



November 25, 2002

Mr. Don Hwang Alameda County Health Care Services 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577 Alameda County

DEC 0 4 2002

Environmental Heave

Regarding:

4th Quarter Groundwater Sampling Report (2002)

Former Vogue Tyres Facility 240 West MacArthur Boulevard

Oakland, California

Dear Mr. Hwang,

Please find enclosed the Fourth Quarter Groundwater Sampling Report prepared by **Advanced Environmental Concepts, Inc.** (AEC) for the above referenced project/location.

Should you have any questions or require clarification on any aspects of the enclosed, please do not hesitate to contact our office at (661) 831-1646.

Respectfully yours,

Advanced Environmental Concepts, Inc.

Debbie Irwin

Office Administrator

Attachments:

Reports (1)

cc:

Mr. Warren Dodson

Mr. Glen Poy-wing

R-2941



Alameda County
DEC 0 4 2002

November 11, 2002

Mr. Warren Dodson Dodson Ltd. P.O. Box 67809 Los Angeles, California 90067-0809

Regarding:

4th Quarter Groundwater Sampling (2002)

Former Vogue Tyres Facility 240 West MacArthur Boulevard

Oakland, California

Dear Mr. Dodson:

Advanced Environmental Concepts, Inc. (AEC) is pleased to present this report of groundwater sampling performed at the former Vogue Tyres facility, 240 West MacArthur Boulevard, Oakland, California (Attachment A, Figure 1).

1.0 BACKGROUND

The former Gulf Service Station originally operated three 10,000 gallon gasoline underground storage tanks (USTs), and one 350 gallon waste oil UST. Historical records indicate that the Gulf station existed since at least 1950. The current location of the Shell Service Station, located adjacent to, and south of the subject site was a fueling station since at least 1952. The three Gulf gasoline USTs were located at the northern portion of the property, (underneath the current building), and the waste oil UST was west of the service bays. The two pump islands were west of the northern portion of the existing building. The 350 gallon waste oil UST was removed in October 1996 by All Environmental, Inc (AEI).

On October 3, 1996, AEI removed the previously identified 350 gallon waste oil UST located west of the service bays. Visual staining of waste oil range hydrocarbons was identified on the floor and sidewalls of the excavation. Confirmation soil samples collected from the excavation indicated that soil beneath the former UST emplacement were impacted with minor concentrations of petroleum hydrocarbons. At the request of ACHCS, AEI expanded the size of the excavation, then collected additional confirmation soil samples which indicated the successful removal of the contamination. Groundwater was not encountered during this excavation phase, however, due to the estimated proximity of the contamination to groundwater, a subsurface investigation was required by the County.

On January 8, 1997, AEI conducted a subsurface investigation consisting of six borings using a Geoprobe. Borings BH-1, BH-2, BH-4, and BH-6 were advanced to 20 feet below grade level (BGL), and BH-3 and BH-5 were probed to 16 feet BGL. Soil samples were collected at intervals of 5 feet, and "grab" groundwater samples were collected from inside the borings. Groundwater was identified at approximately 16 feet BGL.

The soil samples were analyzed in accordance with California Department of Health Services (CA DHS) method for total petroleum hydrocarbons as gasoline and diesel (TPH-g,d) and EPA Method 8020 for volatile aromatics (BTXE), and methyl tertiary butyl ether (MTBE). The soil samples were also analyzed for total lead, oil and grease, and poly nuclear aromatics (PNAs).

ENVIRONMENTAL CONCEPTS WITH DESIGN IN MIND.

Total lead concentrations ranged from 4.6 mg/kg to 23 mg/kg which is below the recommended action level of 50 mg/kg. MTBE was non-detect for all samples analyzed, oil and grease were only run on BH-2 and BH-3 and was less than 50 mg/kg, and the PNAs exhibited trace concentrations ranging between 1.1 and 41 μ g/kg.

The groundwater samples were analyzed in accordance with California Department of Health Services (CA DHS) method for total petroleum hydrocarbons as gasoline and diesel (TPH-g,d) and EPA Method 8020 for volatile aromatics (BTXE), and methyl tertiary butyl ether (MTBE). Groundwater samples were also analyzed for total lead, oil and grease, and poly nuclear aromatics (PNAs).

Soluble lead concentrations were below detection limits, MTBE ranged from below detection limits to 320 ug/L in BH6W, oil and grease were only run on BH2W and was less than 5 mg/L, and the PNAs exhibited non detectable concentrations.

On August 7, 1997, AEC supervised the drilling of three Geoprobe soil borings (BH-7, BH-8, and BH-9), and installation of four groundwater monitoring wells (MW-1, MW-2, MW-3, and MW-4) proximal to the western dispenser islands, and south, west, and north of the former UST emplacement. The investigative groundwater wells and Geoprobe borings were positioned to assess the vertical and lateral migration of hydrocarbons in the subsurface and to evaluate groundwater quality.

In accordance with directives issued by ACHCS in a letter dated May 16, 2000, groundwater samples collected during June 2000 were also analyzed for the presence of ether oxygenates, specifically: Tertiary Amyl Methyl Ether (TAME), Diisopropyl Ether (DIPE), Ethyl Tertiary Butyl Ether (ETBE), Tertiary Butyl Alcohol (TBA) and the following lead scavengers: Ethylene Dibromide (EDB), Ethylene Dichloride (EDC), and 1,2-Dichloroethane (1,2-DCA).

On February 13, 2001 AEC drilled, sampled, and installed four additional groundwater monitoring wells (MW-5, MW-6, MW-7, and MW-8) on the subject property and offsite in MacArthur Boulevard and Howe Street. Soil and groundwater samples were collected from the newly installed wells and reported in prior quarterly sampling reports.

In addition to the quarterly groundwater sampling AEC conducted a "hi-vac" feasibility study from October 22-26, 2001. The "hi-vac" study consisted of removing impacted soil vapor and groundwater primarily from monitoring wells MW-1, MW-2, MW-3, and MW-5.

2.0 QUARTERLY GROUNDWATER SAMPLING

The groundwater samples were collected in accordance with the following protocol.

- Depth to ground water was measured in each of the wells;
- A bailer was used to collect a water sample from the potentiometric surface to visually determine whether free hydrocarbons or a sheen can be identified;
- 3) Initial readings of pH, Temperature, and Conductivity were obtained (Attachment B);
- 4) The water samples were collected in a clean, stainless steel bailer, then transferred to 40-ml. glass VOA vials with Teflon septa. Care was exercised to ensure that no air bubbles were present in the vials;
- 5) The VOA vials were labeled, sealed with tape, wrapped in a protective covering, and placed

2

• ENVIRONMENTAL CONCEPTS WITH DESIGN IN MIND •

in an ice chest chilled with frozen Blue Ice with two (2) bailer blanks for transport to the laboratory. Chain-of-custody protocol was followed to ensure sample integrity and traceability;

The October 2002 samples were analyzed by Associated Laboratories, a California-certified 6) laboratory in Orange, California, for total petroleum hydrocarbons as gasoline (TPH-g), volatile aromatics (BTXE), and MTBE by EPA methods 8015-modified and 8021B, respectively. The laboratory reports and chain-of-custody documentation are presented in Attachment C.

TABLE 1 Analytical Results - Monitoring Wells (ppb)

Sample ID	Date	TPH-g	Benzene	Toluene	Xylenes	Ethylbenzene	MTBE
MW-1	08/8/97	1,140	110	. 16	112	15	NA
	12/3/97	ND	ND	ND	31 .	ND	NA
	03/16/98	370	8.9	ND	2.2	ND	18
	07/9/98	6,400	1,300	23	58	3.7	97
	10/19/98	2,500	360	44	150	1.3	ND
	01/19/99	2,700	1,200	28	78	140	130
	6/26/00	27,000	5,200	500	3,100	320	1,300
	12/15/00	976,000	2,490	1,420	10,100	3,640	<150
	02/14/01	NA	NA	NA	NA	NA	NA
	05/11/01	20,000	2,900	310	1,900	230	<30
 , . , ,	07/11/01	92,000	2,900	580	20,000	2,800	560
Pre "hi-vac"	10/22/01	20,000	3,700	560	4,600	410	2,600
Post "hi-vac"	10/26/01	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5
	12/19/01	3,300	200	12	43	5.7	44.
	03/18/02	4,600	820	4.4	300	100	210
•	05/24/02	1,600	100	23	190	20	7.7
	07/12/02	2,300	250	15	180	13	180
	10/25/02	1,820	222	16	59	<0.3	58
MW-2	08/08/97	5,350	108	36	144	33	NA
	12/3/97	1,600	73	ND	ND	ND	NA

Sample ID	Date	TPH-g	Benzene	Toluene	Xylenes	Ethylbenzene	MTBE
MW-2	3/16/98	3,400	830	100	240	210	870
	07/09/98	3,100	25	2.2	0.9	ND ·	1,900
	10/19/98	4,300	ND	1.2	1	ND	4,200
	01/19/99	2,900	160	8.9	7.4	6.9	2,100
	06/26/00	2,700	200	17.0	16.0	30.0	680
	12/15/00	3,020	56.7	<1.5	<1.5	<3.0	3,040
	02/14/01	NA	NA	NA	NA	NA	NA
	05/11/01	720	49	<3	<3	4.6	380
	07/09/01	8,400	350	44	78	77	550
Pre "hi-vac"	10/22/02	850	170	4.9	14	5.1	260
Post "hi-vac"	10/26/01	770	86	5.5	8.5	9.6	310
	12/19/01	1,300	9.2	<2	<2	<2	370
	03/18/02	1,300	76	3.8	15	21	460
	05/24/02	320	12	1.1	4.8	4.6	160
	07/12/02	1,300	130	1.0	5.6	9.4	420
	10/25/02	1,060	12	2.2	3.5	4.2	270
MW-3	08/08/97	8,500	450	30	106	53	NA
	12/03/97	5,200	180	6	9.3	5	NA
*** **********************************	03/16/98	1,000	6.0	ND	ND	ND	810
	07/09/98	6,400	490	57	. 78	23	220
	10/19/98	2,100	ND	ND	ND	ND	ND
	01/19/99	4,400	450	65	42	26	1,300
	06/26/00	1,700	110	13.0	13.0	34.0	96.0
	12/15/00	5,450	445	<7.5	<7.5	23.8	603
•	02/14/01	NA	NA	NA	NA	NA	NA
	05/11/01	1,900	180	12	19	<3	330
	07/09/01	10,000	830	160	260	150	560
Pre "hi-vac"	10/22/01	1,400	240	7.8	15	4.1	220
Post "hi-vac"	10/26/01	1,900	200	16	30	51	290

Sample ID	Date	ТРН-д	Benzene	Toluene	Xylenes	Ethylbenzene	MTBE
MW-3	12/19/01	5,800	93	<20	<20	31	330
	03/18/02	1,900	220	16	24	31	400
	05/24/02	1,600	110	3.4	14	29	320
	07/12/02	1,900	210	27	55	30	200
	10/22/02	3,030	178	19	36	6.2	178
	10/25/02	1,970	96	18	52	14	226
MW-4	08/08/97	ND	ND	ND	ND	ND	NA
	12/03/97	ND	ND	ND	ND	ND	NA
	03/16/98	ND	ND	. ND	ND	ND	ND
	07/09/98	ND	ND	ND	ND	ND	ND
	10/19/98	ND	ND	ND	ND	ND	ND
	01/19/99	ND	ND	ND	ND	ND	ND
	06/26/00	<50.0	<0.5	<0.5	<0.5	<0.5	<0.5
	12/15/00	<500	<0.3	<0.3	<0.3	<0.6	<0.3
	02/14/01	NA	NA	NA	NA	NA	NA
	05/11/01	<50	1.2	<0.3	1.2	0.55	2.9
	07/09/01	<5	<0.5	<0.5	<0.5	<0.5	<0.5
Pre "hi-vac"	10/22/01	<5	<0.5	<0.5	<0.5	<0.5	<0.5
Post "hi-vac"	10/26/01	<5	<0.5	<0.5	<0.5	<0.5	<0.5
·	12/19/01	<0.5	<0.5	<0.5	<0.5	<0.5	<50
	03/18/02	<50	<1	<1	<1	<1	·<1
	05/24/02	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	07/12/02	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	10/25/02	<100	<0.3	<0.3	<0.6	<0.3	<5
MW-5	02/14/01	5,660	76.9	21.1	312	47.3	<0.3
	05/11/01	22,000	2,600	480	2,700	220	<30
	07/09/01	72,000	3,500	1,100	22,000	4,300	2,500
Pre "hi-vac"	10/22/01	26,000	2,800	980	950	6,000	2,300
Post "hi-vac"	10/26/01	17,000	1,200	470	440	2,900	900

Sample ID	Date	трн-g	Benzene	Toluene	Xylenes	Ethylbenzene	MTBE
MW-5	12/19/01	<2,000	620	190	910	110	<20
	03/18/02	8,800	1,200	72	350	7.4	1,200
	05/24/02	2,000	150	38	260	21	13
	07/12/02	4,200	480	68	280	29	450
	10/25/02	5,370	236	45	39	23	135
MW-6	02/14/01	1,340	17.0	0.967	51.4	11.1	<0.3
	05/11/01	610	15	0.97	46	<0.5	<0.5
	07/09/01	2,500	130	4.7	170	53	120
Pre "hi-vac"	10/22/01	280	18	1.2	4.7	6.2	6
Post "hi-vac"	10/26/01	3,600	210	20	62	170	120
	12/19/01	5,300	69	5.6	17	14	<2
	03/18/02	71	54	4.2	17	27	8.5
	05/24/02	150	9.3	<0.5	<0.5	<0.5	1.5
	07/12/02	2,200	98	32	150	46	66
	10/25/02	786	48	5	44	2.2	16
MW-7	02/14/01	<0.005	<0.3	<0.3	<0.3	<0.3	284
	05/11/01	<50	0.75	0.77	2.4	0.48	1.1
	07/09/01	<5	<0.5	<0.5	<0.5	<0.5	<0.5
Pre "hi-vac"	10/22/01	<5	<0.5	<0.5	<0.5	<0.5	<0.5
Post "hi-vac"	10/26/01	6,000	170	550	120	110	970
	12/19/01	<50	<0.5	<0.5	0.9	<0.5	43
	03/18/02	<50	<1	<1	<1	<1	<1
	05/24/02	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	07/12/02	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	10/25/02	<100	<0.3	<0.3	<0.6	<0.3	< 5
MW-8	02/14/01	1,000	3.97	<0.3	1.63	3.78	620
	05/11/01	<50	<0.5	<0.5	<0.5	<0.5	4.4
	07/09/01	<5	<0.5	<0.5	<0.5	<0.5	<0.5
Pre-"hi-vac"	10/22/01	< 5	<0.5	<0.5	<0.5	<0.5	<0.5

Sample ID	Sample ID Date TPH-g B		Benzene	Toluene	Xylenes	Ethylbenzene	MTBE
Post "hi-vac"	10/26/01	<5	<0.5	<0.5	<0.5	<0.5	<0.5
	12/19/01	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	03/18/02	<50	<1	<1	<1	<1	<1
	05/24/02	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	07/12/02	<50	<0.5	<0.5	<0.5	<0.5	<0.5
PH.a: Total F	10/25/02	458	1.7	<0.3	<0.6	<0.3	233

TPH-g: Total Petroleum Hydrocarbons as gasoline

The current state maximum contaminant levels (MCLs) for drinking water set by the California Department of Health Services, Title 22 are as follows:

Benzene	4.00#
Tolyana	1 µg/L
Toluene	1500 µg/L
Ethylbenzene	700 µg/L
Total Xylenes	1750 µa/L
MTBE	13 ug/L

3.0 CONCLUSIONS

The groundwater sampling results continue to indicate trace to non detectable concentrations of gasoline constituents analyzed within MW-4 (upgradient well), and MW-7. MW-8 which has always exhibited trace to non-detectable gasoline concentrations, exhibited minor gasoline concentrations this sampling round. It is the opinion of AEC that this result is an anomoly. MW-7 also exhibited a marked increase in gasoline-range hydrocarbons after the vacuum extraction of groundwater in October 2001; however, this appeared to be an anomaly and has been proven out based on results from the December 19, 2001, March 18, 2002, May 24, 2002, July 12, 2002, and October 25, 2002 groundwater sampling. MW-6 exhibited trace to minor concentrations of TPH-gasoline and volatiles and is also on a decreasing trend since the "hi-vac" process in October 2001.

MW-1, MW-2, MW-3, and MW-5 continue to exhibit elevated concentrations for TPH-gasoline and volatile organic concentrations, however, the concentrations are on a stabilizing and primarily decreasing trend. The benzene concentrations have exhibited the greatest decrease in concentration since the "hi-vac" of October 2001 and MTBE has also exhibited marked decreases in concentrations. It appears that using vacuum extraction on the contaminated groundwater in MW-1 and MW-5 has reduced and stabilized the groundwater plume. The wells occasionally "spike" upwards, however, concentrations remain well below pre "hi-vac" concentrations.

Oxygenate analyses were not conducted on the groundwater samples collected in July 2002 and October 2002 quarterly sampling.

The current flow direction was calculated to be North 45° West and the gradient is calculated at 0.30 ft/100ft. Flow direction and gradient have remained relatively consistent with prior sampling rounds. The monitoring wells yield adequate water volume and cannot be bailed dry. Recharge is good in all eight monitoring wells. Also, depth to water has decreased approximately 1.5 feet during the past quarter.

4.0 RECOMMENDATION

Advanced Environmental Concepts, Inc. recommends no additional quarters of sampling for this site. The plume continues to exhibit stable asymptopic gasoline concentrations; therefore, AEC recommends closure for the site and permission to abandon the groundwater wells. AECs rationale is based on the following:

- (1) There are no drinking water supply wells in this area of Oakland. All water is imported through subsurface plumbing from outside this area; therefore, there is no opportunity for this gasoline release to affect drinking water supplies.
- (2) The plume has not migrated greater that 30-feet from the former UST and dispenser release points.
- (3) The gasoline plume in water is "perched" on a malleable "fat" clay at approximately 16-feet bgs and has exhibited no vertical migration into the clay layer. The water-bearing zone is also confined by a "fat" clay layer that extends to approximately 11-feet bgs, thereby reducing the potential for vertical vapor migration to the surface. The upper clay layer also retains the gasoline hydrocarbons rendering complete removal impossible by any remediation methods with the exception of excavation. However, the close proximity of the aboveground structures on the subject property, and numerous subsurface utility vaults and lines, negates the possibility of excavation as a viable option, therefore, there will always be some leaching of the hydrocarbons from the clay into groundwater.
- (4) The most elevated gasoline concentrations have been recorded from monitoring wells 1 and 5 which are along the north wall of the onsite car warehouse structure. The "hi-vac" method has reduced the gasoline concentrations from "free product" in wells 1 and 5 to less than 5,370 ppb of TPH-gasoline in well 5 and 1,820 ppb in well 1. In addition, benzene concentrations have decreased from a high of 5,200 ppb to the current measured result of 222 ppb in MW-1. The sampling results from the prior three quarters indicate a stabilizing and decreasing trend and that an asymptopic line is being reached.

5.0 CLOSING

Advanced Environmental Concepts, Inc. appreciates the opportunity of providing our professional services to Mr. Warren Dodson and Mr. Glen Poy-Wing. Should there be any questions or additional information required, please do not hesitate to contact our office at your convenience.

Respectfully yours,

Advanced Environmental Concepts, Inc.

Registered Environmental Assessor II #20017



All environmental site work with which Advanced Environmental Concepts, Inc. was involved, was performed under my supervision to ensure proper sampling protocol and environmental assessment. This report has been technically reviewed by the undersigned.

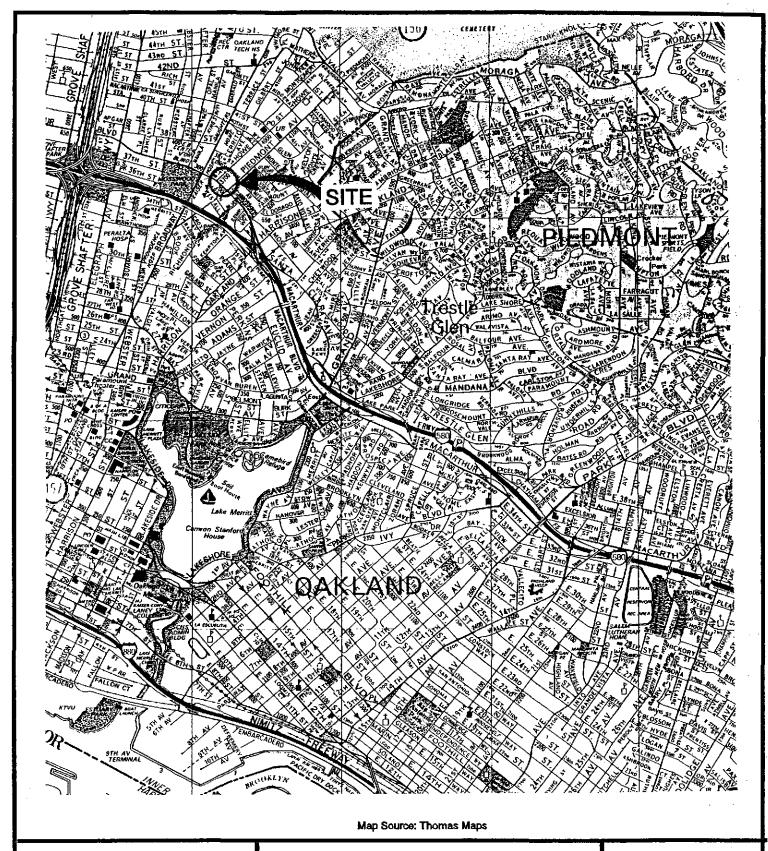
Christian Bellue

Registered Professional Engineer #C53934

Doc30JG



661/831-1646





ADVANCED ENVIRONMENTAL CONCEPTS P.O. BOX 40672 BAKERSFIELD, CA 93384

- SITE AREA -

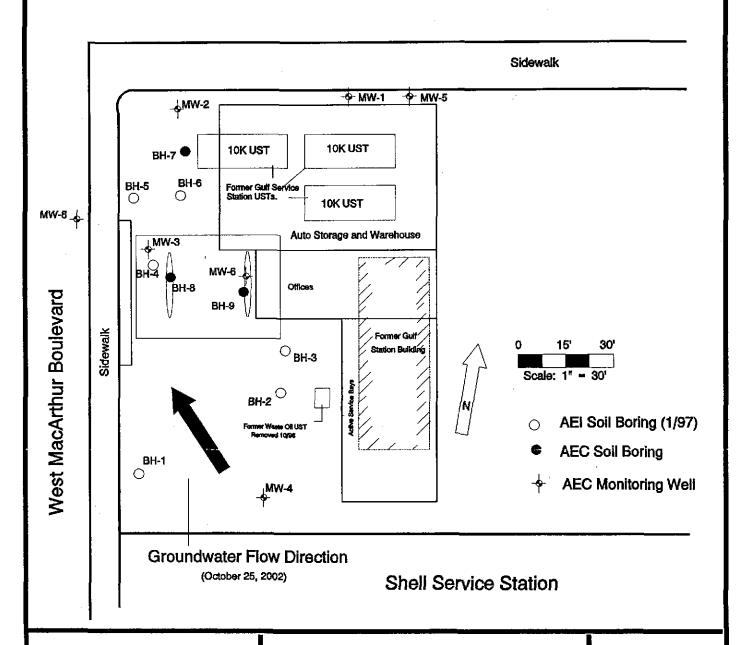
Prestige Products Corporation
240 West MacArthur Blvd.
County of Alameda - Oakland, California

FIGURE

Sidewalk

→ MW-7

Howe Street

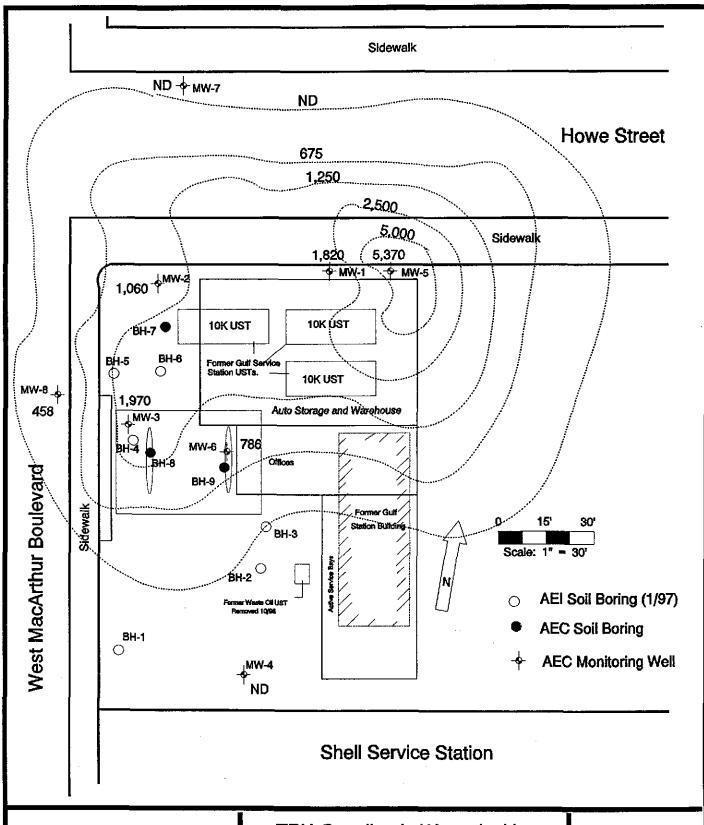




ADVANCED ENVIRONMENTAL CONCEPTS P.O. BOX 40672 BAKERSFIELD, CA 93384 - Location Map -

Former Vogue Tyres Facility
240 West MacArthur Boulevard
County of Alameda • Oakland, CA

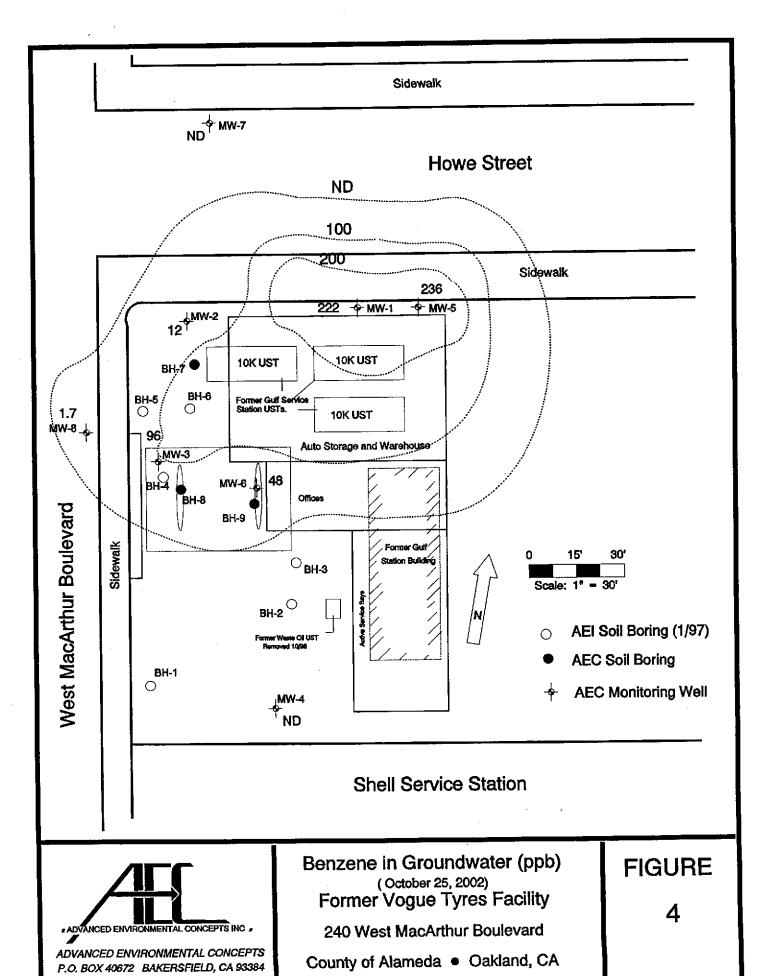
FIGURE

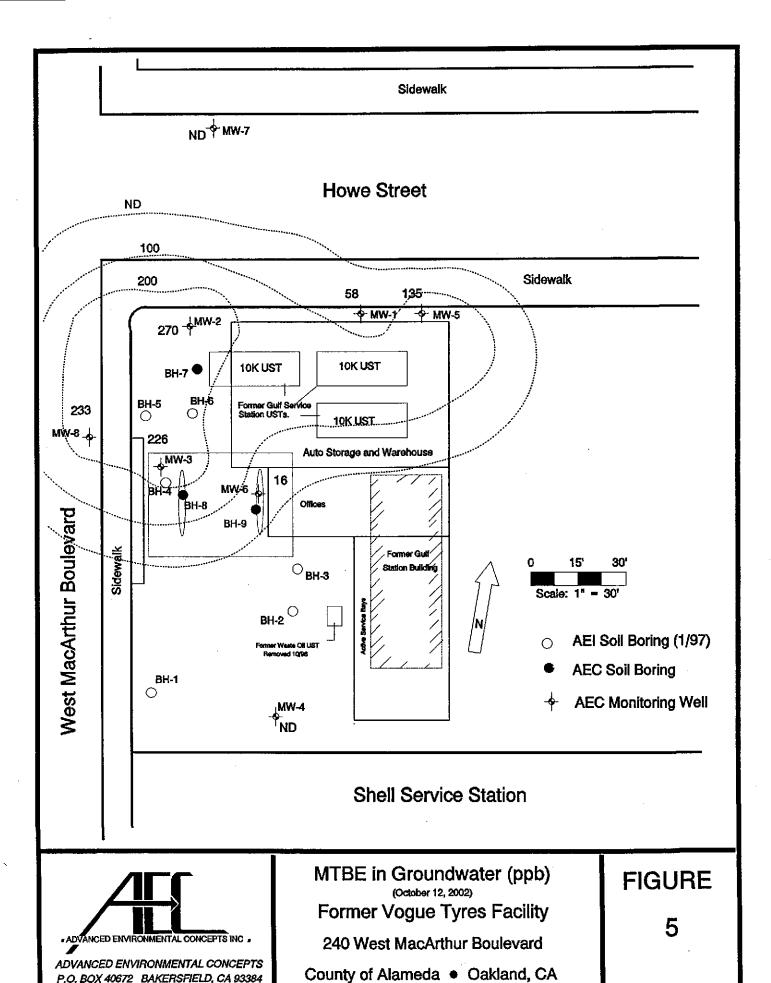




TPH-Gasoline in Water (ppb)
(October 25, 2002)
Former Vogue Tyres Facility
240 West MacArthur Boulevard
County of Alameda • Oakland, CA

FIGURE 3





Groundwater Parameters

Site Name:	Former Vogue Tyres 240 West MacArthur		AEC P.O. #: Project #:		
	Oakland, CA		Date:	Octobe	r 25, 2002
TIME	GALLONS PURGED	CONDUCTIVITY	TEMPERATURE	pН	TURBIDITY
		MONITORING	WELL # _1_		
		1,570	59.7	6.43	11.4
		MONITORING	WELL # _2_		
		1,110	61.6	6.47	10.2
		MONITORING	WELL # <u>3</u>		
		1,040	62.2	6.52	14.6
		<u>.</u>			
				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
3 Casing Volu	imes				
_	66 gal/ft) (ft)	2" Scr	reen = (.17 gal/ft) (ft) = _	
MW#MW-	1 Depth to Ground	dwater = <u>17.03'</u> Con	rected Depth: 17.26'	Survey: 4.3	38'
MW #MW-	2 Depth to Ground	dwater = <u>16.54'</u> Corr	ected Depth: _18.19'	Survey: <u>5.8</u>	30 '
MW # <u>MW</u> -	3 Depth to Ground	dwater = <u>15.44'</u> Corr	ected Depth: 17.26'	Survey: <u>5.9</u>	97'

Groundwater Parameters

Site Name: Location:	Former Vogue Tyres 240 West MacArthur Oakland, CA		AEC P.O. #: Project #: Date:	October	25, 2002
TIME	GALLONS PURGED	CONDUCTIVITY	TEMPERATURE	pН	TURBIDITY
		MONITORING	WELL # _4_		
		1,260	64.2	6.55	15.2
		MONITORING	WELL # _ 5_		
		1,310	60.1	6.34	14.8
		MONITORING	WELL # _6_		
		1,650	63.1	6.52	13.4
3 Casing Volur 4" Screen = (.6	mes 66 gal/ft) (ft)	= 2" Scre	een = (.17 gal/ft) (ft) =	
MW # <u>MW-4</u>	•		ected Depth: <u>17.26'</u> S		

Depth to Groundwater = 17.18' Corrected Depth: 17.18' Survey: 4.15'

Depth to Groundwater = 16.24' Corrected Depth: 17.23' Survey: 5.14'

MW # <u>MW-6</u>

Groundwater Parameters

Site Name: Location:	Former Vogue Tyres 240 West MacArthur Oakland, CA		AEC P.O. #: Project #: Date:	October 2	25, 2002
TIME	GALLONS PURGED	CONDUCTIVITY	TEMPERATURE	рН	TURBIDITY
	:	MONITORING	WELL # _7_		
		1,180	60.3	6.54	14.2
		MONITORING	WELL#_8		
		1,210	62.0	6.49	13.8
		MONITORING	WELL#		
	T			· · · · · · · · · · · · · · · · · · ·	
					
3 Casing Volun 4" Screen = (.6	nes 6 gal/ft) (ft)	= 2" Scr	een = (.17 gal/ft) (ft) =	
MW# <u>MW-7</u>	Depth to Ground	water = <u>16.36'</u> Corre	ected Depth: <u>12.45'</u>	Survey: <u>5.24'</u>	
MW # <u>MW-8</u>	·		ected Depth: <u>17.51'</u>		
MW #	Depth to Ground	water = Corre	ected Depth:	Survey:	



ASSOCIATED LABORATORIES

806 North Batavia - Orange, California 92868 - 714/771-6900

FAX 714/538-1209

CLIENT Advanced Environmental Concepts Inc.

(10022)

LAB REQUEST

101419

ATTN: Jonathan Buck

REPORTED

10/31/2002

4400 Ashe Road

#206

Bakersfield, CA 93313

RECEIVED

10/26/2002

PROJECT

Vogue Tyres

240 W. Mac Arthur Blvd., Oakland

SUBMITTER

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
388192	MW-7 10/22
388193	MW-4 10/22
388194	MW-8 10/22
388195	MW-2 10/22
388196	MW-3 10/22
388197	MW-6 10/22
388198	MW-5 10/22
388199	MW-1 10/22
388200	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

The reports of the Associated Laboratones are confidential property of our clients and may not be reproduced or used for publication in part or in full without our written permission. This is for the mutual protection of the public, our clients, and ourselves. TESTING & CONSULTING Chemical Microbiological

Environmental

Client: Advanced Environmental Concepts Inc.

Matrix: WATER Client Sample ID: MW-1 10/22

Date Sampled: 10/22/2002

Time Sampled: Sampled By:

Analyte Result DF DLR Units Date/Analyst

8021B BTEX + MTBE

Benzene	754	20	6.0	ug/L	10/30/02	LZ
Ethyl benzene	5.9	5	1.5	ug/L	10/30/02	LZ
Methyl t - butyl ether	139	5	25.0	ug/L	10/30/02	LZ
Toluene	12	5	1.5	ug/L	10/30/02	LZ
Xylene (total)	195	5	3.0	ug/L	10/30/02	LZ

8015M - Total Petroleum Hydrocarbons

Gasoline	4300	5	500.0	ug/L	10/30/02	LZ
Surrogates				Units	Control	Limits
a,a,a-Trifluorotoluene	127			%	55 - 156	

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Analytical Results Report



Order #: 388195 Matrix: WATER Client: Advanced Environmental Concepts Inc.

Client Sample ID: MW-2 10/22

Date Sampled: 10/22/2002

Time Sampled: Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst

8021B BTEX + MTBE

Benzene	27	ì	0.3	ug/L	10/30/02	LZ
Ethyl benzene	2.2	1	0.3	ug/L	10/30/02	LZ
Methyl t - butyl ether	204	10	50.0	ug/L	10/30/02	LZ
Toluene	3.1	1	0.3	ug/L	10/30/02	LZ
Xylene (total)	4.9	1	0.6	ug/L	10/30/02	LZ

8015M - Total Petroleum Hydrocarbons

Gasoline	683	Units Control Li	LZ		
Surrogates			Units	Control	Limits
a,a,a-Trifluorotoluene	128	<u> </u>	%	55 - 156	

 $DLR = Detection \ limit$ for reporting purposes, $ND = Not \ Detected \ below \ indicated \ detection \ limit$, $DF = Dilution \ Factor$



Analytical Results Report



a,a,a-Trifluorotoluene

Client: Advanced Environmental Concepts Inc.

Matrix: WATER

Client Sample ID: MW-3 10/22

Date Sampled: 10/22/2002 Time Sampled:

Sampled By:

Anal	yte	Result	DF	DLR	Units	Date/Analys
B BTEX + I	МТВЕ					
Benzen	16	178	5	1.5	ug/L	10/30/02 LZ
Ethyl b	enzene	6.2	1	0.3	ug/L	10/30/02 LZ
Methyl	t - butyl ether	178	5	25.0	ug/L	10/30/02 LZ
Toluen	e	19	1	0.3	ug/L	10/30/02 LZ
Xylene	(total)	361	1	0.6	ug/L	10/30/02 LZ

264*

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



55 - 156

Order #: 388193 Matrix: WATER Client: Advanced Environmental Concepts Inc.

Client Sample ID: MW-4 10/22

Date Sampled: 10/22/2002

a,a,a-Trifluorotoluene

Time Sampled: Sampled By:

112

Analyte	Result	DF	DLR	Units	Date/Analyst
8021B BTEX + MTBE					
Benzene	ND	1	0.3	ug/L	10/30/02 LZ
Ethyl benzene	ND	1	0.3	ug/L	10/30/02 LZ
Methyl t - butyl ether	ND	1	5	ug/L	10/30/02 LZ
Toluene	ND	1	0.3	ug/L	10/30/02 LZ
Xylene (total)	ND	1	0.6	ug/L	10/30/02 LZ
8015M - Total Petroleum Hydrocarbons					
Gasoline	ND	1	100	ug/L	10/30/02 LZ
Surrogates				Units	Control Limits

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



55 - 156

Client: Advanced Environmental Concepts Inc.

Matrix: WATER

Date Sampled: 10/22/2002

Client Sample ID: MW-5 10/22

Time Sampled: Sampled By:

led By:					
Analyte	Resu	ilt DF	DLR	Units	Date/Analyst

8021B BTEX + MTBE

Benzene	1220	50	15.0	ug/L	10/30/02	LZ
Ethyl benzene	137	20	6.0	ug/L	10/30/02	LZ
Methyl t - butyl ether	871	50	250.0	ug/L	10/30/02	LZ
Toluene	557	20	6.0	ug/L	10/30/02	LZ
Xylene (total)	3210	50	30.0	ug/L	10/30/02	LZ

8015M - Total Petroleum Hydrocarbons

Gasoline	Ţ	28000	20	2000.0	ug/L	10/30/02	LZ
Surrogates					Units	Control	Limits
a,a,a-Trifluorotoluene	T	144			%	55 - 156	

 $DLR = Detection \ limit$ for reporting purposes, $ND = Not \ Detected \ below \ indicated \ detection \ limit$, $DF = Dilution \ Factor$







Client: Advanced Environmental Concepts Inc.

Matrix: WATER Client Sam

Date Sampled: 10/22/2002

Time Sampled: Sampled By:

Client Sample ID: MW-6 10/22

	Analyte	Result	DF	DLR	Units	Date/An	alyst
8021E	BTEX + MTBE						
	Benzene] 3.0	1	0.3	ug/L	10/30/02	LZ
	Ethyl benzene	1.7	1	0.3	ug/L	10/30/02	LZ
	Methyl t - butyl ether	7.8	1	5	ug/L	10/30/02	LZ
	Toluene	1.5	1	0.3	ug/L	10/30/02	LZ
	Xylene (total)	1 3.81	1	0.6	ug/L	10/30/02	LZ

8015M - Total Petroleum Hydrocarbons

Gasoline	<u> </u>	622	1	100	ug/L	10/30/02	LZ
Surrogates				-	Units	Control	Limits
a,a,a-Trifluorotoluene		143			%	55 - 156	

 $DLR = Detection\ limit\ for\ reporting\ purposes,\ ND = Not\ Detected\ below\ indicated\ detection\ limit,\ DF = Dilution\ Factor$





Client: Advanced Environmental Concepts Inc.

Matrix: WATER

Client Sample ID: MW-7 10/22

Date Sampled: 10/22/2002 Time Sampled: Sampled By:

Analyte		Result	DF	DLR	Units
ed By:					

8021B BTEX + MTBE

Benzene	ND	1	0.3	ug/L	10/30/02	LZ
Ethyl benzene	ND	1	0.3	ug/L	10/30/02	LZ
Methyl t - butyl ether	ND	1		ug/L	10/30/02	LZ
Toluene	ND	1	0.3	ug/L	10/30/02	LZ
Xylene (total)	ND	1	0.6	ug/L	10/30/02	LZ

8015M - Total Petroleum Hydrocarbons

Gasoline	 ND	1	100	ug/L	10/30/02	LZ
Surrogates				Units	Control	Limits
a,a,a-Trifluorotoluene	87			%	55 - 156	

 $DLR = Detection \ limit$ for reporting purposes, $ND = Not \ Detected \ below \ indicated \ detection \ limit$, $DF = Dilution \ Factor$





Date/Analyst

Order #: 388194 Matrix: WATER

Client: Advanced Environmental Concepts Inc.

Client Sample ID: MW-8 10/22

Date Sampled: 10/22/2002

Toluene

Xylene (total)

Time Sampled: Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
8021B BTEX + MTBE					
Benzene	ND	1	0.3	ug/L	10/30/02 LZ
Ethyl benzene	ND	1	0.3	ug/L	10/30/02 LZ
Methyl t - butyl ether	ND	1	5	ug/L	10/30/02 LZ

ND

ND

1

1

0.3

0.6

ug/L

ug/L

10/30/02

10/30/02

LZ

LZ

8015M - Total Petroleum Hydrocarbons

Gasoline	ND	1	100	ug/L	10/30/02	LZ
Surrogates				Units	Control I	imits
a,a,a-Trifluorotoluene	88			%	55 - 156	

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: | 388200 Client: Advanced Environmental Concepts Inc.

Matrix: WATER

Client Sample ID: Laboratory Method Blank

Date Sampled: Time Sampled: Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst	
8021B BTEX + MTBE						
Benzene	ND	1	0.3	ug/L	10/30/02 LZ	-
Ethyl benzene	ND	1	0.3	ug/L	10/30/02 LZ	-
Methyl t - butyl ether	ND	1	5	ug/L	10/30/02 LZ	-
Toluene	ND	1	0.3	ug/L	10/30/02 LZ	-
Xylene (total)	ND	1	0.6	ug/L	10/30/02 LZ	-

8015M - Total Petroleum Hydrocarbons

Gasoline		ND	1	100	ug/L	10/30/02	LZ
Surrogates					Units	Control	Limits
a,a,a-Trifluorotoluene		89			%	55 - 156	

 $DLR = Detection \ limit \ for \ reporting \ purposes, \ \ ND = Not \ Detected \ below \ indicated \ detection \ limit, \ DF = Dilution \ Factor$







ASSOCIATED LABORATORIES

LCS REPORT FORM

QC Sample:

LCS 102902

Matrix:

WATER

Prep. Date:

10/29/02

Analysis Date

10/29/02

ID#'s in Batch:

LR 101419

LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT

Reporting Units =

ug/L

Test	Method	Method Blank	Spike Added	LCS Spike	LCSD Spk. Dup	%Rec LCS	%Rec LCSD	RPD
ТРН	8015M-G	ND	500	511	468	102	94	9

ND = Not Detected

LCS Result = Lab Control Sample Result

%REC-LCS & LCSD = Percent Recovery of LCS Spike & LCS Spike Duplicate

RPD = Relative Percent Difference of LCS Spike and LCS Spike Duplicate

-	%REC LIMITS	_	70	-	130	
i	RPD LIMITS	=	30			

SURROGATE RECOVERY

Sample No.	AAA-TFT
QC Limit	55-156
Method Blank	89
LCS	134
LCSD	126

AAA-TFT = a, a, a-Trifluorotoluene

ASSOCIATED LABORATORIES

LCS REPORT FORM

QC Sample:

LCS 102902

Matrix:

WATER

Prep. Date:

10/29/02

Analysis Date:

10/29/02

LAB ID#'s in Batch:

LR 101419

REPORTING UNITS = ug/L

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

		PREP. BLK	LCS	LCSD			
Test	Method	Value	Result	TRUE	%Rec	Result	%Rec
Benzene	8021	ND	22	20	110	22	110
Toluene	8021	ND	22	20	110	22	110
Ethylbenzene	8021	ND	24	20	120	24	120
Xylenes	8021	ND	62	60	103	59	98

LCS = Lab Control Sample Result

TRUE = True Value of LCS

L.LIMIT / H.LIMIT = LCS Control Limits

L.Limit	H.Limit
80%	120%

SURROGATE RECOVERY

Sample No.	AAA-TFT
QC Limit	55-156
Method Blank	89
LCSD	101
LCSD	98

AAA-TFT = a, a, a-Trifluorotoluene

CHAIN-OF-CUSTODY RECORD (DUML9

AEC AEC	Date / 10/12	102			·	Analys	sis Req	ueste	d		LAB Project #
	Client Project	#			301						Page of (
Project Name VD GUE TYVES Project Address 240 W. MacArthur Blvd Oakland, CA Sampler's Signature Amultonul	Turn Around 24-Hour- 48-Hour- Mobile La	Rush	Laboratory Sample Number	Sample Matrix: Soil(S) Sludge(SL), Aqueous(A)	~					Number of Containers	Lab Use Only. Sample Condition as received: Chilled Sealed Ves No
Sample Location	Date	Time	Labo Samı Num	Sam	HAL					E S	Container / Comments
MW-7	10/22/02			A						a a	
MW-4	W			A						2	
MW-8	1(A	/					2	
MW-2	II .			A	/					2	
Mw-3	1/			4	\					2	
MW-6	11			4	\					2	-
MW-5	1(·		A	1					a	
MW-1	10/22/01		-	A	/					4	
• Relinquished by: (Signature)	Date 10/25/02	2 Received b	Signature)	izza	<u> </u>		1	Date 2	10260	16	Total Number of Containers
Company	Time 1660	h	5502.	Lab	5				0227		Æ
Relinquished by: (Signature)	Date	Z	y Laboratory: ((Signatu	ıre)			Date 624	8241		DVANCED ENVIRONMENTAL CONCEPTS INC-
Company:	Time	Company:				 		Time			831-1646 4400 ASHE ROAD, #206 661/831-1771 BAKERSFIELD, CA 93313 E-mall: advanced @fightspeed.net