

## **Epigene International**

**CONSULTING GEOLOGISTS** 

September 29, 1993

Bernabe and Brinker, Inc. 1281 30th Street Oakland, CA 94608

Attn: Mr. James Brinker

Subject: Progress Report and Results of Groundwater Sampling and

Analyses, 2301 East 12th Street, Oakland, July

September, 1993

Dear Mr. Brinker:

The site is located at the southwest corner of the intersection of East 12th Street and 23rd Ave. The location of the site is shown on the attached location map (Figure 1). As per our agreement, the following tasks were carried out at the subject site in this quarter:

- Monitoring of groundwater levels at the site as required as part of the overall site monitoring;
- Calculating the groundwater gradient;
- 3) Quarterly sampling and analyses of the groundwater from the three wells on site as required by Alameda County. The water sample from each well was tested for TPH as gasoline with BTEX, TPH as diesel fuel, EPA method 8010, total oil and

grease and the five Tri-regional metals (Cd, Cr, Pb, Ni and Zn).

The groundwater levels measured for the three wells are listed in Table 2. The relative elevations for the top of casing for the wells were first surveyed on May 26th. The top of casing for MW-1 was assigned an assumed elevation of 10.00 feet. The City of Oakland does not have any benchmarks in the vicinity of the site. The relative elevations are shown in Table 2.

The relative groundwater elevations for August are also listed along with those of the previous quarters for comparison. Based on these data, the groundwater gradient was calculated.

The direction of the groundwater gradient for the August data is westnorthwest as shown on the gradient map (Figure 3). The slope of the gradient is calculated to be 0.011 ft/ft.

The well locations are shown on the Site Plan (Figure 2). Wells MW-2 and MW-3 were purged, by bailing, of approximately 7 gallons of water and a groundwater sample was collected using a disposable bailer for each well. Because of the extended depth of MW-1, it was purged of approximately 15 gallons of water. MW-1 was sampled as discussed above. The samples were placed in a cooled ice chest and transported to a Certified Laboratory for analyses following chain of custody procedures. A copy of the chain of custody form is included in Appendix A. The purge water was placed in a 55 gallon drum that was left on site.

Prior to purging, each well was checked for the presence of floating product. No floating product was observed in any of the wells. Both MW-2 and MW-3 had a sheen observed on the purge water.

The laboratory results are attached to this report as Appendix A and are summarized on Table 1. They indicate that relatively high places of TPH as both gasoline and diesel continue to be present in all three wells. BTEX compounds are also present in the groundwater samples from each of the wells. The results of the 8010 analyses for the three wells were relatively insignificant and the data are included in Appendix A.

Oil and grease in all three wells were reported to be "non-detect" (Appendix A).

The metals in MW-2 and MW-3 were "nondetect". MW-1 had a reported lead of 0.005 ppm, nickel of 0.37 ppm and zinc of 0.12 ppm. These data are listed in Appendix A.

Weekly purging of the three wells previously carried out by Bernabe and Brinker as an interim remediation to remove the floating product in MW-2 and help lower the concentration of contamination present in all three of the wells was not continued in this quarter.

Other activities concerning this site that occurred during this quarter are listed below.

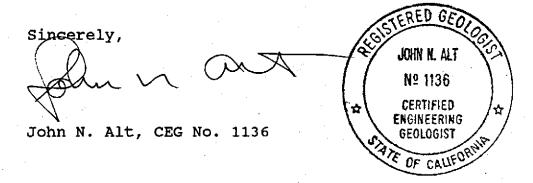
- 1) A tank closure report documenting, to the extent possible, the removal of the four tanks on site in December of 1990 and February 1991 was completed and sent to Alameda County Dept. of Environmental Health and the Regional Water Quality Control Board.
- 2) A workplan for the installation of additional wells on and adjacent to the site was submitted to the County by Bernabe and Brinker on July 15, 1993. The workplan was not accepted by the County.

3) A Pre-Enforcement Review Panel was convened on August 31, 1993, at the Alameda County Dept. of Environmental Health Offices in Oakland. The property owner was represented by Mr. Robert Shapiro, Esq., Mr. James Brinker of Bernabe and Brinker, and the undersigned. The panel included staff of the Alameda County Dept. of Environmental Health, Alameda County DA's Office, and the RWQCB. The outcome of the meeting was that an Order would be issued by the RWQCB regarding further characterization and remediation of the site. That order was issued on September 27, 1993.

The documents requested within the order will be prepared and transmitted under separate cover as per the schedule.

4) Although logistical arrangements were made and various permits were obtained for additional investigations for this quarter, the work was not authorized by the County and consequently no additional field work was carried out.

It is recommended that the quarterly sampling and monitoring of groundwater levels in the three existing wells continue. The purging of the wells should continue until a more permanent remediation system is installed. It is a pleasure to continue to work with you on this project. Should you have any questions please contact the undersigned.



cc. Mr. Barney Chan, Alameda County Dept. of Environmental Health

Mr. Rich Hiett, RWQCB

Mr. Robert Shapiro, Esq.

TABLE 1 - SUMMARY OF GROUNDWATER ANALYSES RESULTS IN PARTS PER MILLION (ppm)

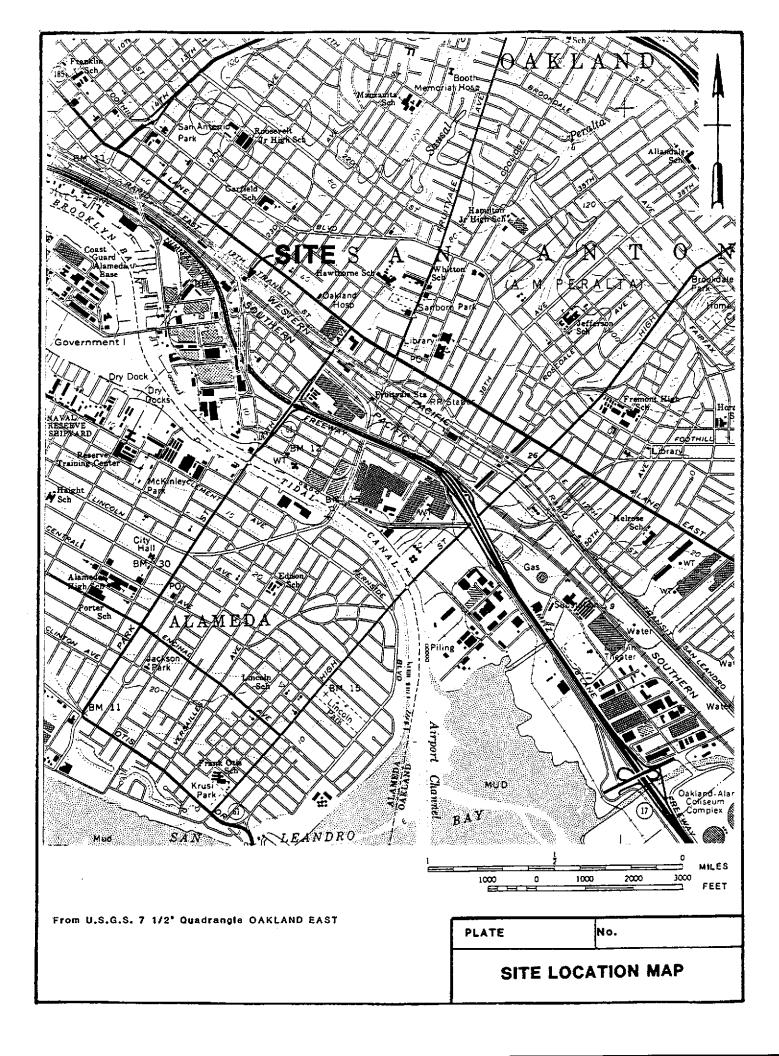
2301 12 Street, Oakland

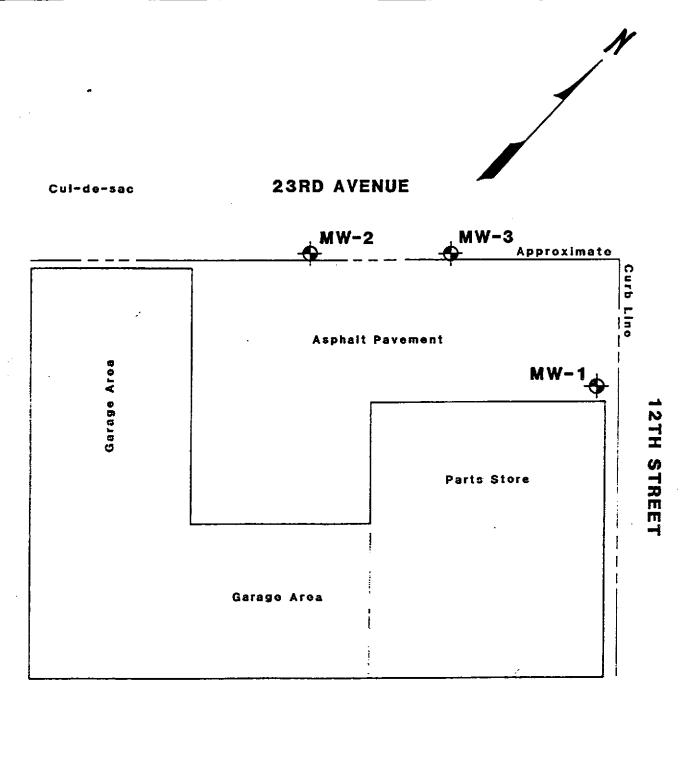
DATE	WELL NO.	OIL AND GREASE	TPH DIESEL	TPH GASOLINE	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENE
7/27/92*	MW-1	NA	0.360	1.800	0.600	0.005	0.013	0.018
	MW-2	NA	1.500	20.000	0.110	0.006	0.037	0.039
	MW-3	NA	4.000	8.800	0.150	0.009	0.088	0.013
11/6/92	MW-1	NA	0.670	8.000	2.400	0.006	0.041	ND
	MW-2	NA	17.000	19.000	2.800	0.120	0.790	1.100
	MW-3	NA	21.000	10.000	0.078	0.003	0.830	0.013
3/02/93	MW-1	NA	1.100	5.600	3.800	ND	0.120	ND
	MW-2	NA	37.000	14.000	3.800	0.110	0.950	1.100
	MW-3	NA	9.300	3.900	0.120	ND	0.240	0.037
5/26/93	MW-1	NA	1.700	4.800	3.400	0.044	0.140	0.150
	MW-2	32.000	6.000	11.000	5.200	0.140	1.000	0.990
	MW-3	NA	4.400	7.400	0.570	0.004	0.640	0.008
8/27/93	MW-1	ND	1.200@	8.4000	2.3009	0.035	0.180	0.057
	MW-2	ND \	5.400	16.00	1.700	0.120	0.640	0.710
	MW-3	ND `	8.200	7.100	6.180	0.015	0.110	0.0094

Table 2 - Summary of groundwater elevation measurements 2301 East 12th Street, Oakland

DATE	MEASUREMENT	MW-1	MW-2	MW-3
5/26/93	ELEVATION TOP OF CASING*	10.00 ft.	8.23 ft.	8.72 ft.
11/06/92	DEPTH TO GROUNDWATER	9.15 ft.	7.30 ft.	7.59 ft.
11/06/92	GROUNDWATER ELEVATIONS	0.85 ft.	0.93 ft.	1.13 ft.
3/02/93	DEPTH TO GROUNDWATER	7.45 ft.	5.71 ft.	6.07 ft.
3/02/93	GROUNDWATER ELEVATIONS	2.55 ft.	2.52 ft.	2.65 ft.
5/26/93	DEPTH TO GROUNDWATER	8.05 ft.	6.28 ft.	7.22 ft.
5/26/93	GROUNDWATER ELEVATIONS	1.95 ft.	1.95 ft.	1.50 ft.
8/27/93	DEPTH TO GROUNDWATER	9.06 ft.	7.98 ft.	8.21 ft.
8/27/93	GROUNDWATER ELEVATIONS	0.94 ft.	0.25 ft.	0.51 ft.
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<sup>\*</sup> Based on an assumed elevation of 10.00 ft. for MW-1





Map derived from

Artesian Environmental Consultants,

Mill Valley, California

July, 1992

Approximate Scale: 1 Inch equals 20 Feet

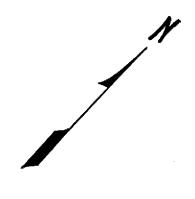
PLATE 2		· _,,=	
	SITE	MAP	

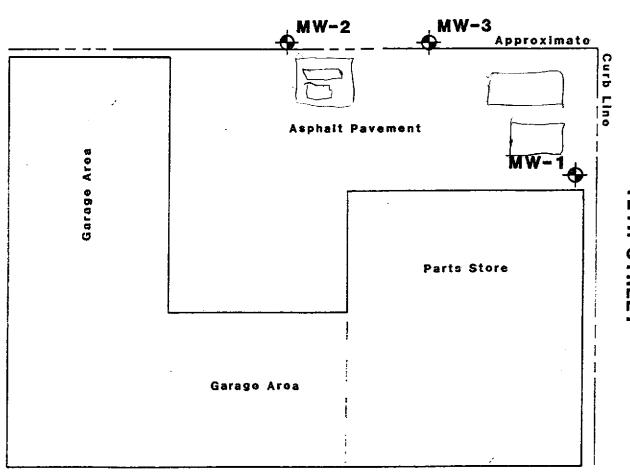




Cul-de-sac

## 23RD AVENUE





Map derived from Artesian Environmental Consultants, Mill Valley, California July, 1992

Gradient based on data from 8/27/93

Approximate Scale: 1 Inch equals 20 Feet

PLATE 3

GROUNDWATER GRADIENT

## **APPENDIX A**

## LABORATORY RESULTS

McCAMPBELL ANALYTICAL INC. 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Epigene Inter	Epigene International		oject ID:#93	3-008; 2301 ]	E. 12th St.	Date Sampled: 08/27/93				
38750 Paseo	Padre Pkwy,					Date Receiv	ed: 08/27/9	3		
Fremont, CA			ntact: John A	Alt		Date Extract	ted: 08/30-0	8/31/93		
		Client P.C	<b>D</b> :			Date Analyz	ed: 08/30-0	8/31/93		
T D A 44 - 4- 60	Gasoline Ran 30, modified 2015, and	ge (C6-C1	2) Volatile H	ydrocarbon	s as Gasol	ine*, with B	TEX*			
Lab ID	Client ID	Matrix	TPH(g) <sup>+</sup>	Benzene	Toluene	Ethylben- zene	Xylenes	% Rec. Surrogate		
32006	MW-1	w	8400,a	2300	35	180	57	127#		
32007	MW-2	w	16,000,a	1700	120	640	710	97		
32008	MW-3	w	7100,c,b,h	180	15	110	9.4	106		
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							<i>(</i>			
	mit unless other-	w	50 ug/L	0.5	0,5	0.5	0.5			
	ND means Not steeted	S 1.0 mg/kg 0.005 0.003			0.005	0.005	0.005			

<sup>\*</sup>water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

<sup>#</sup> chittered chromatogram; sample peak co-clutes 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 are significant; no recognizable pattern; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present.

 McCAMPBELL ANALYTICAL INC.
 110 2nd Avenue South, #D7, Pacheco, CA 94553

 Tele: 510-798-1620
 Fax: 510-798-1622

Epigene International		Client Pro	ject ID: 93-008; 2301 E. 12th St.	Date Sampled: 08/27/93				
38750 Pasco P	adre Pkwy, # B4			Date Received: 08/27/93				
Fremont, CA	94536	Client Cor	ntact: John Alt	Date Extracted: 0	9/03/93			
		Client P.C	):	Date Analyzed: 0	9/04-09/05/93			
775 A of a day	Diesel I	Range (C10	0-C23) Extractable Hydrocarbons fornia RWQCB (SF Bay Region) method	as Diesel *	7TD/3510)			
Lab ID	Client ID	Matrix	TPH(d) <sup>+</sup>		% Recovery Surrogate			
32006	MW-1	w	1200,d,a		112			
32007	MW-2	w	5400,d,a		#			
32008	MW-3	w	8200,d,a		#			
	······································							
					· · · · · · · · · · · · · · · · · · ·			
				,				
	mit unless other-	w	50 ug/L		,			
wise stated; De	ND means Not tected	S	10 mg/kg					

<sup>\*</sup>water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; surrogate and sample peaks co-elute or surrogate peak is on elevated baseline

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 diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) modified diesel?; light(cL) or heavy(cH) diesel compounds are significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel(?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible phase is present.

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Epigene International		Client Pro	oject ID: 93-008; 2301 E. 12th St.	Date Sampled: 08/27/93				
38750 Paseo I	Padre Pkwy, # B4			Date Received: 08/27/93				
Fremont, CA	94536	Client Co	ntact: John Ait	Date Extracted: 09/03/93				
		Client P.C	<b>)</b> :	Date Analyzed: 09/03/93				
EPA methods 41			Dil & Grease (with Silica Gel Clea ds 5520 B/E&F or 503 D&E for solids and					
Lab ID	Client ID	Matrix	Oil & Grease					
32006	MW-1	w	ND	_				
32007	MW-2	w	ND					
32008	MW-3	w	ND					
	<u>``</u>							
1								
Detection Lir	nit unless other-	w	5 mg/L					
	ND means Not tected	s	50 mg/kg					
*water sample	s are reported in 1	ng/L and s	oils in mg/kg					

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC. 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Epigene International	Client Project ID:	93-008; 2301 E. 12th	St. Date Sampled:	Date Sampled: 08/27/93									
38750 Paseo Padre Pkwy, # B4			Date Received:	08/27/93 -									
Fremont, CA 94536	Client Contact: Joh	n Alt	Date Extracted	Date Extracted: 08/29/93									
	Client P.O:		Date Analyzed:	08/29/93									
	Volatile Halocarbons												
EPA method 601 or 8010	22000	22007	32008										
Lab ID	32006	32007	MW-3										
Client ID	MW-1	MW-2	W										
Matrix	W	W		Concentration*									
Compound <sup>(1)</sup>	Concentration*	Concentration*	Concentration*	Concentration									
Bromodichloromethane	ND	ND_	ND < 5	l									
Bromoform <sup>(2)</sup>	ND	ND	ND< 5										
Bromomethane	ND	ND	ND< 5	1									
Carbon Tetrachloride (3)	ND	ND	ND< 5										
Chlorobenzene	ND	10	ND< 5										
Chloroethane	ND	1.3	ND< 5										
2-Chloroethyl Viny l Ether (4)	ND	ND	ND< 5	<u> </u>									
Chloroform (5)	ND	ND	ND< 5										
Chioromethane	ND	ND	ND< 5										
Dibromochloromethane	ND	ND	ND< 5										
1,2-Dichlorobenzene	ND	ΝD	ND< 5										
1,3-Dichlorobenzene	ND	ND	ND< 5										
1.4-Dichlorobenzene	ND	ND	ND< 5										
1,1-Dichloroethane	ND	ND	ND< 5										
1,2-Dichloroethane	ND	0.66	ND< 5	ţ									
1.1-Dichloroethene	ND	ND	ND< 5										
cis 1,2-Dichloroethene	1.1	3.2	ND< 5										
trans 1,2-Dichloroethene	ND	ND	ND< 5										
1,2-Dichloropropane	ND	ND	ND< 5										
cis 1,3-Dichloropropene	ND	ND	ND< 5										
trans 1,3-Dichloropropene	ND	ND	ND< 5										
Methylene Chloride <sup>(6)</sup>	ND	ND	ND< 5										
1.1.2.2-Tetrachloroethane	ND	ND	ND< 5	1									
Tetrachloroethene (7)	5.4	ND	ND< 5										
1,1,1-Trichloroethane	ND	ND	ND< 5										
1,1,2-Trichloroethane	ND	ND	ND< 5										
Trichloroethene	ND	ND	16										
Trichlorofluoromethane	ND	ND	ND< 5										
Vinyl Chloride (8)	ND	2.2	ND< 5										
% Recovery Surrogate	98	99	100										
	70	77	v. high TPH										
Comments	<u></u>	·	A. ITER I I II										

Detection limit unless otherwise stated; water, ND< 0.5ug/L; soil, ND< 10ug/kg.

<sup>\*</sup> water samples are reported in ug/L, soil samples in ug/kg and all TCLP extracts in ug/L

<sup>(1)</sup> IUPAC allows "yiene" or "ene"; ex ethylene or ethono; (2) tribromomethane; (3) tetrachloromethane; (4) (2-chloroethoxy) ethene; (5) trichlormethane; (6) dichloromethane; (7) perchlorethylene, PCE or perclor; (8) chloroethene; (9) unidentified peak(s) present.

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553 Tele: 510-798-1620 Fax: 510-798-1622

Epigene Inter 38750 Paseo I	rnational Padre Pkwy, # B4	ľ	oject ID: 93-00		Date Sampled: 08/27/93  Date Received: 08/27/93					
Fremont, CA	94536	Client Contact: John Alt					Extracted: 0	9/01/93		
		Client P.C	);			Date	Analyzed: 09	9/01-09/02	2/93	
			LUFT	Vietais*					<del>r.</del>	
	*(	EPA analy	ical methods	239.2,7420 <sup>+</sup>	213.1,	7130	218.1,7190	249.1,7520	289.1,7950	
Lab ID	Client ID	Matrix	Extraction	Lead*	Cadm	ium*	Chromium	Nickel*	Zinc*	
32006	MW-1	W	TTLC	0.005	N	)	ND	0.37	0.12	
32007	MW-2	w	TTLC	ND	N	)	ND	ND	ND	
32008	MW-3	W	TTLC	ND	N	)	ND	ND	ND	
				<u> </u>						

W

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 $0.005 \mathrm{mg/L}$ 

 $4.0 \, mg/kg$ 

 $0.20~\mathrm{mg/L}$ 

0.05

1.0

0.05

TTLC

TTLC

STLC,TCLP

0.25

5.0

0.25

0.05

1.0

0.05

0.10

2.0

0.10

Detection Limit unless otherwise stated; ND means Not Detected

<sup>\*</sup> soil samples are reported in mg/kg, and water samples and all STLC & TCLP extracts in mg/L

Lead is analysed using EPA method 7420 (AA Flame) for soils, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

<sup>&</sup>lt;sup>o</sup> EPA extraction methods 1311(TCLP), 3010/3020(water, TTLC), 3040(organic matrices, TTLC), 3050(solids, TTLC); STLC from CA Title

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							AI GOSO	ine Stet	AH Dies	\( \sigma \)	ee Req		uft	7
Sample  .D.	Date/Time Sampled	Matrix Desc.	Con No. of	tainer Type	Ĺab. +	/R	NGL	107/	SHIN &C	07/602/	5/6/			Comments
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Additional Comments:			invar	P	TENERY PARTY	S 08	G MET	NZI OIH	B <del></del>				Pag	e / o1 /
	H	D <b>od Con</b> Ead Spac	E ABSEN		PROPRIATE ONTAINERS	/	بيالاحدد ( حدد							<del></del>