

**REPORT OF FINDINGS
SOIL VAPOR EXTRACTION TEST**

**CORE RESOURCE PROPERTY NO. 4826
BROADWAY VOLKSWAGEN
2740 BROADWAY
OAKLAND, CALIFORNIA**

Prepared for:

**Core Resource Inc.
3800 Hamlin Road,
Suite 100
Auburn Hills, MI 48326**

Prepared by:

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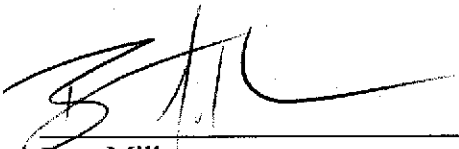
ESE Project No. 6-93-5093

January 27, 1995



This report has been prepared by Environmental Science & Engineering, Inc. for the exclusive use of Core Resource Inc. as it pertains to their site located at 2740 Broadway in Oakland, California. Our professional services have been performed using that degree of care and skill ordinarily exercised under similar circumstances by other geologists and engineers practicing in this field. No other warranty, express or implied, is made as to professional advice in this report.

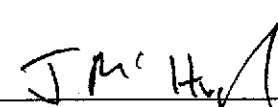
REPORT PREPARED BY:



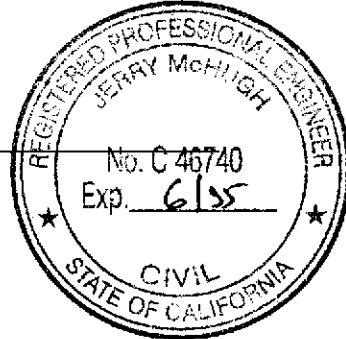
Bart Miller
Project Geologist

1/27/95
DATE

UNDER THE PRIMARY REVIEW OF:



Jerry McHugh, P.E.
Chief Engineer



1/27/95
DATE

PROJECT NO. 6-93-5093

TABLE OF CONTENTS

	page
1.0 INTRODUCTION	1
1.1 Scope of Work	1
2.0 BACKGROUND	2
2.1 Site Setting	2
2.2 Site History	2
3.0 PROCEDURES	3
4.0 RESULTS	5
5.0 CONCLUSION	6
6.0 RECOMMENDATIONS	7
7.0 REFERENCES	8

FIGURES

Figure 1 - Vicinity Map

Figure 2 - Soil Vapor Extraction Test #1 Data (Time = 0 Hour)

Figure 3 - Soil Vapor Extraction Test #1 Data (Time = 1 Hour)

APPENDIX

Appendix A - Soil Vapor Extraction Test Data Sheets

Appendix B - Laboratory Analytical Results with Chain of Custody

1.0 INTRODUCTION

This report describes the events, and presents the findings of soil vapor extraction (SVE) testing performed on December 6, 1994 by Environmental Science & Engineering, Inc. (ESE) at Core Resource, Inc. Property No. 4826 located at 2740 Broadway in Oakland, California (Figure 1). This testing was conducted to determine whether SVE is a suitable technology for the remediation of volatile gasoline constituents identified in soil at the site. This report documents the procedures and methods used during this testing and presents the results of the site work. Recommendations are also provided.

1.1 Scope of Work

To determine whether SVE technology could be utilized to remediate volatile gasoline constituents identified in underground storage tank (UST) excavation backfill and native sediments at the site, ESE performed the following tasks:

- Measured water levels in six site wells, MW-1, MW-3, MW-7, VW-1, VW-2, and VW-3;
- Dewatered wells MW-3, VW-1, VW-2, and VW-3;
- Measured well vacuums prior to commencing SVE testing;
- Purged air from wells MW-1, MW-3, VW-1, VW-2, and VW-3 and measured soil vapors for percent oxygen (O₂), carbon dioxide (CO₂), lower explosivity limit (LEL), and volatile organic compounds (VOCs);
- Extracted soil vapors from well VW-3 during the first test and from well VW-1 during the second test;
- Continuously monitored airflow in the extraction wells; and
- Monitored air flow, vacuum (V), O₂, CO₂, LEL, and VOCs in surrounding wells during each of the SVE tests.

2.0 BACKGROUND

2.1 Site Setting

Core Resource, Inc. Property No. 4826 is located at 2740 Broadway in Oakland, California (site). The site is at an approximate elevation of 30 feet above mean sea level (AMSL) and is located in a commercial district of Oakland (Figure 1).

2.2 Site History

The site is currently utilized as an automobile sales and maintenance facility. Two former underground storage tanks (USTs) were located at the north side of the site along 28th Street (Figure 2). One UST was utilized for the storage of gasoline and the other was utilized for the storage of waste oil. Both USTs were excavated and removed during August, 1988 (SEMCO, 1989). Soil samples collected from the excavation during the removal of the USTs were reported to contain detectable concentrations of total petroleum hydrocarbons as gasoline (TPH-G), and benzene, toluene, ethylbenzene, and total xylenes (BTEX).

Subsurface investigations performed at the site by ESE indicate the presence of gasoline constituents in the UST backfill and a perched sand layer of variable thickness (approximately 0.5 to 2 feet) extending across the site (ESE, 1989; ESE, 1991a; ESE, 1991b; ESE, 1992; ESE, 1993; ESE, 1994). The impacted sand layer varies in depth across the site from approximately 11 feet below grade at MW-1 to 17 feet below grade at MW-7. Soil samples collected at the vicinity of the UST backfill have been reported to contain the highest concentrations of gasoline constituents.

3.0 PROCEDURES

On December 6, 1994 ESE performed two SVE tests at the site. VW-3 was utilized as the extraction well for the first test (Test #1) and VW-1 was the utilized as the extraction well for the second test (Test #2). Site wells VW-1, VW-2, VW-3, MW-1, and MW-3 were also utilized as SVE monitoring wells during each of the tests except when being utilized as an extraction well.

The depth to water was measured in all wells prior to the commencement of Test #1 and ground water was extracted from wells MW-3, VW-1, VW-2, and VW-3 using a vacuum truck. A total of approximately 600 gallons of water was extracted with most being removed from well VW-3 installed in the UST excavation backfill material. All water was extracted and hauled by Integrated Wastestream Management (a State licensed hauler) of Milpitas, California to the Gibson Recycling Facility located at Redwood City, California.

Initial vacuum readings were recorded at wells VW-1, VW-2, VW-3, MW-1, and MW-3. Air was then purged from each of the wells using a low-volume vacuum pump and CO₂, O₂, LEL, and VOC concentrations were measured in the offgas. CO₂, O₂, and LEL concentrations were measured in percentages using a hand-held Gastech Model 3220. VOC concentrations were measured in parts per million (ppm) using a hand-held HNu Photoionization Detector (PID). Air purging data and measured concentrations are provided in Appendix A.

Soil vapor was then extracted from well VW-3 at a rate of approximately 90 standard cubic feet per minute (SCFM) for a period of approximately two hours. Air was removed with a five horsepower internal combustion blower and vented through a moisture knockout followed by two 55-gallon drums of granular activated carbon (GAC). The GAC removed any gasoline constituents from the extracted soil vapor prior to atmospheric discharge as required by the Bay Area Air Quality Management District (BAAQMD).

Parameters including well temperature, V, CO₂, O₂, LEL, and VOC concentration were monitored in wells VW-1, VW-2, MW-1, and MW-3 during Test #1. SVE test data is provided in Appendix A. One air sample was collected during Test #1, prior to GAC treatment, after a period of approximately ten minutes and a second air sample was collected at the end of the test. Both air samples were submitted under chain of custody documentation to a state-certified laboratory and analyzed for TPH-G using EPA Method 8015 (modified per CA LUFT) and BTEX using EPA Method 8020. Laboratory reports with chain of custody documents are provided in Appendix B.

Test #1 was performed for a period of 105 minutes. At the end of Test #1, well vacuums were monitored until initial conditions were reestablished.

Test #2 was performed using well VW-1 as an extraction well at a flow rate of approximately 10 SCFM. At a well vacuum of 10 inches of water column, water became entrained in the airflow. The water then rose in the extraction well above the screened interval thereby preventing further extraction of soil vapors. The SVE blower was turned off approximately one minute after the start of Test #2. Data collected during Test #2 data is provided in Appendix B.

4.0 RESULTS

Laboratory reports for vapor samples collected during this investigation are provided in Appendix A. Soil vapor samples collected during Test #1 were reported to contain the following:

Sample I.D.	Time* (minutes)	TPH-G (mg/m ³)	Benzene (mg/m ³)	Toluene (mg/m ³)	Ethylbenzene (mg/m ³)	Xylenes (mg/m ³)
VW-3-1	10	2,300	21	190	47	330
VW-3-2	105	2,400	18	270	53	320

* Refers to time into SVE test with Time=0 minutes as the starting point.

Soil vapor samples were not obtained during Test #2 due to rapid water entrainment early in the test.

The vacuum of approximately 90 SCFM applied to well VW-3 during Test #1 created measurable vacuum in all of the observation wells. Measurable vacuum was sustained in the observation wells through the duration of the test and water level increases ranging from six to ten inches in wells VW-1, VW-2, and MW-1 were observed. Field data collected during the SVE testing is provided in Appendix A. Figure 2 presents a measurement of V, and LEL, O₂, and CO₂ concentrations in each well during Test #1. Figure 3 presents measurements of the same parameters approximately 60 minutes after commencing Test #1.

Recovery times to initial vacuum conditions were monitored after terminating vapor extraction from well VW-3 during Test #1. Recovery times were observed to vary from an immediate response in the extraction well, VW-3, to a maximum of 48 minutes in the observation wells, VW-1, VW-2, MW-1, and MW-3.

5.0 CONCLUSION

Data collected during Test #1 conducted at well VW-3 in the backfill of the former UST excavation indicates that the use of SVE technology is a feasible method for remediating the gasoline-impacted backfill and soil in the former UST location. The average reported concentration of TPH-G in vapor samples collected during Test #1 was 2,350 milligrams per cubic meter (mg/m^3) indicating a TPH-G extraction rate of 19 pounds per day. The vacuum response noted during Test #1 in wells VW-1, VW-2, MW-1, and MW-3 suggests that soil vapor was potentially being extracted from within the permeable sand layer located approximately 20 feet below grade at the site. Test #1 data indicates that an extraction rate of 90 SCFM applied at well VW-3 provided sufficient subsurface airflow to extract appreciable quantities of volatile gasoline constituents from the impacted vadose soils in the proximity of the former UST location.

Test #2 conducted at well VW-1, a well screened over the sand layer located approximately 20 feet below grade, was not successful due to the rapid influx of ground water. Therefore conventional SVE cannot be successfully applied at locations other than the former UST excavation backfill.

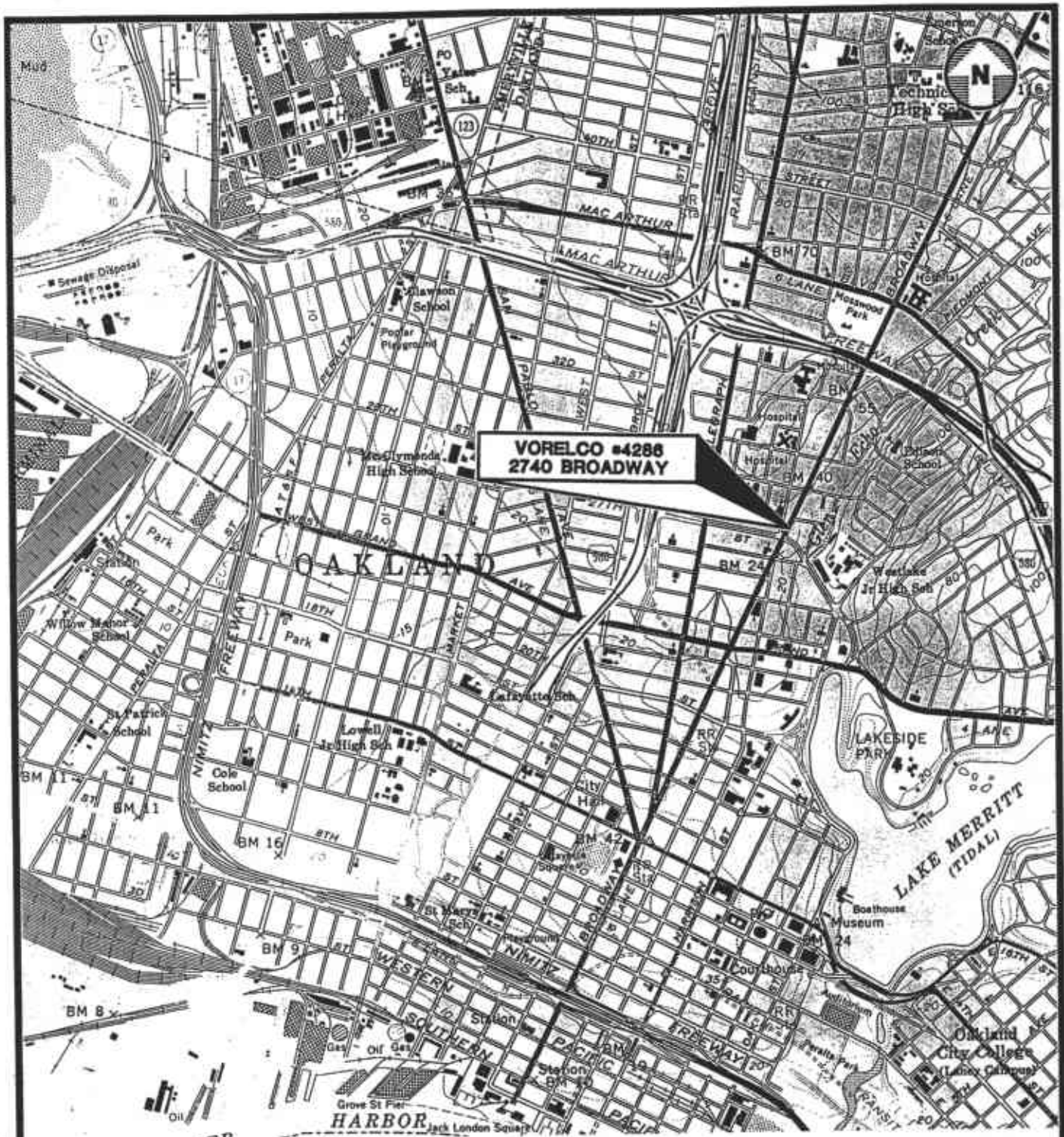
6.0 RECOMMENDATIONS

Based on the findings presented in this report, ESE recommends the following:

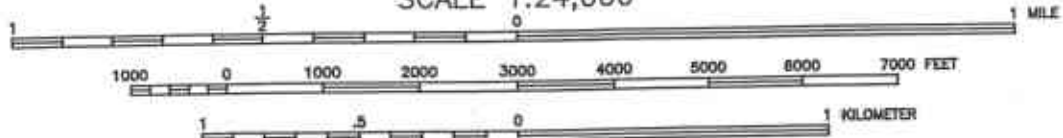
- A soil vapor extraction (SVE) system should be installed at site well VW-3 to remediate VOCs present in the soils in the proximity of the former UST location;
- The SVE system should be rated at 50 to 100 SCFM with one well (VW-3) utilized as the extraction well;
- A Remedial Action Plan (RAP) should be prepared that details the conceptual design of the system, the remedial objectives of the project, the SVE monitoring and operations, and the stage at which decommissioning will occur;
- The RAP should be submitted to the Alameda County Health Care Services Agency (HCSA) for approval to proceed;
- A final system design, including plans and specifications, an equipment cost, a construction schedule, a monitoring schedule, an operations schedule, and an operations and maintenance manual should be prepared; and,
- The SVE system should then be constructed, operated, monitored, and decommissioned when pre-established cleanup goals are attained.

7.0 REFERENCES


- Environmental Science & Engineering, Inc. (ESE), 1989. Unpublished Letter Report of Monitoring Well Installation and Sampling at Vorelco Property No. 4826, Broadway Volkswagen, 2740 Broadway, Oakland, California; February 10, 1989.
- Environmental Science & Engineering, Inc. (ESE), 1991a. Unpublished Report of Quarterly Activities at Vorelco Property No. 4826, Broadway Volkswagen, 2740 Broadway, Oakland, California; July 10, 1991.
- Environmental Science & Engineering, Inc. (ESE), 1991b. Unpublished Report of Quarterly Activities at Vorelco Property No. 4826, Broadway Volkswagen, 2740 Broadway, Oakland, California; November 12, 1991.
- Environmental Science & Engineering, Inc. (ESE), 1992. Unpublished Report of Quarterly Activities at Vorelco Property No. 4826, Broadway Volkswagen, 2740 Broadway, Oakland, California; December 3, 1992.
- Environmental Science & Engineering, Inc. (ESE), 1993. Unpublished Report of Quarterly Activities at Vorelco Property No. 4826, Broadway Volkswagen, 2740 Broadway, Oakland, California; August 3, 1993.
- Environmental Science & Engineering, Inc. (ESE), 1994. Unpublished Letter Report of Quarterly Activities at Vorelco Property No. 4826, Broadway Volkswagen, 2740 Broadway, Oakland, California; April 26, 1994.
- SEMCO, Inc., 1989. Unpublished Report of Underground Storage Tank Removal at Vorelco Property No. 4826, Broadway Volkswagen, 2740 Broadway, Oakland, California; February 3, 1989.



SCALE 1:24,000



ADAPTED FROM U.S.G.S. OAKLAND WEST 7.5 MINUTE TOPOGRAPHIC QUADRANGLE, 1959, PHOTOREVISED 1980.

	DATE 8/93	VICINITY MAP	FIGURE NO. 1
	REVISED		PROJ. NO. 6-93-5093
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	CAD FILE 50931001	VORELCO PROPERTY NO. 4286 2740 BROADWAY OAKLAND, CALIFORNIA	



BROADWAY AVENUE

AUTOMOBILE INTERIOR SERVICE

AUTOMOBILE EXCHANGE SERVICE (AES)

MW-5

MW-5

V 10.0
LEL 18.0
O₂ 13.0
CO₂ 0.2

V 0.08
LEL 4.0
O₂ 18.0
CO₂ 7.0

V 0.80
LEL 70.0
O₂ 18.0
CO₂ 3.0

V 0
LEL 14.0
O₂ 10.0
CO₂ 7.5

V 0.025
LEL 0
O₂ 8.0
CO₂ 3.0

28th STREET

VW-1

MW-3

VW-2

VW-3

MW-1

ENTRANCE

MW-7
DTW=10.70

MW-4

OFFICES

RAMP TO SECOND FLOOR

PARKING LOT

SHOWROOM

HALLWAY

GARAGE

PARKING LOT

OFFICES

LEGEND

- ⊕ MW-3 MONITORING WELL
- ⊙ MW-5 ABANDONED MONITORING WELL
- ⊙ VW-1 VADOSE MONITORING WELL
- ⊕ SB-3 SOIL BORING LEL
- ⌈ ⌋ FORMER UNDERGROUND TANK AREA
- x — FENCE

V VACUUM (INCHES OF WATER)
LEL LOWER EXPLOSIVE LIMIT (PERCENT)
O₂ OXYGEN (PERCENT)
CO₂ CARBON DIOXIDE (PERCENT)

NOTE: DATA COLLECTED PRIOR TO SOIL VAPOR EXTRACTION.



Environmental Science & Engineering, Inc. 4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	DATE 1/10/95	VW-3 SOIL VAPOR EXTRACTION TEST #1 DATA (TIME = 0 HOUR) DECEMBER 6, 1994 CORE RESOURCE INC. PROP. #4286 2740 BROADWAY OAKLAND, CALIFORNIA	FIGURE NO. 2
	REVISED		PROJ. NO. 6-93-5093
	CAD FILE 50930010		



BROADWAY AVENUE

AUTOMOBILE INTERIOR SERVICE

AUTOMOBILE EXCHANGE SERVICE (AES)

MW-5

MW-6

V 16.0
LEL 0
O₂ 21
CO₂ 0.1

V 0.15
LEL 4
O₂ 19
CO₂ 1.5

V 10.0
LEL 10
O₂ 20.5
CO₂ 0.4

V 7.0
LEL 15
O₂ 19.5
CO₂ 1.5

V 5.0
LEL 50
O₂ 10.0
CO₂ 3.0

28th STREET

VW-1

MW-3

VW-2

VW-3

MW-1

ENTRANCE

MW-7

MW-4

OFFICES

RAMP TO SECOND FLOOR

PARKING LOT

SHOWROOM







HALLWAY

GARAGE

PARKING LOT

OFFICES

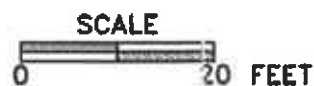
LEGEND


-  MW-3 MONITORING WELL
-  MW-5 ABANDONED MONITORING WELL
-  VW-1 VADOSE MONITORING WELL
-  SB-3 SOIL BORING
-  FORMER UNDERGROUND TANK AREA
-  FENCE

V VACUUM (INCHES OF WATER)
LEL LOWER EXPLOSIVE LIMIT (PERCENT)
O₂ OXYGEN (PERCENT)
CO₂ CARBON DIOXIDE (PERCENT)

NOTE: DATA COLLECTED DURING SOIL VAPOR EXTRACTION

AIR FLOW RATE SUSTAINED AT APPROXIMATELY 90 STANDARD CUBIC FEET PER MINUTE AT VW-3 WELL HEAD.



	Environmental Science & Engineering, Inc.	DATE 1/6/95	VW-3 SOIL VAPOR EXTRACTION TEST #1 DATA (TIME = 1 HOUR) DECEMBER 6, 1994	FIGURE NO. 3
		REVISED 1/18/95		
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520		CAD FILE 50930009	CORE RESOURCE INC. PROP. #4286 2740 BROADWAY OAKLAND, CALIFORNIA	PROJ. NO. 6-93-5093

APPENDIX A

SOIL VAPOR EXTRACTION TEST DATA SHEETS

VAPOR EXTRACTION TEST

CLIENT: *Yorelco*
 LOCATION: *2740 Broadway Volkwagen, Oakland*
 PROJECT #: *6935093*
 DATE: *12-6-94*
 RECORDED BY: *JC/TR*

VW-3 Extraction Well
 Start Finish
 Barometric Pressure ("Hg) *14:00 15:45*
 Ambient Air Temp. (deg. F)

Time	Depth* to Water (Feet)	Extrn. Well Vacuum ("H2O) ("Hg)	Total Flow Rate PM (SCFM)	Dilution Flow Rate (SCFM)	Well Flow (By Dif.) (SCFM)	Carbon Dioxide (ppm)	Oxygen (percent)	Inlet Relative Humidity (%)	Blower Vacuum ("Hg)	Blower Inlet Air Temp (deg F)	Blower Discharge Air Temp (deg F)	Carbon Influent PID (ppm)	Carbon Effluent PID (ppm)	IN LEL %
13:35	14.65	0												
Purge						7.5	10							14
14:00		6.0												
14:01		8.0												
14:02		7.2												
14:03		7.5			5500									
14:04		7.0												
14:05		7.0	5500	0	5500				6.0	55.6	84.8		0	
14:06				0		0.6	16.5					7500	0	15
14:07		7.0	5500	0	5500	3.7								
14:17		7.0	5500	0	5500	2.7	17.0			58.3	91.6	7500	0	20
14:30		7.0	5500	0	5500				6.0	59.8	95.6			
14:46		7.0	5900	0	5900	1.8	20.0		6.0	64.4		7500		
15:06		7.0	6000	0	6000	1.5	19.5		6.0	64.4		7500	0	15
15:45		7.0	6100	0	6100	1.3	19.0		6.0	61.9	100.6	7500	0	12
16:00		0.0												

hand

sample w-3

END

SAMPLE

w-3

* Hg - Inches Mercury
 * H2O - Inches Water
 SCFM - Standard Cubic Feet Per Minute

Well Temp 58.8° @ 5:12
59.5 @ 14:17
60.1 @ SVET 15:06
59.9 @ END

PID - Photo Ionization Detector
 ppm - Parts Per Million as Hexane
 deg F - Degrees Fahrenheit

** - riser*

Test #1

CLIENT: Vorelec
 LOCATION: Vorkes/Broadway
 PROJECT #: 6935693
 DATE: 12-6-94
 RECORDED BY: JC/TR

Well Casing I.D. (inches)	Gal/Ft
2	0.163
4	0.653
6	1.469

Observation Wells

Purge 60% methane

Time	Location: VW-1 Purge t (min):				Location: MW-3 Purge t (min):				Location: VW-2 Purge t (min):				Location: MW-1 Purge t (min):			
	Vac ("H2O)	FID % IEL (ppm)	O2 (%)	CO2 (%)	Vac ("H2O)	FID % IEL (ppm)	O2 (%)	CO2 (%)	Vac ("H2O)	FID % IEL (ppm)	O2 (%)	CO2 (%)	Vac ("H2O)	FID % IEL (ppm)	O2 (%)	CO2 (%)
Prior	10.0				0.08				0.80				0.025			
1st Purge		18	13.0	0.2		4	18	7		70	18	3		0	8.0	3.0
14:11		(100)	-	0.3												
14:12						(150)	20	0.3		15%				(200)	-	1.4
14:13										(7500)	20	0.7				
14:15																
14:23	26.0				0.20				15.0				8.0			
14:33	26.0	0	20	0.1	0.16	3%				10%						
14:38					0.16	(200)	19	1.4	3.5	(7500)	20	0.4		5%		
14:42						4%				10%			2.6	(500)	10	5.0%
14:58	16.0	0	21	0.1	0.165	(200)	18	1.4	10.0	(7500)	20.5	0.4	5.0	(7500)	10	0.7%
15:35	0.50	(25)	21.5	0.1	0.150	(200)	19	1.5	6.0	(7500)	21.5	0.6	3.0	(7500)	10	3.0%
15:45						(4%)				15%				100%		
RECOVERY																
15:52	12.0				0.06				12.0				6.2			
15:57	6.8				0.0475				6.8				4.5			
16:03	5.0				0.03				3.0				3.9			
16:16	2.3				0.02				1.6				1.0			
16:30	1.45				0.01				1.2				1.3			

" Hg - Inches Mercury
 " H2O - Inches Water
 PID - Photo Ionization Detector

(100) - ppm

ppm - Parts Per Million as Hexane
 deg F - Degrees Fahrenheit
 Purge t - Purge time in minutes

VAPOR EXTRACTION TEST #2
Extracting on VW-1

CLIENT: Vorelco/Volks/Broadway
 LOCATION: Volks/Broadway
 PROJECT #: 6935093
 DATE: 12-6-94
 RECORDED BY: JC/TR

Start Finish

Barometric Pressure ("Hg)
 Ambient Air Temp. (deg. F)

Time	Depth to Water (Feet)	Extrn. Well Vacuum ("H2O) ("Hg)	Total Flow Rate (SCFM)	Dilution Flow Rate (SCFM)	Well Flow (By Dif.) (SCFM)	Carbon Dioxide (ppm)	Oxygen (percent)	Inlet Relative Humidity (%)	Blower Vacuum ("Hg)	Blower Inlet Air Temp (deg F)	Blower Discharge Air Temp (deg F)	Carbon Influent PID (ppm)	Carbon Effluent PID (ppm)
1645		10"	60	60+	0								
		11"	40	40	0				10				
		WATER IN SCREENED WELL											

" Hg - Inches Mercury
 " H2O - Inches Water
 SCFM - Standard Cubic Feet Per Minute

PID - Photo Ionization Detector
 ppm - Parts Per Million as Hexane
 deg F - Degrees Fahrenheit

APPENDIX B

LABORATORY ANALYTICAL RESULTS WITH CHAIN OF CUSTODY



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

Environmental Science & Engineering
4090 Nelson Avenue
Suite J
Concord, CA 94520

Date: 16-DEC-94
Lab Job Number: 118921
Project ID: 6-93-5093
Location: Vorelco

Reviewed by:

Teresa K Morrison

Reviewed by:

[Signature]

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LABORATORY NUMBER: 118921
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 6-93-5093
LOCATION: VORELCO

DATE SAMPLED: 12/06/94
DATE RECEIVED: 12/07/94
DATE ANALYZED: 12/09/94
DATE REPORTED: 12/16/94

Total Volatile Hydrocarbons as Gasoline in Air Samples
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	TVH AS GASOLINE <--(mg/cubic meter)-->	REPORTING LIMIT	SURROGATE RECOVERIES	
				TFT	BB
118921-001	VW-3-1	2,300	130	73%	83%
118921-002	VW-3-2	2,400	130	84%	86%
METHOD BLANK	N/A	ND	50	75%	75%

TFT = Trifluorotoluene (Limits: 69-120)

BB = Bromobenzene (Limits: 70-122)

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: BS/BSD

RPD, %	1	(Limit: <25)
RECOVERY, %	92	(Limit: 75-125)

LABORATORY NUMBER: 118921
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
 PROJECT ID: 6-93-5093
 LOCATION: VORELCO

DATE SAMPLED: 12/06/94
 DATE RECEIVED: 12/07/94
 DATE ANALYZED: 12/09/94
 DATE REPORTED: 12/16/94

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020
 Extraction by EPA 5030 Purge and Trap

LAB ID	CLIENT ID	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	REPORTING LIMIT	SURROGATE RECOVERIES	
							TFT	BB
		<----- (mg/cubic meter) ----->						
118921-001	VW-3-1	21	190	47	330	1.3	130 %	94 %
118921-002	VW-3-2	18	170	53	320	1.3	128 %	93 %
METHOD BLANK	N/A	ND	ND	ND	ND	0.5	102 %	94 %

TFT = Trifluorotoluene (Limits: 58-130)
 BB = Bromobenzene (Limits: 62-131)

ND = Not detected at or above reporting limit.
 Reporting Limit applies to all analytes.

QA/QC SUMMARY: LABORATORY CHECK SAMPLE

=====
 LCS RECOVERY, % 96 (Limits: 75-125)
 =====

CHAIN OF CUSTODY RECORD

DATE 12-6-94 PAGE 1 OF 1

PROJECT NAME Vorelco

ADDRESS 2740 Broadway
Oakland

PROJECT NO. 6935093

SAMPLED BY JC

LAB NAME Curtis & Thompkins

SAMPLE #	DATE	TIME	LOCATION	ANALYSES TO BE PERFORMED										MATRIX	NUMBER OF CONTAINERS	
				8015-4-GAS	8020-BTEX											
VW-3-1	12-6	14:06	Valks/broadway	X	X										Air	1
VW-3-2	12-6	15:35	Valks/broadway	X	X										Air	1



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REMARKS
(CONTAINER, SIZE, ETC.)

Tedlar
Tedlar

RELINQUISHED BY: (signature)	RECEIVED BY: (signature)	date	time
1. <i>[Signature]</i>			
2.	<i>T. Morrison</i>	<i>12/7/94</i>	
3.			
4.			
5.			

TOTAL NUMBER OF CONTAINERS		2
REPORT RESULTS TO:	SPECIAL SHIPMENT REQUIREMENTS	
SAMPLE RECEIPT		

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):

CHAIN OF CUSTODY SEALS	
REC'D GOOD CONDITN/COLD	
CONFORMS TO RECORD	