Client F				Det			10.0
	Gaso nethod. SW5030B	line Range	(C6-C12)	Volatile Hydro Analytica	carbons as C	asoline i	with Drew	and MTRI	702-06/25 7*	/02
Lab ID	Client ID	Matrix	ТРН(g)	MTBE	Benzene	21B/8015Cm Toluend			Work Ord	en 0206306
001A !	RB-9'	s	N/A	ND<5.0	1.5	3.1		enc Xylend	s Dr	% SS
002A	SIKP 1-4	S !	N/A	ND<0.5	ND<0.05	ND<0.0:	1	1 60	- 100	99.1
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means not	nt for DF =1; detected at or -	w	50	5.0	0.5	0.5	0.5	0.5	1	
ove the rep	orting limit	S	1.0	0.05	0.005	0.005	0.005	0.005	ug/L mg/Kg	

*water and vapor samples are reported in ug/L, soil and sludge samples in mg/kg, wipe samples in ug/wipe, and TCLP extracts in ug/L.

DF = dilution factor

cluttered chromatogram; sample peak coefutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent); t) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present, i) liquid sample that contains greater than -2 vol. % sediment; j) no recognizable pattern; k) TPH pattern that does not appear to be derived from gasoline (aviation gas).

Edward Hamilton, Lab Director

McCa	ampbell Anal	ytical Inc.		Venue South, #177, Pach lone : 925-798-1620 Fa			·	
All Environmental, Inc.		ntal, Inc. Client Project ID: 5251; Santilli & Forster		Date Sampled: 06/19/02				
3210 Old Tunn	tel Rd., Ste. B			Date Received:	06/19/02			
Lafayette, CA 9	94549-4157	Client Contact: Natha	n Garfield	Date Extracted:	06/26/02			
		Client P.O.:		Date Analyzed:	06/26/02	2		
straction method: SW	Di e 735500°	esel Range (C10-C23) Ext	ractable Hydrocarbo	ns as Diesel*				
Lah ID	Client [D	Matrix	TPH(d)		Wo	rk Order:		
206306-001A	EB-9'	S				DF	% S.	
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Reporting Limit	Em (SP -)			_		4H 4H	-	
ND means not do	Rected at or	W S	NA			NA	\dashv	
above the reporting limit		.	0.1					

* water and vupor samples are reported in ug/L, wipe samples in ug/wipe, soit/solid/studge samples in mg/kg, product/oit/non-aqueous liquid samples in mg/L, and all TCLP / STLC / SPLP extracts in ug/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) immodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; soluted peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; g) one to a few greater than ~2 vol % sediment; k) kernsene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent.

DHS Certification No. 1644



Edward Hamilton, Lab Director

All Environmental, Inc. Client Project ID: 5251; Santilli & Forster Date Sampled: 06/19/02	McCampbell Ar	alytical Inc.		[10 2nd	Avenue South, #	D7. Pacheco CA 0455			
According Lafayette, CA 94549-4157 Client Contact: Nathan Garfield Date Extracted: 06/19/02				http://www.	thone : 925-798- niccampbell.com	1620 Fax: 925-798-10 E-mail: main@mecam	3-5560 522 apbell com		
Lafayette, CA 94549-4157	ł	Chent Pi	Cheff Project ID: 5251; Santilli & Forster			D			
Client P.O. Date Analyzed: 06/21/02	1				Date Rec	eived: 06/19/02	!		
Extraction Method: SW\$5000	Lafayette, CA 94549-4157			Garfield	Date Extr	racted: 06/19/02			
Client ID					Date Ana	lyzed: 06/21/02			
Compound	Extraction Method: SW5030B	v orathes (Organics by G Analytical M	C/MS (Basic Targe	t List)*	· · · · · · · · · · · · · · · · · · ·			
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3210 Old Tunnel Rd., Ste. B		Client Project ID: 5251; Santilli & Forster		Date Sampled: 06/19/02			
1	Client Contac	t: Nathan Garfield		Date Received:			
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Halogonatad				Date Analyzed:	06/22/02-06	/24/02	
Extraction Method: SW5030B	volatile Organie	cs by P&T and GC- malytical Method: SW8021B	ELCD (80	10 Basic Target L	ist)*		
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Client ID	EB-9'	STKP 1-4		1			
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Compound				1	S	W	
Bromodichloromethane	ND<1000	Солсеп	ration		μg/Kg		
Brumoform	ND<1000	ND<10				ug/L	
Bromomethane	ND<1000	ND<10			$-\frac{5.0}{5.0}$ -	<u> </u>	
Carbon Tetrachloride	ND<1000	ND<10				<u>NA</u>	
hlorobenzene	ND<1000	ND<10			5.0	NA NA	
hloroethane	ND<1000	ND<10			-1 <u>5.0</u>	NA NA	
-Chloroethyl vinyl ether	ND<1000				5.0	NA_	
Chloroform	ND<1000	ND<10			5.0	<u>NA</u> _	
hloromethane	ND<1000	ND<10			7 -5.0	NA NA	
bibromochloromethane	ND<1000	- ND<10			+ 5.0 +	-NA	
2-Dichlorohenzene	ND<1000	ND<10		1	5.0	NA	
3-Dichlorobenzenc	ND<1000	ND<10			5.0	NA	
4-Dichlorobenzene	ND<1000	ND<10			5.0	NA .	
ichlorodifluoromethane	ND<1000	ND<10		· !	5.0	NA NA	
1-Dichlorocthane	ND<1000	ND<10			5.0	NA -	
2-Dichloroethane	ND<1000	ND<10			5.0	NA	
1-Dichloroethene	ND<1000	ND<10 +-			5.0	NA .	
-1,2-Dichloroethene	ND<1000 T	ND<10			5.0	NA	
ns-1,2-Dichloroethene	ND<1000	ND<10			5.0	NA.	
-Dichloropropane	ND<1000	ND<10			5.0	NA	
-1,3-Dichloropropene	ND<1000	ND<10		·	5.0	NA	
ns-1,3-Dichloropropene thylene chloride	ND<1000	ND<10		'	5.0	NA	
2,2-Tetrachloroethane	ND<1000	ND<10			5.0	NA	
rachloroethene	ND<1000	ND<10			5.0	NA	
1-Trichloroethane	ND<1000	ND<10			5.0	NA	
2-Trichloroethane	ND<1000	ND<10			5.0	NA	
hloroothene	ND<1000	ND<10		├ ──	5.0	NA	
hlorofluoromethane	ND<1000	ND<10		 	5.0	NA	
/ Chloride	ND<1000	ND<10		<u>-</u>	- 5.0	NA	
	ND<1000	ND<10			5.0	_NA	
<u>ss:</u>	Surroga	te Recoveries (%)			5.0	NA	
ments	101	100					
er and vanur camples and all TOY is a	J '	j					
er and vapor samples and all TCLP & SPI	P extracts are reporte	d in ug/L, soil and sludg	C samples in n	o/kg same			
ring limit for DF = 1; water/TCLP/SPI,P	virante MD-0		·qziea iii u	erne, wipe samples in	ug/wipe		
,	v∧uasis, MD<0.5t(g/[.; soils and sludges, ND<	Sug/kg, wipes	, ND<0.2ug/wipe		İ	
eans not detected above the reporting limit	N/A means analysis			⊸			



	pbell Analytical	Inc.	110 2nd	Avenue South, #D7, Pacheco, CA 94553-5560 shore: 925-798-1620 Fax: 925-798-1622 mecumpheli com Facility
All Environments	al, Inc.	ient Proince yn	http://www.	mountplett.com E-mail: main@movampbett.com
3210 Old Tunnei	1 ~-	rent Project (D: 52)	51; Santilli & Forster	Date Sampled: 06/19/02
	 	on4 ()		Date Received: 06/19/02
Lafayette, CA 945	49-4157 Cli	ent Contact: Natha	n Garfield	Date Extracted: 06/19/02
				Date Analyzed: 06/19/02
Analytical Method: SM55	20E/P	oteum Oil & Great	se with Silica Gel Cle	n-Up*
I.ap ID	Client ID	Matrix		Work Order 02063
0206306-001A	F.B-9'	S		POG
206306-002A	STKP 1-4			ND
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Method Accuracy and	Reporting Unite 1	W		NA

DHS Certification No. 1644



_ Edward Hamilton, Lab Director



AEI Consultants / All Environmental, Inc. 3210 Old Tunnel Road, Suite B Lafayette, CA 94549

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CONSULTANTS (925) 283-6000 Fax: (925) 283-6121 (925
AEI PROJECT MANAGER Nathan Garfield 1/2 / 19 / 19
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PROJECT NAME Saut: II. & Forster PROJECT NUMBER 5751 TOTAL # OF CONTAINERS 5
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