### Golder Associates Inc.

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January 29, 1998

Our Ref: 973-7187

Mr. Amir Gholami Alameda County Health Care Services Agency Department of Environmental Health 1131 Harbor Bay Parkway, Room 250 Alameda, California 94502

RE: UNDERGROUND TANK CLOSURE PLAN, WATERGATE OFFICE COMPLEX, 2200 POWELL STREET, EMERYVILLE, CALIFORNIA

Dear Mr. Gholami:

We have prepared this letter on behalf of Spieker Properties, the owners of the Watergate Office Complex in Emeryville, California. The Watergate Office Complex consists of three multi-story commercial office buildings (Towers I, II and III) on the north side of Powell Street. Currently two underground storage tanks (USTs) are located to the south of Tower III which are associated with a parking garage adjoining the Tower III.

The closure project consists of the removal of two 10,000 gallon capacity double walled USTs, associated fuel and vent piping, and dispensers. In order to protect the paved surface, utilities and sensors inside the parking garage, the section of fuel piping located inside the parking garage will be abandoned in place. Two soil samples will be collected beneath each UST, and one soil sample will be collected beneath the fuel piping located outside the parking garage. The site location is shown in Figure 1, and the site plan is shown in Figure 2. Location of USTs and the associated fuel dispensers scheduled for removal are shown in Figure 3. An Underground Tank Closure Plan will be submitted to Alameda County Health Care Services Agency (ACHCSA) by the UST removal subcontractor Iconco of Oakland, California.

### SITE BACKGROUND

Historically the site was a part of San Francisco Bay. Beginning in the 1940s, and until the mid 1960s the site and the surrounding area was filled. Impoundment dikes of soil, rocks and debris were constructed on bay tidelands, and then the area within the dikes was filled with materials including construction debris, foundry casing sands and slag, soil and industrial wastes. In approximately 1968, the property was purchased by F. P. Lathrop and the entire site and the surroundings were capped with engineered fill, pavement and structural foundation slabs.

The existing buildings constitute the first development of the site. The USTs scheduled for removal were installed at the site in 1984-1985. Based on the information provided by Spieker Properties, these double walled USTs and associated piping have been passing the tightness tests (latest test, May 1997) and are not suspected to be leaking.

In 1989, Woodward Clyde Corporation (WCC) performed the stable on the property. A range of chemical constituents were detected in soil and ground water samples collected from the site. Tables from WCC's reports that include a summary of soil and ground water chemical data are included as Appendix A. Among attended from all constituents, petroleum hydrocarbons were detected in water samples collected from all ground water monitoring wells, and their presence was attributed to the fill material placed in the diked areas. WCC concluded that there is no significant threat to human health and the environment because the site is "capped," and the concentrations are not of sufficient magnitude.

During late 1996 and 1997, Golder performed a Phase I study at the site on behalf of Spieker Properties who was planning to purchase the property. Golder consulted with the Regional Water Quality Control Board (RWQCB) San Francisco Bay Region regarding the need for further action at the Watergate Office Complex. RWQCB staff reviewed the WCC reports and aerial photographs and concluded that based on the information they reviewed, the site was not a concern to them. The RWQCB staff considered the site to be an area of "random fill" and therefore not subject to reporting requirements under the California Code of Regulations, Title 23, Chapter 16. Further, the RWQCB indicated that since the site is located adjacent to the San Francisco Bay, their agency is the appropriate agency for handling regulatory activities associated with the site. A letter from RWQCB summarizing their opinions is included as Appendix B.

### CONCLUSION

Based on the site background and the results of assessment performed at the site, it is indicated that soils and ground water beneath the site and in the surrounding area are contaminated as a result of contaminated fill. The WOC shas indicated that they demonstrated view remedial actions at the site as warranted at this time. USTs currently scheduled for removal have recently tested fight and thus are not likely to have caused any further soil and ground water impacts at the site.

Once the USTs have been removed and the visual observation of the bottom and sidewalls of excavation indicate that USTs have not been leaking, routine soil samples will be collected. We propose to immediately backfill the excavation after the removal of USTs, which will avoid collection of ground water in the excavation and thus save significant costs associated with dewatering and disposal.

Also we are proposing no over-excavation to be performed to assess or remove potentially contaminated fill material at the site. We are also proposing soil samples beneath the piping be collected only from the section located outside the parking garage in order to protect the paved surface, utilities and sensors inside the parking garage.

At this time we are planning to start the project during the middle of February 1998. Your expedient review and approval of a) the enclosed Underground Tank Closure Plan and b) our request of no over-excavation and immediate backfilling will help keep this project on schedule and will be appreciated. In case you have questions please call us at (510) 239-9000.

Sincerely,

GOLDER ASSOCIATES INC.

Rajeev Cherwoo **Project Engineer** 

Charles Almestad, R.G, C.Hg.

Associate

RC/CA/mcp

Attachments:

Figure 1

Site Location

Figure 2

Site Plan

Figure 3

Location of USTs and Dispensers Scheduled for Removal

Appendix A Ground Water Chemical Data for the Site.

Appendix B

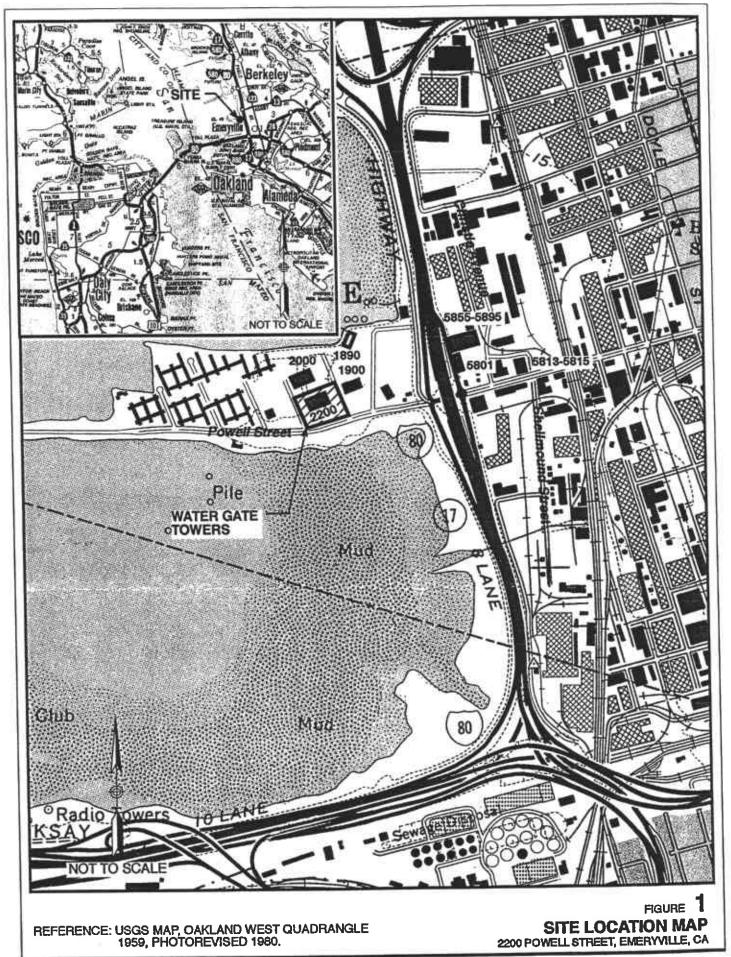
Letter to Spieker Properties from the RWQCB, dated December 30, 1997,

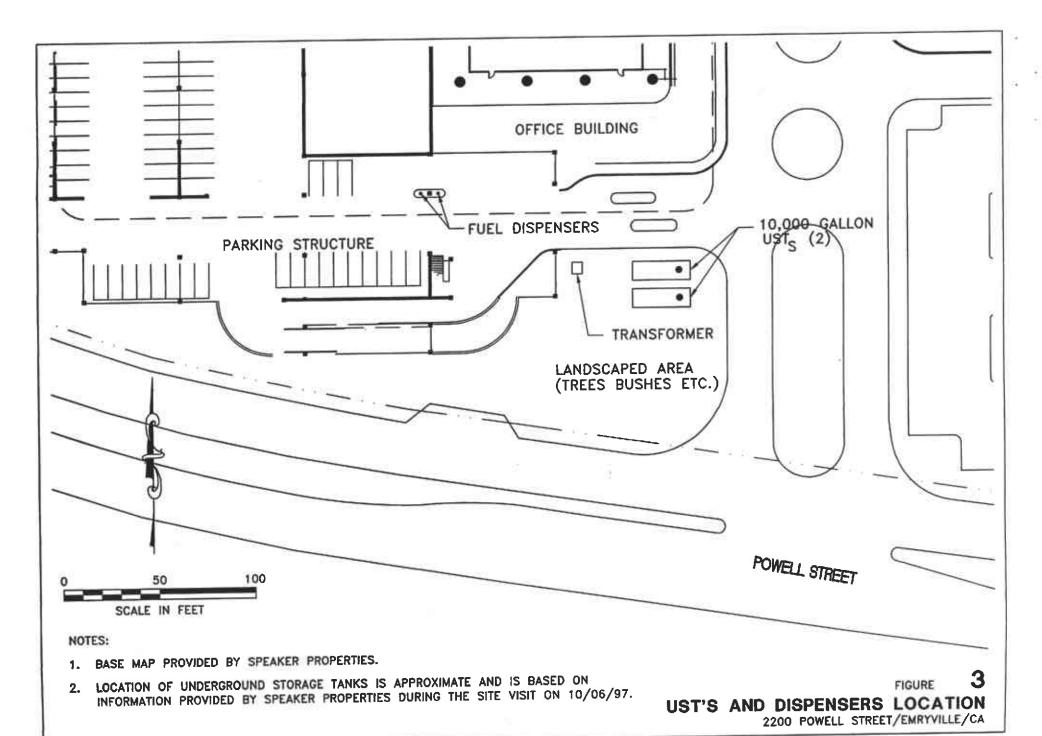
concerning environmental conditions at the site.

Enclosure

Underground Tank Closure Plan

cc: Jeff White, Spieker Properties





**Golder Associates** 

DRAWN RMN

## **APPENDIX A**

Ground Water Chemical Data for the Site

TABLE 1A. MONITORING WELL NO. 1 ORGANIC COMPOUNDS DETECTED

VOLATILE ORGANICS (EPA Method 8240) Benzene  2-Butanone [OugL] (ugL)	(b) 55  11 2800 23	Detection Limit 10.0 50.0 10.0	May  60 150	Detection Limit 20,0	PRIMARY MCLs (d), (e), (l)	SECONDARY MCLa (d)	A/TION	S.F. BAY BASIN PLAN (R)	CALIFORNIA OCEAN PLAN (h)	EPA ACUIT TOXICTIY (
VOLATILE ORGANICS (EPA Method 8240) Genzene (ug/L)	(b) 55  11 2800	10.0 50.0 10.0	60 150	Limit 20.0	MCLs (d), (c), (l)	MCLa (d)	LEVELS (f)	BASIN PLAN (K)	OCESUTE DUTIES	
Benzene  2-Butanone Cotal 1,2-Dichlorocthene Ethyl benzene C-Hexanone Cotal 2,2-Dichlorocthene C	55 11 2800	10.0 50.0 10.0	150	20,0					4	
Renzene Renzen	55 11 2800	50.0 10.0	150		1			i !	į	5100
Company   Comp	55 11 2800	50.0 10.0	150					1		
County   C	11 2800	10.0		100.0	(6)		.,	!		224000
(ugL)	11 2800		100	20.0	0.007		16		ĺ	430
Ethyl benzene	2800		71	20.0	680					
EXTRACTABLE ORGANICS (EPA Method \$270)  Acenaphthene Benzoic acid (ug/L) Benzo(a)anthracene (ug/L) Benzo(a)fluoranthrene (ug/L) Benzo(a)pyrene (ug/L) Benzo(a)pyrene (ug/L) Benzo(a)pyrene (ug/L) Chrysene (ug/L) Chrysene (ug/L) Diethylphthalate (ug/L) Diethylphthalate (ug/L) Chemethylphenoi Fluorene (ug/L) L-Methylphenoi (ug/L)		50.0	7200	100.0				i !		6300
Country   Coun		10.0	170	20.0	2000		100			
CXTRACTABLE ORGANICS (EPA Method \$270)  Accomphibenc  Senzo(a said Senzo(a) Sinthracenc Senzo(b) Sinthracenc Senzo(b) Sinthracenc Senzo(b) Sinthracenc Senzo(a) Syrene Senzo(a) Syrene Senzo(a) Sinthracenc Senzo(a) Sinthracenc Senzo(a) Sinthracenc Senzo(a) Sinthracenc Sin		10.0	1200	20.0	1750		620	ł		
EXTRACTABLE ORGANICS (EPA Method \$270) Acenaphthene Benzoic acid (ug/L) Benzoical) (ug/L) Benzo(a) Inthracene (ug/L) Benzo(b) fluoranthrene (ug/L) Benzo(a) pyrene (ug/L) Benzo(a) pyrene (ug/L) Chrysene (ug/L) Chrysene (ug/L) Diethylphthalate (ug/L) Diethylphthalate (ug/L) Chethylphenoi Pluorene (ug/L) C-Methylphenoi (ug/L)	170	10,0	1200					ļ .		
Acenaphthene Benzoic acid Benzo(a)anthracene Benzo(b)fluoranthrene Benzo(g,h.i)perylene Benzo(g,h.i)perylene Benzo(a)pyrene Benzo(a)pyrene Benzol alcohol Chrysene Dibenz(a,h)anthracene Diethylphthalate 2,4-Dimethylphenol Fluorene 2-Methylphenol 4-Methylphenol Naphthalene (ugfL)		1								970
Acenaphthene Benzoic acid Benzo(a)anthracene Benzo(b)fluoranthrene Benzo(g,h.i)perylene Benzo(g,h.i)perylene Benzo(a)pyrene Benzo(a)pyrene Benzol alcohol Chrysene Dibenz(a,h)anthracene Diethylphthalate 2,4-Dimethylphenol Fluorene 2-Methylphenol 4-Methylphenol Naphthalene (ugfL)	))	1		4.0				. (k)	·	,
Benzo(c acid   (ug/L)   (ug/	••	2.0	620	20.0						(k)
Benzo(a)anthracenc Benzo(b)fluoranthrene Benzo(b)fluoranthrene Benzo(g,h,i)perylene Benzo(a)pyrene Benzo(a)pyrene Benzo(a)pyrene Benzyl sloohol Chrysene Dibenz(a,h)anthracene Diethylphthalate 2,4-Dimethylphenol Fluorene 2-Methylphthol 4-Methylphenol Naphthalene Naphthalene (ugf.) (ugf.) (ugf.) (ugf.) (ugf.) (ugf.) (ugf.) (ugf.)	510	10.0		4.0				(k)		(k)
Benzo(b)fluoranthrene Benzo(z)hiperylene Benzo(z)hiperylene Benzo(z)pyrene Benzo(z)pyrene Benzo(z)pyrene Benzo(z)pyrene Benzo(z)pyrene Chrysene Chrysene Chenz(z,h)anthracene Che		2.0	••	4.0				(k)		(k)
Benzo(x) fluoranthrene   (ug/L)   (ug	••	2.0	, **	4.0				(k)		(k)
Benzo(g,h,i)perylene Benzo(a)pyrene Benzyl slcohol Chrysene Dibenz(a,h)snthracene Dicthylphthslate 2,4-Dimethylphenol Pluorene 2-Methylphenol 4-Methylphenol Naphthslene (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L)	••	2.0	***	4.0				(k)		(k)
Benzo(a)pyrene (ug/L) Benzyl alcohol (ug/L) Chrysene (ug/L) Dibenz(a,h)anthracene (ug/L) Dibenz(a,h)anthracene (ug/L) Dibenz(a,h)anthracene (ug/L) Plottylphthalate (ug/L) (ug/L) 2,4-Dimethylphenol (ug/L) Pluorene (ug/L) 2-Methylpaphthalene (ug/L) 2-Methylphenol (ug/L) 4-Methylphenol (ug/L) Naphthalene (ug/L)	**	2.0	**	4.0				(k)		(N)
Benzyl sicohol Chrysene Dibenz(s,h)snthracene Dicthylphthslate Q,4-Dimethylphenol Pluorene 2-Methylphenol 4-Methylphenol Naphthslene (ug/L)	••	2.0	**	4.0				i 1	ĺ	(k)
Chrysene Dibenz(a,h)anthracene Diethylphthalate (ug/L) Diethylphthalate (ug/L) Diethylphthalate (ug/L) Diethylphenoi (ug/L)	6.0	2.0	**	4.0				(k)	ĺ	(k) (k)
Dibenz(a,h)anthracene   (ug/L)     Diethylphthalate   (ug/L)     2,4-Dimethylphenoi   (ug/L)     Pluorene   (ug/L)     2-Methylphenoi   (ug/L)     2-Methylphenoi   (ug/L)     4-Methylphenoi   (ug/L)     Naphthalene   (ug/L)		2.0		4.0				(k)		2944
Diethylphthalate       (ug/L)         2,4-Dimethylphenoi       (ug/L)         Fluorene       (ug/L)         2-Methylpaphthalene       (ug/L)         2-Methylphenol       (ug/L)         4-Methylphenol       (ug/L)         Nsphthalene       (ug/L)		2.0		4.0					-14	23-4-
2,4-Dimethylphenoi (ug/L) Fluorene (ug/L) 2-Methylphenoi (ug/L) 2-Methylphenoi (ug/L) 4-Methylphenoi (ug/L) Naphthalene (ug/L)	**	2.0		4.0			400 (c)	(i)	G)	(k)
(ug/L)   (	76	2.0	190				,	(k)		(x)
2-Methylnaphthalene (ug/L)  2-Methylphenol (ug/L)  4-Methylphenol (ug/L)  Naphthalene (ug/L)		2.0	**	4.0 4.0			'	(k)		
2-Methylphenol (ug/L) 4-Methylphenol (ug/L) Naphthalene (ug/L)		2.0	**	4.0				Ø	9	
4-Methylphenol (ug/L) Naphthalene (ug/L)	32	2.0	92					(i)	(j)	2350
Naphthalene (ug/L)	110	2.0	290	4.0				(k)		
Mabitraliene	59	2.0	140	4.0	•			(k)		(k) . (k)
	**	2.0		4.0				(k)	1	5800
Indeno(1,2,3-ed)pyrene (ug/L) Phenanthrene (ug/L)	**	2.0	**	4.0			1.0	(j)	(i)	2000
Phenanturenc	78	2.0	130	4.0			i	ļ		
Phenol		l i		ا مد ا				500	30 (j)	200
sun of abounds (ug/L)	296	2.0	702	4.0				15	<u></u>	300_
Sum of polynuclear aromatic hydrocarbons (ug/L)		2.0	140	4.0		(-) Can linguism	Ray Resin Water	Quality Control Pi	an, California RWQ : [V-] (Shallow Wate	CB,

(a) Compounds listed are only those compounds detected in one or more of the wells sampled.

Data for other compounds (not detected) is available in Appendix C. (b) - indicates parameter below detection limit. Blank indicates no test performed or no water quality criteria known.

(c) Taste and odor threshold.

(d) Drinking Water Regulations Under the Safe Drinking Water Act. U.S. EPA, Criteria and Standards Division, Washington D.C. February, 1989.

(e) State of California Department of Health Services, Recently Adopted Maximum Contaminant Levels for Contaminants in Drinking Water, April, 1989. California code of Regulations. Title 22.

(f) Drinking Water Action Levels Recommended by the State of California Department of Health Services, April 19, 1989.

(g) San Francisco Bay Basin Water Quality Control Plan, California RWQCB, San Francisco Bay Region. December 1986. Table IV-1 (Shallow Water).

(h) California State Water Resources Control Board, 1983 Water Quality Control Plan; Ocean Waters of California

(i) U.S. Environmental Proxection Agency, Water Quality Advisories. March 1986. and U.S. Environmental Protection Agency, Quality Criteria for Water, May 1986 and various updates.

(j) Refer to "Sum of phonols" for comparison criteria. Ctiteria for California Ocean Plan refers to total non-chlorinated phenols.

(k) Refer to "Sum of polynoclear aromatic hydrocarbons" for comparison to criteria.

(I) If state and federal guidelines both exist, the lower of the two concentration limits is given.

TABLE 1B. MONITORING WELL NO. 1 WATER QUALITY DATA, INORGANICS, AND HYDROCARBONS DETECTED

			SAM	PLING EVEN		DRINKIN	WATER CRITER	IA	S.F. BAY	VE CRITERIA CALIPORNIA	EPA ACUT
ARAMETER	UNITS	ļ	Detection		Detection	PRIMARY	SECONDARY	AZTITUM	5.F. BA I	OCEAN FLAN(I)	TOXICITY
		January	Limit		1,imit	MCLs (c), (f), (k)	MCLe (e)	LEVELS (g)	BYSTALFT	CENTRALO	
ATER QUALITY PARAMETERS	(a), (b)			_		(d)					
Alex Contin Transmission	gal	15		9		(4)					
olume Removed	1 "	2.9		3.5						1	
lo, of Casing Volumes	i	7.5		7.0			1600				
H	umhos/cm			10000			1000				
pocific Conductance		20		6	l i						
ilinity (vs. scawater)	<del>%</del> .			NA.			5				
urbidity (c)	עזא	slight		18	i						
emperature	C	20		olive/brown							
olor		prown									
dor		hydrocarbon		asphalts							•
	1	i	•								
ITLE 22 TOTAL METALS AND A	SBESTOS	ی ا	5.0		0.1				0.020	0.008	2.319
ntimony	(mg/L)	(d)	0.01	0.007	0.001	0.050			0.040		
rsenic	(mg/L)			0.2	0.02	1.0				'	
anium	(mg/L)	0.310	0.2		0.01				2 2 2 2	0.003	
eryllium	(mg/L)		0.1		0.01	0.010			0.010	0.003	
admium	(mg/L)		0.1		0.005	0.05			0.011	0,002	10.3
hromium VI	(mg/L)		0.005		0.005	0.05					10.5
hromium III	(mg/L)	0.150	0.05	0.073		0.45	1				
	(mg/L)		0.5	-	0.05		1.0		0.020	0.005	
obali	(mg/L)		0.1		0.01	0,050	.,,		0.0056	0.008	
opper	(mg/L)	0.700	0.005	0.098	0,005				0.001	0.000140	
end	(mg/L)		100.0	••	0.001	0.002					
facury	(mg/L)	۱	0.5	0.084	0.05				0.0071	0.020	
folybdenum	(1118/12)		0.5	0.11	0.05						
lickel	(mg/L)		0.01		10.0	0.010			0.0023	0.000450	
elenium	(mg/L)		0.1		0.01	0.050			0.0025	*****	2.13
ilver	(mg/L)	••.		0.79	0.5						i
halium	(mg/L)	••	5.0	0.37	0.05					0.020	Ì
/anadium	(mg/L)		0.5		0.01		5.0		0.058	0,020	
ine	(mg/L)		0.1	0.095	0,01					i	
an-		l .			100	7					
	(fibers/g)	1	<u> </u>	••	100	'					
sbestos	ľ		ļ								
ETROLEUM HYDROCARBONS AT	ND OIL AN	D GREASE					:				
(EPA Methods 8015/8020)	1	1		7700	30.0						İ
ow/Medium BP Hydrocarbons	(ug/L)	. 2500	50.0	1100	30.0						5100
Gasoline Standard		4.0	0.5	. 47	0.3	1		100			6300
entene	(ug/L)	4.0	0.5	680	0.3	2		100	· ·		430
olucie	(ug/L)	430		35	0.3	680					
thyl Benzene	(ug/L)	9.0	0.5		0.3	1750					
oul Xylenes	(ug/L)	140	0.5	550	50.0	• • • •			į į		
igh BP Hydrocarbons Diesel Standard	(ug/L)	290	50.0	11000						2 1/2 1 731/	~
is and Grease (EPA Method 413.2)	(mg/L)	1.4	1.0	3800	1.0		A. Can Emprison	Rev Benn Water	Quality Control P	len, California RWC rV-1 (Shallow Wat	<i>ر</i> ـ٥.

Oil and Grease (EPA Method 413.2) (a) Values estimated to two significant figures based on field measurements.

(b) Well bailed dry on May 2, sampled May 3 due to slow recovery.

Criteria and Standards Division, Washinton D.C. February, 1989.

San Francisco Bay Region. December 1986. Table IV-1 (Shallow Water).

(i) California State Water Resources Control Board. 1983 Water Quality Control

Plan; Ocean Waters of California.

(j) U.S. Environmental Protection Agency, Water Quality Advisories. March 1986. and U.S. Environmental Protection Agency, Quality Criteria for Water. May 1986 and various updates.

(k) If state and federal guidelines both exist, the lower of the two concentration limits is

<sup>(</sup>c) Due to settlement of particulates, turbidity varied with time from sample collection. Values are approximate.

<sup>(</sup>d) -- indicates parameter below detection limit. Blank indicates no test performed or no water quality criteris known.

<sup>(</sup>e) Drinking Water Regulations Under the Safe Drinking Water Act. U.S. EPA.

<sup>(</sup>f) State of California Department of Health Services, Recently Adopted Maximum Contaminant Levels for Contaminants in Drinking Water, April, 1989. California code of Regulations. Title 22.

<sup>(</sup>g) Drinking Water Action Levels Recommended by the Department of Health Services, State of California Department of Health Services, April 19, 1989.

TABLE 2A. MONITORING WELL NO. 2 ORGANIC COMPOUNDS DETECTED AND WATER QUALITY CRITERIA

TABLE 2A. MONITORING WELL						DOMEN	O WATER CRITER	IA .		NE CRITERIA	EPA ACUT
	UNITS		SAMI	LING EVEN	<u>T</u>		SECONDARY	ACTION	S.F. BAY	CALIPORNIA	
PARAMETER (*)	0.51-	January	Detection	May	Detection	PRIMARY	MCL*(d)	LEVELS (I)	BASIN PLAN (g)	OCEAN PLAN (b)	TOXICITY
	1	•	Limit		Limit	MCL* (d), (e), (l)	1416124 (4)		Ī		5100
OLATILE ORGANICS (EPA Meth	od 8240)				2.0	1			1		2100
	(ug/L)	4.9	2.0	14	10.0	(6)			Ī	ľ	224000
Benzene	(ug/L)		10.0			0.007		16	1		430
2-Butanone	(ug/L)		2.0	••	2.0	680			}		430
Total 1,2-Dichloroethene	(ug/L)		2.0	••	2.0	960			1		
Ethyl benzene	(ug/L)	•-	10.0	. ••	10.0			100			6300
2-Hexanone			2.0	••	2.0	2000		620			
Toluene	(ug/L)		2.0	••	2.0	1750		020			
Toul xylones	(ug/L)		1 1		1	ļ	•			,	1
· •	.l	•	1 1						(k)		970
EXTRACTABLE ORGANICS (EPA	Method 82/	0)	2.0	**	2.0		1		\~/		1
Acenaphthene	(nR/r-)		10.0	12	10.0		j		(k)		(k)
Benzoie acid	(ug/L)	•-		3.6	2.0	ļ			(k)		(k)
Benzo(a)anthracene	(ug/L)	**	2.0	5.7	2.0	ļ			(k)		(k)
Benzo(b)fluoranthene	(ug/L)	**	2.0	7.5	2.0				(k)		(k)
Benzo(k)fluoranthene	(ug/L)	**	2.0		2.0	j			(k)		(k)
	(ug/L)	••	2.0	7.8	2.0				(k)		,···,
Benzo(g,h,i)perylene	(ug/L)		2.0	6.8		1					(k)
Benzo(a)pyrene	(ug/L)	••	2.0	••	2.0				(k)		(k)
Benzyl elcohol	(ug/L)		2.0	4.0	2.0				(k)		2944
Chrysene	(vg/L)		2.0	7.9	2.0						2744
Dibenz(a,h)anthracene	(ug/L)		2,0		2.0			400 (c)	(i)	(j)	۱
Diethylphthelate	(ug/L)		2.0		2.0			,,	(k)	1	(k)
2,4-Dimethylphenol			2.0		2.0		1	1	(k)		,
Fluorene	(ug/L)		2.0	**	2.0				Ö	(i)	ł
2-Methylnaphthalenc	(ug/L)	••	2.0		2.0				ő	(i)	Ī
2-Methylphenol	(ug/L)	••	2.0	**	2.0	į.	ı		l &	l **	2350
4-Methylphenol	(ug/L)			2.2	2.0			1	(6)		(k)
Naphthalene	(ug/L)		2.0	8.1	2.0		1		(8)		(k)
Indeno(1,2,3-cd)pyrenc	(ug/L)		2.0		2.0	1	•		(k)	(i)	5800
	(vg/L)		2.0	**		1	ì	1	(i)	שיי	
Phenanthrene	(ug/L)		2.0		2.0					20.63	I
Phenol	·   `	l '			l				500	30 (j)	300
	(ug/L)		2.0		2.0				15	<u></u>	
Sum of phenols	(10,5/20)	i	20	53.6	2.0			5 D Wate	- Onelity Control P	lan, California RWC	XH,

Sum of polynuclear aromatic hydrocarbons (ug/L) (a) Compounds listed are only those compounds detected in one or more of the wells sampled.

Data for other compounds (not detected) is available in Appendix C. (b) - indicates parameter below detection limit. Blank indicates no test performed or no water quality criteria known.

(c) Taste and odor threshold.

(d) Drinking Water Regulations Under the Safe Drinking Water Act. U.S. EPA, Criteria and Standards Division, Washington D.C. February, 1989.

(e) State of California Department of Health Services, Recently Adopted Maximum

Contaminant Levels for Contaminants in Drinking Water. April, 1989.

California code of Regulations. Title 22.

(f) Drinking Water Action Levels Recommended by the State of California Department of Health Services, April 19, 1989.

(g) San Francisco Bay Basin Water Quality Control Plan, California RWQCB, Sin Francisco Bay Region. December 1986. Table IV-1 (Shallow Water). (h) California State Water Resources Control Board, 1983 Water Quality Control

Plan; Ocean Waters of California

(i) U.S. Environmental Protection Agency, Water Quality Advisories. March 1986. and U.S. Environmental Protection Agency, Quality Criteria for Water. May 1986 and various updates.

(j) Refer to "Sum of phenola" for comparison criteria. Citeria for California Ocean Plan refers to total non-chlorinated phenols.

(k) Refer to "Sum of polynuclear aromatic hydrocarbons" for comparison to criteria. (1) If state and federal guidelines both exist, the lower of the two concentration limits is

given.

TABLE 2B. MONITORING WELL NO. 2 WATER QUALITY DATA, INORGANICS, AND HYDROCARBONS DETECTED

TABLE 28. MONITORING WEED						DDIMEN	WATER CRITER	iA		VE CRITERIA	EPA ACUIT
	UNITS		SAM	PLING EVEN	<u>T</u>	PRIMARY	SECONDARY	ACTION	S.F. BAY	CALIFORNIA	TOXICTLY (
PARAMETER		January	Detection	May	Detection	PRIMARI	MCLs (d)	LEVELS (f)	BASIN PLAN (c)	OCEAN PLAN (h)	TOMOTT
			Limit		Limit	MCL.a (d), (e), (j)	111012 (0)			ļ	1
WATER QUALITY PARAMETERS (	<del>)</del>	1	Τ .		1	(c)					
WALER QUADITY	] gal	50	1	10	i	(6)				ŀ	1
Volume Removed	-			3.5	1						l
No. of Casing Volumes	1	7.8		7	1		1600				ļ
pH	umhos/cm	11000		17000	1		1000				i
Specific Conductance	%			11.5	1		5			***	l
Salinity (vs. scawater)	עזא	slight		18	1		,		1		ļ
Turbidity (b)	l "c	19		1.9	1				Ì		1
Temperature	, ,	Li Brown		Ony	ł	!					1
Color	1 .	hydrocarbon		Asphalts	1	Į					
Odor	1	nyanocaroon		7	1						
	PETOS				1						
TITLE 22 TOTAL METALS AND AS	14	(c)	5.0	**	0.1				0.020	0.008	2.319
Antimony	(mg/L)	··(c)	0.01	0.0098	0.001	0.050			",""		l
Arsenic	(mg/L)		0.2	0.68	0.02	1.0					1
Barium	(mg/L)	1.4	0.1		0.01				0.010	0.003	1
Beryllium	(mg/L)	i "		••	0.01	0.010			0.011	0.002	1
Cadmium	(mg/L)	-	0.1		0.05	0.05			0.011	Ų	10.3
Chromium VI	(mg/L)		0.005	0.005	0.005	0.05				1	
Chromium III	(mg/L)		0.05		0.05					0.005	
Cobalt	(mg/L)		0.5		0.01		1.0		0.020	0.003	l
	(mg/L)		0.1		0.005	0.050			0.0056		l
Copper	(mg/L)	0.2	0.005	0.18		0.002			0.001	0.000140	1
Lead	(mg/L)		0.001	**	0.001	0.002					l
Mercury	(mg/L)		0.5	0.050	0,05				0.0071	0.020	1
Molybdenum	(mg/L)		0.5	••	0.05				ł		1
Nickel -	(mg/L)		0.01	**	0.01	0.010			0.0023	0.000450	۱
Selenium	(mg/L)	ــ ا	0.1	0.012	0,01	0.050				ŀ	2.13
Silver	(mg/L)		5.0	0.11	0.5					•	1
Thallium			0.5		0.05				0.058	0.020	<b>!</b>
Venedium	(mg/L)	1	0.1	0.18	0.01		5.0		0.022		l
7ine	(mg/L)	-	"	•••				i	l		
	100 103			<b></b> ,	100	7	·		i		
Asbestos	(fibers/g)		l '		1			ļ			ļ
	I OU AND	GREASE	i '		1		:				1
PETROLEUM HYDROCARBONS AN	ייינא שגע ע 				1			1		1	
(EPA Methods 8015/8020)	(ug/L)	67	50.0	130	30.0	Į.		1		1	
Low/Medium BP Hydrocarbons	(ng)L)	l "					1	I		1	5100
Gasoline Standard	1,000	1.1	0.5	14	0.3	1	ł	100			6300
Benzene	(ug/L)	0.57	0.5	0.84	0.3	2		100	[		430
Toluene	(ug/L)	1	0.5	••	0.3	680		l	ţ		
Ethyl Benzene	(vg/L)	0.9	0.5	1.2	0.3	1750		l	1		ļ
Total Xvienes	(ug/L)	•	50.0	430	50.0			I			l
High BP Hydrocarbons Diesel Standard	(ug/L)		1.0	7.2	1.0			<del>ب ب ب</del>	العط الماسيسية	e State of Californi	-
mil . 4 C (RD4 Method 413.2)	(mg/L)		1.4.0				(f) Deinkine Wate	r Action Levels I	Kecommenter of a	10	

Oil and Grease (EPA Method 413.2)

Criteria and Standards Division, Washington D.C. February, 1989.

(f) Drinking Water Action Levels Rec Department of Health Services, April 19, 1989.

(2) San Francisco Bay Basin Water Quality Control Plan, California RWQCB, San Francisco Bay Region. December 1986. Table IV-1 (Shallow Water).

(h) California State Water Resources Control Board, 1983 Water Quality Control Plan; Ocean Waters of California.

(i) U.S. Environmental Protection Agency, Water Quality Advisories. March 1986. and U.S. Environmental Protection Agency, Quality Criteria for Water, May 1986 and various updates.

(j) If state and federal guidelines both exist, the lower of the two concentration limits is given.

MADINE CRITERIA

<sup>(</sup>a) Values estimated to two significant figures based on field measurements. (b) Due to settlement of particulates, turbidity varied with time from sample collection. Values are approximate.

<sup>(</sup>c) - indicates parameter below detection limit. Blank indicates no test performed or no water quality criteria known.

<sup>(</sup>d) Drinking Water Regulations Under the Safe Drinking Water Act. U.S. EPA,

<sup>(</sup>e) State of California Department of Health Services, Recently Adopted Maximum Contaminant Levels for Contaminants in Drinking Water. April, 1989. California code of Regulations. Title 22.

TABLE 3A. MONITORING WELL NO. 3 ORGANIC COMPOUNDS DETECTED

Table 3a. Monitoring Well No						DRINKIN	G WATER CRITER	14		ECRITERIA CALIFORNIA	EPA ACUTE
PARAMETER (a)	UNITS			LING EVEN	Detection		SECONDARY	ACTION	S.F. BAY	CALIFORNIA	TOXICITY
PARAMETER (4)	ı	January	Detection	May		MCL= (d), (e), (l)	MCLa (d)	LEVELS (f)	BASIN PLAN (R)	OCEAN PLAN (h)	10/10/11
!			Limit		Limit	1/1CT (0) (6) (1)					5100
VOLATILE ORGANICS (EPA Method	8240)		1		2.0	1			ŀ		5100
_	(ug/L)	••	4.0	2.5	10.0	ம்			1		224000
Benzene	(ug/L)		20.0	**		0.007		16			430
2-Butanone Total 1,2-Dichlorocthene	(ug/L)	44	4.0		2.0	680					430
	(ug/L)	**	4.0		2.0	900					6300
Ethyl benzene	(ug/L)		20.0	**	10.0	2000		100			6300
2-Hexanone	(ug/L)	**	4.0		2.0	2000		620			
Tolvene	(ug/L)	••	4.0	**	2.0	1750					
Total aylenes	(althr)	••	"								
 	   278   104   107	n)			1				(k)		970
EXTRACTABLE ORGANICS (EPA M	(ug/L)	•,	2.0	**	2.0				'		
Acenaphthene	(ug/L)	**	10.0	**	10.0				(k)		(k)
Benzoic acid			2.0	**	2.0				(iii)		(k)
Benzo(a)anthracene	(ug/L)	4.	2.0	••	2.0				(k)		(k)
Benzo(b) fluoranthrene	(ug/L)	4.	2.0	••	2.0				က်		(k)
Benzo(k)fluoranthrene	(ug/L)		2.0		2.0				(i)	ı	(k)
Benzo(g,h,i)perylene	(ug/L)	••	2.0	**	2.0				i '''		
Benzo(a)pyrene	(og/L)	**	2.0	•	2.0				(k)		(k)
Benzyl alcohol	(ug/L)	••	2.0		2.0				(k)		(k)
Chrysene	(ug/L)	**	2.0	**	2.0				· ~		2944
Dibenz(a,h)anthracene	(ug/L)		2.0		2.0					Ø	
Diethylphthalate	(ug/L)		2.0		2.0			400 (c)	ည	, J	(k)
2.4-Dimethylphenol	(vg/L)				2.0				(2)		, ,
Fluorene	(ug/L)	••	2.0	**	2.0			l	<u>(i)</u>	G)	
2-Methylnaphthalene	(ug/L)		2.0	٠.	2.0				(i) (i)	0	
2-Methylphenol	(ug/L)		2.0		2.0				(0)	ן ט	2350
	(ug/L)		2.0	**	2.0	1			(k)		(k)
4-Methylphenol	(ug/L)		2.0			1		ŀ	(k)		(k)
Naphthalene	(ug/L)	••	2.0	••	2.0			1	(k)		5800
Indeno(1,2,3-ed)pyrene	(ug/L)	**	2.0		2.0			1.0	G)	(i)	2800
Phonanthrene	(ug/L)		2.0	••	2.0			l			
Phenol	/-B1-17		1 1				t	l	500	30 (j)	
	(ug/L)		2.0		2.0			l	15		300
Sum of phenois	(up)c)		2.0	**	2.0			Day Rada Water	Quality Control P	an, California RWQ	CB,

Sum of polynuclear aromatic hydrocarbons (ug/L) (a) Compounds listed are only those compounds detected in one or more of the wells sampled.

Data for other compounds (not detected) is available in Appendix C.

(b) -- indicates parameter below detection limit. Blank indicates no test performed or no water quality criteria known.

(c) Taste and odor threshold.

(d) Drinking Water Regulations Under the Safe Drinking Water Act. U.S. EPA, Criteria and Standards Division, Washington D.C. February, 1989.

(e) State of California Department of Health Services, Recently Adopted Maximum Contaminant Levels for Contaminants in Drinking Water, April, 1989. California code of Regulations. Title 22.

(f) Drinking Water Action Levels Recommended by the State of California Department of Health Services, April 19, 1989.

(g) San Francisco Bay Basin Water Quality Control Plan, California RWQCB, San Francisco Bay Region. December 1986. Table IV-1 (Shallow Water).

(h) California State Water Resources Control Board. 1983 Water Quality Control Plan; Ocean Waters of California

(i) U.S. Environmental Protection Agency, Water Quality Advisories. March 1986. and U.S. Environmental Protection Agency, Quality Criteria for Water. May 1986 and various updates.

(j) Refer to "Sum of phenois" for comparison criteria. Citeria for California Ocean Plan refers to total non-chlorinated phenols.

(k) Refer to "Sum of polynuclear aromatic hydrocarbons" for comparison to criteria.

(I) If state and federal guidelines both exist, the lower of the two concentration limits is given.

TABLE 3B. MONITORING WELL NO. 3 WATER QUALITY DATA, INORGANICS, AND HYDROCARBONS DETECTED

TABLE 3B. MONITORING WELL						DRINKING WATER CRITERIA			MARINE CRITERIA SE HAY CAUPORNIA EPA ACUTI			
ARAMETER	UNIIS			PLING EVEN	Si e estas	PRIMARY	SECONDARY	ACTION	S.F. BAY	CALIFORNIA	TOXICTLY	
ANAMETER		January	Detection	Мау	Detection	MCLs (d), (e), (j)	MCLs (d)	LEVELS (f)	BASIN PLAN (x)	OCEAN PLAN (B)	TOAICH	
	1		Limit		Limit	MICIA (U), (W), (I)				1		
VATER QUALITY PARAMETERS (	<u></u>			_		(-)						
	l gal	40		15		(c)						
folume Removed	•	17.4		6.5						ľ		
to, of Casing Volumes	1	8.1		7.4								
H		11000		4100			1600		[			
pecific Conductance	nwpot/cm	B		2.6					ŀ			
alinity	%	P		35			5		<b>}</b>			
urbidity (b)	NTU			17		1		•				
emperature	C	22										
		pionii		olive/gray					1			
Color		hydrocarbon		hydrocarbon	i i							
ldor	ł					•			!	1		
TTLE 22 TOTAL METALS AND AS	BESTOS					;					2,319	
	(mg/L)	(c)	0.5		0.1	0.060			0.020	0.008	2.319	
Intimony	(mg/L)		0.01	0.01	0.001	0.050				*		
Amenic	(mg/L)		0.2	0.096	0.02	1.0			1	[		
larium		4.5	0.01		0.01				0.010	0,003		
leryllium	(mg/L)		0.01	**	0.01	0.010			0.011	0,002		
admium	(mg/L)	**	0.005		0.005	0.050			0,011	#1,	10.3	
hromium VI	(mg/L)	•••		0.012	0.005	0.050					_	
hromium III	(mg/L)		0.005		0.05					0.005		
Cobelt	(mg/L)		0.05	-	0.01		1.0		0.020			
	(mg/L)		0.01			0.050			0,0056	0.008		
Copper	(mg/L)	0.050	0.005	0.03	0.005	0.002			0.001	0,000140		
,ead	(mg/L)		0.001	**	0.001	0.002						
dansy	(mg/L)		0.5		0.05				0.0071	0.020		
Aolybdenum	(mg/L)		0.05	44	0.05	_	ı.		1	1.		
fickel			0,01	**	0.01	0.010			0.0023	0.000450		
Selenium	(mg/L)	- '	0.01		0.01	0.050			0.0025	,	2.13	
ilver	(mg/L)	1 -	0.5	0.66	0.5				]	}		
Dallium	(mg/L)			0.00	0.05			İ		0.020		
fanadium	(mg/L)	**	0.5		0.01		5.0		0.058	0.020		
	(mg/L)	0.098	0.01	0.039	0.01				ļ			
?ine		1				7						
	(fibers/g)			**	100	•						
/spestor	1											
ETROLEUM HYDROCARBONS AN	D OIL ANI	GREASE		1	1		:					
(EPA Methods 8015/8020)	1	l		1								
(EFA MEMOUS COLSTON	(ug/L)	**	50.0	30	30.0	<u>'</u>				ł	6100	
ow/Medium BP Hydrocarbons	1-6-7		ì	1	l					1	5100	
Gasoline Standard	(ug/L)		0.5	1.4	0.3	1		100	1		6300	
Benzene			0.5	0.52	0.3	2		1,22	1		430	
oluene	(ug/L)		0.5		0.3	- 680		ĺ	}			
Chyl Benzene	(ug/L)			0.3	0.3	1750			į.			
and Xvienes	(ug/L)	0.64	0.5		50.0	l .		ĺ	1	l .	Į.	
ligh BP Hydrocarbons Diesel Standard	(ug/L)	540	50.0	420		l			<u></u>	L	-tels	
NI and Grease (EPA Method 413.2)	(mg/L)	<u>-</u>	1.0	6,1	1,0		(6 Docking Water	Action Levels F	Recommended by th	te Department of He th Services, April 19	min)	

Oil and Grease (EPA Method 413.2)

(a) Values estimated to two significant figures based on field measurements. (b) Due to settlement of particulates, turbidity varied with time from sample collection. Values are approximate.

(c) -- indicates parameter below detection limit. Blank indicates no test performed or no water quality criteria known.

(d) Drinking Water Regulations Under the Safe Drinking Water Act. U.S. EPA,

Criteria and Standards Division, Washinton D.C. February, 1989.

(e) State of California Department of Health Services, Recently Adopted Maximum Contaminant Levels for Contaminants in Drinking Water. April, 1989. California code of Regulations, Title 22.

- (f) Drinking Water Action Levels Recommended by the Department Services, State of California Department of Health Services, April 19, 1989.
- (g) San Francisco Bay Basin Water Quality Control Plan, California RWQCB, San Francisco Bay Region, December 1986, Table IV-1 (Shallow Water).
- (h) California State Water Resources Control Board, 1983 Water Quality Control Plan; Ocean Waters of California.
- (i) U.S. Environmental Protection Agency, Water Quality Advisories. March 1986. and U.S. Environmental Protection Agency, Quality Criteria for Water. May
- 1986 and various updates. (j) If state and federal guidelines both exist, the lower of the two concentration limits is given.

TABLE 4A. MONITORING WELL NO. 4 ORGANIC COMPOUNDS DETECTED

TABLE 4A. MONITORING WELL IN	U. 4 U.	GALINE CO.				000000	G WATER CRITER	IA		VE CRITERIA	***
	UNITS		SAM	PLING EVEN	Ť		SECONDARY	ACTION	S.F. BAY	CALIPORNIA	EPA ACUTE
PARAMETER (a)	Oldin	January	Detection	May	Detection	PRIMARY		LEVELS (f)	BASIN PLAN (K)	OCEAN PLAN (b)	TOXICITY
			Limit		Limit	MCLs (d), (e), (l)	MICIA				4.00
THE STOLETICS (FILE Method	1 8240)				1				•		5100
VOLATILE ORGANICS (EPA Metho	(ug/L)	3.7	2.0		2.0	1 1					****
Benzene	(ug/L)	- (ь)	10.0	13	10.0	(b)		16			224000
2-Butanone	(ug/L)		2.0	44	2.0	0.007					430
Total 1,2-Dichlorocthene			2.0	**	2.0	680			<b>{</b>		
Ethyl benzene	(ug/L)		10.0	44	10.0			100			6300
2-Hexanone	(ug/L)	9.6	2.0	4.3	2.0	2000		620			
Toluene	(ug/L)	9.6	2.0	4.3	2.0	1750		020	1		
Total sylenes	(ug/L)	9,6	*."	· · · ·	1			į		ì	
		<u>                                     </u>						[	(k)		970
EXTRACTABLE ORGANICS (EPA N	lethod 82	70)	2.0	3.4	2.0				<sup>(*)</sup>	1	
Acenaphthene	(agre)	7.0	10.0	52	10.0			]	ا م	ĺ	(k)
Benzoic scid	(ug/L)	⊷			2.0			1	(k)	<b>\$</b>	(k)
Benzo(a)anthracene	(ug/L)		2.0	•	2.0	·			(k)	<b>!</b>	(k)
Benzo(b)fluoranthrene	(vg/L)		2.0	4.	2.0				(k)	1	(k)
Benzo(k)fluoranihrene	(vg/L)		2.0	••	2.0				(k)		(k)
Benzo(g,h,i)perylene	(ug/L)	l	2.0	••	2.0				- (k)		1.7
Benzo(a)pyrene	(ug/L)		2.0	**	2.0				i		(k)
Benzyl alcohol	(ug/L)		2.0	••	2.0		ļ		(k)		ίώ
- · · · · · · · · · · · · · · · · · ·	(ug/L)		2.0	<b></b> .	2.0				(k)		2944
Chrysene Dibenz(a,h)anthracene	(ug/L)		2.0		2.0		ĺ			<b>(</b> )	
Diethylphthalate	(ug/L)	3.0	2.0	**	2.0	}		400 (c)	0	U'	(k)
2.4-Dimethylphenol	(ug/L)		2.0	-	2.0	1	1		(k)		.,,
	(ug/L)	3.0	2.0	2.0	2.0		1	<b>j</b>	(k)	73	
Fluorene	(ug/L)	9.0	2.0	6.8	2.0				(i)	(i)	
2-Methylnaphthalene	(ug/L)		2.0		2.0	1		1	Ø	(i)	2350
2-Methylphenol	(ug/L)		2.0	36					(k)	'	(k)
4-Methylphenol	(ug/L)	49	2.0	20	2.0			1	(k)		(k)
Naphthalenc	(ug/L)		2.0	**	2.0		1	1	(k)		5800
Indeno(1,2,3-cd)pyrenc	(ug/L)	4.0	2.0	4.0	2.0			1.0	0)	(j)	7000
Phenanthrene	(ug/L)	4,0	2.0		2.0		]				I
Phenol	(-8//	i			1		i		500	30 (j)	1 200
	(ug/L)	4.0	2.0	36	2.0				15		300
Sum of phenols	(ug/L)	68.0	2,0	36	2.0		Z.) Can Francisco	Rev Regin Wate	Ouality Control F	lan, California RWC	χcΒ,
Sum of polynuclear aromatic hydrocarbons	T (AS) P	in one of the	or of the W	lle sempled.			(E) Sin Linemen	- Day Danies De	cember 1986, Tabl	e IV-1 (Shallow Wat	er).

Sum of polynuclear aromatic hydrocarbons (ug/L) 68,0 2,0 (a) Compounds listed are only those compounds detected in one or more of the wells sampled.

Data for other compounds (not detected) is available in Appendix C.

(b) - indicates parameter below detection limit. Blank indicates no test performed or no water quality criteria known.

(c) Taste and odor threshold.

(d) Drinking Water Regulations Under the Safe Drinking Water Act. U.S. EPA, Criteria and Standards Division, Washington D.C. February, 1989.

(e) State of California Department of Health Services, Recently Adopted Maximum Contaminant Levels for Contaminants in Drinking Water. April, 1989. California code of Regulations, Title 22.

(f) Drinking Water Action Levels Recommended by the State of California Department of Health Services, April 19, 1989.

San Francisco Bay Region. December 1986. Table IV-1 (Shallow Water).

(h) California State Water Resources Control Board, 1983 Water Quality Control Plan; Ocean Waters of California

(i) U.S. Environmental Protection Agency, Water Quality Advisories. March 1986. and U.S. Environmental Protection Agency, Quality Criteria for Water. May 1986 and various updates.

(j) Refer to "Sum of phenois" for comparison criteria. Citteria for California Ocean Plan refers to total non-chlorinated phenols.

(k) Refer to "Sum of polynuclear aromatic hydrocarbons" for comparison to criteria.

(I) If state and federal guidelines both exist, the lower of the two concentration limits is given.

TABLE 4B. MONITORING WELL NO. 4 WATER QUALITY DATA, INORGANICS, AND HYDROCARBONS DETECTED

TABLE 4B. MONITORING WELL						DRINKIN	G WATER CRITER	<u> </u>		CALIFORNIA	EPA ACUI
PARAMETER	UNITS	L		PLINO EVENT	Detection	PRIMARY	SECONDARY	ACTION	S.F. BAY	CALLICATION AND	TOXICITY
ARAMETA		January	Detection	May	Limit	MCLs (d), (e), (j)	MCLs (d)	LEVELS (f)	BASIN PLAN (R)	OCEAN PLAN (h)	IOAIGI.
		<u> </u>	Limit		Limit	1/1CLX (0/1 (0/1 (0/2			İ		i
VATER QUALITY PARAMETERS (	1)	1	l			(c)				•	1
AIER QUALITY	gal	50		10		(0)		•			ŀ
folume Removed	1	20	ĺ	.4				1			l
lo. of Casing Volumes		8.2		6.4			1600				!
H	umhos/cm	3300		1700			1000				
pecific Conductance	9.	1 2					5		1		l
elinity	NTU	elight		NA NA			,				1
urbidity (b)	C	21	1	19							ŀ
emperature	\ \*	IL brown		gray					•	ł	Į.
olor		hydrocarbon		hydrocarbon					į		[
dor		i inyuiocaiousi						•	ì		!
	 DESTON TE	ETT OF GR	OHNDWA	TER					i		l
TTLE 22 TOTAL METALS AND AS	BESTUS TI	SIS OF ON	0.5		0.1	•			0.020	0.008	2.319
Intimony	(mk\r-)	- (4)	0.01	0.003	0.001	0.050			0,000		j
rsenic	(mg/L)	.:.	0.02	0.84	0.02	1.0					į
នក់មារា	(mg/L)	0.85		U.07	0.01	'			0.010	0.003	1
eryllium	(mg/L)		0.01		0.01	0.010			0.010	0.002	]
admium	(mg/L)		0.01		0.005	0.050			0.011	0.002	10.3
homium YI	(mg/L)		0.005	**	0.005	0.05					10.5
	(mg/L)		0.005	0.036	*	0.05				4 405	Ī
hromium III	(mg/L)		0.05	0'02	0.05		1.0		0.020	0.005	
obalt	(mg/L)		0.01	**	0.01	0.050	1.0		0.0056	0.008	Į.
opper	(mg/L)	0.10	0.005	0.22	0.005	0.050			0.001	0.000140	Į
ead	(mg/L)		0.001	**	0,001	0.002					•
lacury			0.05		0.05				0.0071	0.020	İ
folybdenum	(mg/L)	0.064	0.05	0.072	0.05						
liekel	(mg/L)		0.01	**	0.01	0.010			0.0023	0.000450	1
eໄ <del>ຂ</del> ານນາກ	(mg/L)	•	0.01	**	0.01	0.050			0.0022		2.13
ilver	(mg/L)		0.5	p.	0.5						i
hallium	(mg/L)		0.05		0.05				0.058	0.020	l
/enedium	(mg/L)			0.95	0.01		5.0		0.020	<b>4.02</b> 5	<b>{</b>
ine	(mg/L)	0.17	0.01	0.73	*,						[
,a,,,,	Į.				100	7					1
Asbestos	(fibers/g)	1	ł	1 -	1				1	1	
	1	i					1			Į.	
ETROLEUM HYDROCARBONS AN	D OIL AN	GREASE	1				;				
(EPA Methods 8015/8020)		l	Į.		۱						
(ELV Methods parsons	(ng/L)	120	50.0	150	30.0					į.	5100
ow/Medium BP Hydrocarbons	(-6,-)		1							1	
Gasoline Standard	(ug/L)	0.93	0.5	1.7	0.3	1		100			6300
enzene	(ug/L)	7.9	0.5	3.9	0.3	2		i	1		430
olucie		1.9	0.5	1.1	0.3	680	,	1			Į .
thyl Benzene	(ug/L)	6.9	0.5	3.8	0.3	1750		i			ł
and Yulenet	(ug/L)	540	50.0	500	50.0			i			!
ligh BP Hydrocarbons Diesel Standard	(vg/L)		1.0	7.2	1.0				nanded by th	ne Department of He	alth
XI and Grease (EPA Method 413.2)	(mg/L)	3,5		7 5,7			(i) Drinking Water	L VERIOU PEACES L	COORDINATION OF M	th Services, April 19	1989.

(a) Values estimated to two significant figures based on field measurements.

(f) Drinking Water Action Levels Recommended Services, State of California Department of Health Services, April 19, 1989.

(g) San Francisco Bay Basin Water Quality Control Plan, California RWQCB, San Francisco Bay Region. December 1986. Table IV-1 (Shallow Water).

(h) California State Water Resources Control Board. 1983 Water Quality Control Plan; Ocean Waters of California.

(i) U.S. Environmental Protection Agency, Water Quality Advisories. March 1986. and U.S. Environmental Protection Agency, Quality Criteria for Water, May 1986 and various updates.

(j) If state and federal guidelines both exist, the lower of the two concentrations limits is given.

<sup>(</sup>b) Due to settlement of particulates, turbidity varied with time from sample collection. Values are approximate.

<sup>(</sup>c) -- indicates parameter below detection limit. Blank indicates no test performed or no water quality criteria known

<sup>(</sup>d) Drinking Water Regulations Under the Safe Drinking Water Act. U.S. EPA. Criteria and Standards Division, Washinton D.C. February, 1989.

<sup>(</sup>e) State of California Department of Health Services, Recently Adopted Maximum Contaminant Levels for Contaminants in Drinking Water. April, 1989. California code of Regulations, Title 22.

TABLE SA. MONITORING WELL NO. 5 ORGANIC COMPOUNDS DETECTED

TABLE SA. MONITORING WELL N		SANIC CON		_		DDDVIN	O WATER CRITER	Λ		E CRITERIA	EPA ACUTE
	UNITS		SAMI	LINO EVE	π		SECONDARY	ACTION	S.F. BAY	CALIFORNIA	
PARAMETER (4)	Oldia	January	Detection Limit	May	Detection Limit	PRIMARY MCLs (d), (e), (I)	MCLa(d)	LEVELS (I)	BASIN PLAN (c)	OCEAN PLAN (h)	TOXICTLY 5100
VOLATILE ORGANICS (EPA Metho	8240)				2.0	1					3100
Benzene	(ug/L)	**	2.0	**	10.0	(b)					224000
_	(ug/L)	••	10.0	••	2.0	0.007		16			430
2-Butanone	(ug/L)	**	2.0	• ••		680					'
Total 1,2-Dichloroethene	(ug/L)		2.0	**	2.0	000					6300
Ethyl benzene	(ug/L)		10.0	44	10.0	2000		100			6300
2-Hexanone	(ug/L)		1 2.0	3.3	2.0	2000		620			1
Toluene		2.3	2.0	3.0	2.0	1750		-		ŀ	
Total xylenes	(ug/L)	2.3	""		Ī					]	l .
· •			1 1						(k)	ľ	970
EXTRACTABLE ORGANICS (EPA M	fethod 827	0)	2.0		2,0				\^*		1
Acenaphthone	(nit)	**		44	10.0				- A-1		(k)
Renzoic acid	(ug/L)	••	10.0		2.0				(k)		(k)
=(-: -: -:	(ug/L)		2.0	**	2.0				(k)		(k)
Benzo(#)anthracene	(ug/L)		2.0						(k)		(k)
Benzo(b)fluoranthrene	(ug/L)	**	2.0	••	2.0				(k)		(k)
Benzo(k)fluoranthrene	(ug/L)		2.0	**	2.0				(k)		(K)
Benzo(g.h.i)perylene	(ug/L)		2.0	**	2.0						۱
Benzo(a)pyrene			2.0	**	2.0				(k)		(k)
Benzyl alcohol	(ug/L)		2.0	••	2.0				(k)		(k)
Chrysene	(ug/l.)	••	2.0		2.0				, ,,,,		2944
Dibenz(a,h)anthracene	(ug/i.)	** .			2.0			466.4.3	G)	(j)	
Diethylphthalate	(ug/l.)	**	2.0		2.0			400 (c)		٠,	(k)
2,4-Dimethylphenol	(ug/L)	••	2.0	**	2.0				(k)		
	(ug/L)	••	2.0		2.0				(k)	(2)	1
Process	(ug/L)		2.0	**					Ø	(i)	l
2-Methylnaphthalenc	(ug/L)		2.0	**	2.0				(j) (k)	G)	2350
2-Methylphenol	(ug/L)	44	2.0	45	2.0	1			(k)	1	
4-Methylphenol	(ug/L)		2.0		2.0				(k)	ĺ	(k)
Naphthalenc		••	2.0		2.0				(k)	į	(k)
Indeno(1,2,3-ed)pyrene	(ug/L)		2.0	**	2.0		[ ]	1.0	(i)	(i)	5800
Phenanthrene	(ug/L)		2.0		2.0		<b>i</b> 1	1.0	J 3"		
Phenol	(ug/L)	**	4.0		1				500	30 (j)	
t iibiiot			1	45	2.0	1			15	] "	300
Sum of phenois	(ug/L)	•-	2.0	42	2.0	1	į į		13	lan, Celifornia RWC	

Sum of polynuclear aromatic hydrocarbons (ug/L) (a) Compounds listed are only those compounds detected in one or more of the wells sampled.

Data for other compounds (not detected) is available in Appendix C. (b) - indicates parameter below detection limit. Blank indicates no test performed or no water quality criteria known.

(c) Taste and odor threshold.

(d) Drinking Water Regulations Under the Safe Drinking Water Act. U.S. EPA, Criteria and Standards Division, Washington D.C. February, 1989.

(e) State of California Department of Health Services, Recently Adopted Maximum Contaminant Levels for Contaminants in Drinking Water. April, 1989. California code of Regulations. Title 22.

(f) Drinking Water Action Levels Recommended by the State of California Department of Health Services, April 19, 1989.

(g) San Francisco Bay Basin Water Quality Control Plan, California RWQCB, San Francisco Bay Region. December 1986. Table IV-1 (Shallow Water).

(h) California State Water Resources Control Board. 1983 Water Quality Control Plan; Ocean Waters of California

(i) U.S. Environmental Protection Agency, Water Quality Advisories. March 1986. and U.S. Environmental Protection Agency, Quality Criteria for Water. May 1986 and various updates.

(j) Refer to "Sum of phenols" for comparison criteria, Citteria for California Ocean Plan refers to total non-chlorinated phenols.

(k) Refer to "Sum of polynuclear aromatic hydrocarbons" for comparison to criteria.

(1) If state and federal guidelines both exist, the lower of the two concentration limits is given.

TABLE 5B. MONITORING WELL NO. 5 WATER QUALITY DATA, INORGANICS, AND HYDROCARBONS DETECTED

ABLE 5B. MONITORING WELL N				PLING EVEN		DRINKIN	O MVIEW CHAIR	<u> </u>		VE CRITERIA CALIPORNIA	EPA ACUIT
ARAMETER	UNTIS				Detection		SECONDARY	VCHON	S.F. BAY	CALLIONANA)	TOXICITY
AXAMETER		January	Detection	May	Limit	MCL (d), (e), (j)	MCL4 (d)	LEVELS (f)	BASIN PLAN(E)	OCEANPLAN (b)	
-			Limit		Limit	1/10/20 (0/) (0/)				t	
VATER QUALITY PARAMETERS (A)				٠		(c)					
ALEK GOVELLE LYMM	gal	40		10		(9)			'	ì	
olume Removed		16		4							
lo. of Casing Volumes		7.8		6.6	<b>i</b>	,	1600		1	Ì	l .
H	umhos/cm	4300		4100	1		10.70				1
pecific Conductance	%	3		2.8			5				1
alinity	NTU	very slight		25		l	,				
urbidity (b)	C	19		21					[		
emperature	L			gray		1				ļ	ł
Color	:	It, brown		hydrocarbon		l .			Ī	1	1
Odor		hydrocarbon		11)0100010							l
						1	i		ŀ		
TILE 22 METALS AND ASBESTOS					0.1				0.020	0.008	2.319
	(mg/L)	- (c)	0.5	0.007	0.001	0.050			0.020		1
Intimony	(mg/L)	0.037	0.01	0.027	0.02	1.0					
Arsenic	(mg/L)	0.74	0.02	0.65						0.003	
Sarium	(mg/L)		0.01	-	0.01	0.010			0.010		
Reryllium	(mg/L)	••	0.01		0.01	0.050			0.011	0.002	10.3
Cadmium .	(mg/L)	••	0.005	-	0.05						10.5
⊃hromium VI	(mg/L)		0.005	0.015	0.005	0.05					
Inomium III		<b>,.</b>	0.05	0.05	0.05	ļ	1.0		0.020	0.005	
Cobalt	(mg/L)		0,01		0.01		1.0		0.0056	0.008	
Оррег	(mg/L)	0.07	0.005	0.16	0.005	0.050			0.001	0.000140	
.ead	(mg/L)	1	0.001		0.001	0.002				i i	
Mercury	(mg/L)	l <del></del> .		1	0.05				0.0071	0.020	
Molybdenum	(mg/L)	**	0.05	l .	0.05				0.0071		
· ·	(mg/L)	0.078	0.05		0.01	0.010			0.0003	0.000450	
Vickel	(mg/L)		10.0	••		0.050	į		0.0023	0.000	2.13
Selenium	(mg/L)		0.01	-	0.01	0.050	ļ				]
Silver	(mg/L)		0.5	0.19	0.5	]					l
Challium	(mg/L)		0.05		0.05		5,0		0.058	0.020	
Vanadium	(mg/L)	0.076	0.01	0.18	0.01	Į.	] ,,,	ì			
Zinc	(mg/L)	0.0.0		1	1	_		ļ			į
	Jes 103				100	7		1		1	1
Asbestos	(fibers/g)			ł					1		Ì
	J	008168		1			;				1
PETROLEUM HYDROCARBONS ANI	OIL AN	J GKEASE	1		ì	ļ			1		ı
(EPA Methods 8015/8020)		1.	50.0	34	30,0	1	ļ		Į.		
Low/Medium BP Hydrocarbons	(ug/L)	) <del>"</del>	30.0	l "				}		}	5100
Gasoline Standard		l	٠.	·	0.3	1		٠		1	6300
	(ug/L)		0.5		0.3	2		100	1	1	430
Benzene	(ug/L)	1.1	0.5		0.3	680		ł		I	1
Toluane	(ug/L)		0.5	1		1750					l l
Ethyl Benzene	(ug/L)	1.8	0.5	0.84	0.3	1 ''''			ł		1
Total Xylenes	(ug/L)	270	50.0	390	50.0			I	<u> </u>	J	- alab
High BP Hydrocarbons Diesel Standard	(mg/L)	1	1.0	5.0	1.0	1		A Laurala	Recommended by t	he Department of He lth Services, April 1	SAU UT

(a) Values estimated to two rignificant figures based on field measurements. (b) Due to settlement of particulates, turbidity varied with time from sample collection. Values are approximate.

(c) - indicates parameter below detection limit. Blank indicates no test performed or no water quality criteria known.

(d) Drinking Water Regulations Under the Safe Drinking Water Act. U.S. EPA,

Criteria and Standards Division, Washinton D.C. February, 1989.

(e) State of California Department of Health Services, Recently Adopted Maximum Contaminant Levels for Contaminants in Drinking Water. April, 1989. California code of Regulations, Title 22.

- Services. State of California Department of Health Services, April 19, 1989.
- (2) San Francisco Bay Basin Water Quality Control Plan, California RWQCB, San Francisco Bay Region. December 1986. Table IV-1 (Shallow Water).
- (h) California State Water Resources Control Board, 1983 Water Quality Control Plan; Ocean Waters of California.
- (i) U.S. Environmental Protection Agency, Water Quality Advisories. March 1986. and U.S. Environmental Protection Agency, Quality Criteria for Water. May 1986 and various updates.
- (j) If state and federal guidelines both exist, the lower of the two concentration limits is given.

## APPENDIX B

Letter to Spieker Properties from the RWQCB, Dated December 30, 1997 Concerning Environmental Conditions at the Site



n Francisco Bay Regional Water Quality Control pard

2101 Webster Street Shite 500 kland, CA 94612 10) 286-1255 FAX (510) 286-1380



December 30, 1996 File No.: 2223.09 (SA) SMS Case File

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Spieker Properties 4900 Hopyard Road, Suite 120 Pleasanton, California 94588

Attention: Mr. John Winther

RE: Properties at 5801, 5855-5895 Christie Avenue, 5813-5815 Shellmound Street, and the Watergate Towers Complex property, Emeryville, Alameda County.

Dear Mr. Winther:

This letter contains San Francisco Bay Regional Water Quality Control Board (RWQCB) Staff's views on the environmental conditions at the above subject properties. We understand Spieker properties is considering acquisition of the properties. RWQCB Staff discussed the properties with representatives of Speiker Properties and Lathrop Properties at two meetings held on November 6, 1996, and December 3, 1996. Based on the meetings and review of information presented to us, we have the following views regarding the environmental conditions at the properties.

# Properties at 5801, 5855-5895 Christie Avenue (Christie Avenue properties) and 5813-5815 Shellmound Street

- 1. The properties, located east of Interstate I-80, are within the area of the Emeryville Brownfield's Initiative. Historically the properties were owned by Fiberboard Corporation and it's predecessors. Environmental conditions beneath the Christie Avenue properties have not been documented. Based on historical information, it appears that the Christie Avenue properties were filled with industrial debris and soil similar to that placed west of Interstate I-80.
- 2. The Christie Avenue properties have not been under the RWQCB's regulatory oversight and are not listed in the RWQCB's site management system database. However, based on the RWQCB Staff's experiences with other sites in this area, we believe that the risk to human health and the environment is most likely acceptable because the sites are paved and any subsurface hazardous constituents that may be present are essentially in deep soil layers. If subsurface work (e.g.



Our mission is to preserve and enhance the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.

They are the transplanting to make the

foundations, utilities etc.) is necessary, a risk management plan that includes plans for the possibility of handling potential hazardous materials is advisable.

- 3. With regard to groundwater beneath the properties, we do not consider the uppermost groundwater zone a suitable drinking water source. The Brownfield Initiative is a mechanism for the City of Emeryville (COE) and regulatory agencies to acknowledge the regional nature of hazardous constituents in soil and groundwater and deal with them on a regional basis which may include containment, selected risk-based cleanup, and monitoring. The COE plans to enter into a memorandum of understanding with the RWQCB, Department of Toxic Substances Control (DTSC), Environmental Protection Agency (EPA), and potentially other regulatory agencies using a regional monitoring program and risk management practices. Soil issues would remain the responsibility of the property owner or responsible party and groundwater issues would be handled by the city. In the absence of specific pollution sources, the RWQCB would not view groundwater remediation on a site by site basis, as reasonable, except where significant individual pollution sources are present.
- 4. The 5813-15 Shellmound Street Property is listed as a petroleum release site under the jurisdiction of the Alameda County Department of Environmental Health (ACDEH). Both the RWQCB and the ACDEH are using risk-based approaches to assess the need for remediation at the property.

### The Watergate Towers Complex property (located on the west side of Interstate I-80)

- 1. There are three potential issues with respect to the historical industrial landfilling at the property. These issues include: (a) Health and Safety (b) Use of groundwater for drinking and (c) effects of the landfill materials on the San Francisco Bay.
  - a. Health and Safety. Health and safety was addressed in previous reports prepared by Woodward Clyde Consultants and future potential concerns can be adequately addressed with an operations and maintenance plan that includes requirements for subsurface excavation work that might uncover potentially hazardous materials. We believe that there is no unacceptable threat to human health, for the current office/commercial use of the property, as the site is covered with pavement, building floors and asphalt parking lots.
  - b. <u>Beneficial Uses of Groundwater</u>. The shallow groundwater at the site is not a current source of drinking water and the probability of its use for domestic purposes is extremely low. In addition, deeper water-bearing zones are not likely to be impacted by vertical migration of hazardous constituents because of the presence of low permeability bay mud underlying the fill materials.
  - c. Impacts of Historic Fill Areas on the Bay. The issue of impacts of the fill areas on the San Francisco Bay is uncertain as the RWQCB has not developed or implemented guidelines to measure and assess the potential impacts of historic fill areas to San Francisco Bay. However, given the

current state of knowledge, it is unlikely that the site will come under the oversight of the RWQCB in the future. If and when the RWQCB develops a method to assess potential impacts of historical fill to San Francisco Bay, some additional assessment of potential releases of hazardous constituents from the site to the Bay may be required. It is unlikely that containment systems would be required.

- 2. The RWQCB staff consider the site to be an area of "random fill" and therefore not subject to reporting requirements under the California Code of Regulations, Title 23, Chapter 15. The site is currently not subject to RWQCB environmental regulatory oversight and that status is not likely to change in the future. The concern with the hazardous constituents in the fill relates primarily to metals contained in the fill and their potential mobility into the Bay. Further assessment of soluble constituents and the potential for their migration from the site to the Bay may be required if and/or when the RWQCB develops methods to assess similar sites around the Bay. The RWQCB recognizes the difficulty in differentiating between the potential contributions of hazardous constituents to the Bay from historical and current sources.
- 3. Since the site is located adjacent to the San Francisco Bay, any regulatory actions at the site should be based on protection of water quality, environment, and human health. Thus, the RWQCB is the appropriate agency for handling regulatory activities associated with the site.

We hope that this letter clarifies the RWQCB Staff's views on the properties. If you have any questions, please call Sumadhu Arigala at (510)-286-0434.

Sincerely, Loretta K Barsamian, Executive Officer

Stephen I. Morse, By Dam Chief, Toxics Division.

cc: Curtis Scott, Landfills Section, RWQCB

Barbara Cook, DTSC 700 Heinz Avenue, Suite 200 Berkeley, CA 94710-2737

Charles Almestad, Golder Associates 1451 Harbor Bay Parkway, Suite 1000 Alameda, CA 94502

Bruce Klafter, Orrick Herrington & Sutcliffe Old Federal Reserve Bank Building 400 Sansome Street, San Francisco, CA 94111-3143