

ATTACHMENT 4

**Waste Discharge Requirements
and
Water Quality Certification
Oak to Ninth Project
City of Oakland, Alameda County**

**Groundwater and Soil Contamination Levels at the
Project Site
and
Protocols for Discharging Contaminated Groundwater
During Project Construction**

Attachment 4. Contamination at the Project Site and Construction Dewatering.

Disposal and/or Treatment of Extracted Groundwater and Decontamination Wash Water.

Extracted groundwater and decontamination wash water will either be discharged to the East Bay Municipal Utility District (EBMUD) sanitary sewer system or will be treated onsite and discharged to the Bay under a National Pollutant Discharge Elimination System (NPDES) discharge permit. The Discharger prefers to discharge water to EBMUD, but if the quantity of extracted groundwater is too large to make discharge to EBMUD facilities practical, onsite treatment and discharge to the Bay may be necessary. The Discharger shall inform the Regional Water Board of the method selected for each phase of the Project no later than 60 days prior to the start of Project construction for that phase.

Discharge of Extracted Groundwater to EBMUD

If extracted groundwater and decontamination wash water will be disposed of by trucking to the East Bay Municipal Utility District (EBMUD) treatment plant or discharged directly to the EBMUD sanitary sewer, the Contractor shall apply for an EBMUD permit for trucked waste and/or direct discharge to the sanitary sewer. Final EBMUD permit conditions will be specified when the permit is issued. EBMUD disposal options may be further evaluated after approval of EBMUD permits that specify discharge limits.

The planned protocol for managing extracted groundwater generated during soil remediation or excavation activities at the Site is summarized below.

- If untreated groundwater meets the discharge standards in the EBMUD permit for trucked waste or direct discharge to sanitary sewer, extracted groundwater will be trucked to the EBMUD treatment plant for disposal or directly discharged to the EBMUD sanitary sewer without treatment.
- If chemical concentrations in the untreated groundwater exceed the discharge standards in the EBMUD permit for trucked waste or direct discharge to sanitary sewer, the Contractor will dispose of the extracted groundwater at a DTSC-permitted off-site disposal facility unless the volume of extracted groundwater is sufficient to make off-site disposal of extracted groundwater cost prohibitive.
- If off-site disposal of extracted groundwater is deemed to be cost prohibitive, the Contractor will treat extracted groundwater using an on-site treatment system to meet discharge standards in the EBMUD permit for trucked waste or direct discharge to sanitary sewer. Treated groundwater will then be trucked to the EBMUD treatment plant for disposal or directly discharged to the EBMUD sanitary sewer.

Recovered separate phase product, if present, will be disposed of at an off-site DTSC-permitted facility. Excavation dewatering water, decontamination wash water, and recovered separate phase product will be transported and/or disposed in accordance with procedures to be identified in the Traffic Control and Waste Transportation Plan as required by the *Final Response Plan for the Oak-to-Ninth development* (EKI, 2010).

If a temporary on-site groundwater treatment system for extracted groundwater is required prior to trucking to the EBMUD treatment plant for disposal or discharging directly to the EBMUD sanitary sewer, the final design of the treatment system will be provided by the Contractor as part of the EBMUD permit application, and it may include equalization and settling tank(s), multi-media filters to remove sediments, oil-water separator to remove potential separate phase product,

and granular activated carbon to remove organic compounds. The treated effluent will be trucked to the EBMUD treatment plant for disposal or directly discharged to the EBMUD sanitary sewer.

Based on the Site data summarized in the *Final Response Plan for the Oak-to-Ninth development* (EKI, 2010) (See Table 1 in this Attachment), the combined influent stream from dewatering and extracting groundwater from the excavations during soil remediation activities is anticipated to qualify as non-hazardous waste. Under California Health and Safety Code, Division 20, Chapter 6.8, Section 25358.9(a), if the remedial action is implemented in accordance with a Remedial Action Plan pursuant to Section 25356.1, and the response action complies with the laws and regulations, the DTSC may exclude the response action conducted entirely from on-site hazardous waste facility permit requirements of Section 25201.

The temporary on-site groundwater treatment and extraction system will be operated throughout the excavation and backfill phases of the project but will not be a permanent facility. After completion of soil excavation for Project construction, the Contractor will remove the treatment system.

Discharge to Surface Water under the VOC and Fuel General Permit.

The Regional Water Board adopted Resolution No. 88-160 on October 19, 1988. The Resolution urges dischargers of extracted groundwater from site cleanup projects to reuse their treated groundwater. When reuse is not technically and/or economically feasible, dischargers are to discharge the groundwater to a publicly owned treatment works (POTW). If neither reuse nor discharge to a POTW is technically or economically feasible, and if beneficial uses of the receiving water will not be adversely affected, the Regional Water Board may authorize the discharge of treated groundwater in accordance with the requirements of Regional Water Board Order No. R2-2012-0012 (NPDES No. CAG912002), *General Waste Discharge Requirements For: Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOCs), Fuel Leaks and Other Related Wastes* (VOC and Fuel General Permit).

If treatment and disposal to EBMUD facilities is not practical, the Discharger may treat extracted groundwater and discharge it to the Oakland Inner Harbor under the VOC and Fuel General Permit. If contaminant levels are consistent with the use of the VOC and Fuel General Permit, the Discharger will file a Notice of Intent (NOI) Form, as described in the VOC and Fuel General Permit, and a filing fee equivalent to the first year's annual fee, and receive an Authorization to Discharge letter from the Regional Water Board's Executive Officer prior to discharging treated water to the Oakland Inner Harbor. The Discharger is responsible for complying with the discharge limitations, including the treatment levels for constituents of concern, set forth in the VOC and Fuel General Permit.

TABLE 1
SUMMARY OF GROUNDWATER DATA
Oakland Harbor Partners, LLC, Oakland, California

Chemical (a)	Groundwater						Screening Level Based on Surface Water Protection (ug/L) (c)
	Number of Samples Analyzed	Number of Detections	Frequency of Detection	Minimum Detection (ug/L)	Maximum Detection (ug/L) (b)		
Metals and Cyanide							
Antimony	158	37	23%	1.02	64.7	500	ESL
Arsenic	162	127	78%	1.01	63	36	ESL
Barium	161	161	100%	11	4,500	50,000	ESL
Beryllium	158	11	7%	2	3.6	50,000	ESL
Cadmium	179	4	2%	2	5.1	9.3	ESL
Chromium	177	85	48%	1.23	84	50,000	ESL
Chromium, Hexavalent	73	17	23%	0.204	160	50	ESL
Cobalt	158	57	36%	1.03	58	50,000	ESL
Copper	209	113	54%	1.27	1,800	3.1	ESL
Cyanide	10	1	10%	20	20	1	ESL
Dibutyltin	57	35	61%	0.33	0.62	0.0074	EPA
Lead	241	56	23%	1.16	2,300	6	ESL
Mercury	183	31	17%	0.2	11	0.025	ESL
Molybdenum	158	73	46%	1.04	80.7	50,000	ESL
Nickel	175	95	54%	1.46	83	8.2	ESL
Selenium	162	128	79%	1.62	70.3	71	ESL
Silver	162	6	4%	1.03	1.73	0.19	ESL
Thallium	158	0	0%	0	0	4	ESL
Tin	252	0	0%	0	0	--	--
Tributyltin	57	0	0%	0	0	0.0074	EPA
Vanadium	158	84	53%	1.08	62	50,000	ESL
Zinc	196	124	63%	4.21	1,000	81	ESL
VOCs							
Acetone	252	26	10%	11	18,000	50,000	ESL
Benzene	548	112	20%	0.5	8,600	350	ESL
Bromomethane	301	1	0%	417	417	3,200	ESL
1,3-Butadiene	0	0	--	--	--	--	--
2-Butanone	251	36	14%	5.2	14,000	50,000	ESL
tert-Butyl Alcohol	18	2	11%	20	21	50,000	
n-Butylbenzene	125	1	1%	2.58	2.58	--	--
sec-Butylbenzene	125	1	1%	1.4	1.4	--	--
Carbon Disulfide	250	13	5%	1	170	--	--
Chlorobenzene	367	33	9%	0.51	2,200	64.5	ESL
Chloroethane	358	22	6%	100	6,300	160	ESL
Chloroform	308	4	1%	0.73	240	3,200	ESL
Chloromethane	301	0	0%	--	--	3,200	ESL
Cyclohexane	--	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane	102	1	1%	1.8	1.8	100	ESL
1,2-Dichlorobenzene	162	1	1%	2.5	2.5	64.5	ESL
1,3-Dichlorobenzene	162	0	0%	--	--	65	ESL
1,4-Dichlorobenzene	163	7	4%	4.45	22	64.5	ESL
Dichlorodifluoromethane	160	0	0%	--	--	--	--
1,1-Dichloroethane	366	40	11%	0.5	20,000	50,000	ESL
1,2-Dichloroethane	370	12	3%	2.9	740	2000	ESL
1,1-Dichloroethene	366	16	4%	0.6	1,370	15,000	ESL

TABLE 1
SUMMARY OF GROUNDWATER DATA
Oakland Harbor Partners, LLC, Oakland, California

Chemical (a)	Groundwater						Screening Level Based on Surface Water Protection (ug/L) (c)
	Number of Samples Analyzed	Number of Detections	Frequency of Detection	Minimum Detection (ug/L)	Maximum Detection (ug/L) (b)		
VOCs							
cis-1,2-Dichloroethene	344	45	13%	0.57	260,000	22,400	ESL
trans-1,2-Dichloroethene	351	23	7%	1.5	2,700	2,600	ESL
1,2-Dichloroethene, Total	21	1	5%	1.6	1.6	--	--
1,2-Dichloropropane	301	0	0%	--	--	100	ESL
trans-1,3-Dichloropropene	301	0	0%	--	--	--	--
1,1-Difluoroethane	--	--	--	--	--	--	--
Diisopropyl Ether	18	1	6%	16	16	--	
1,4-Dioxane	79	1	1%	238	238	50,000	ESL
Ethanol	--	--	--	--	--	--	--
Ethene	77	1	1%	590	590	--	--
Ethylbenzene	548	85	16%	0.53	1,300	43	ESL
4-Ethyltoluene	--	--	--	--	--	--	--
Heptane	--	--	--	--	--	--	--
Hexane	--	--	--	--	--	--	--
2-Hexanone	193	0	0%	--	--	--	--
Iso-octane	--	--	--	--	--	--	--
Isopropanol	--	--	--	--	--	--	--
Isopropylbenzene	137	1	1%	3.4	3.4	--	--
4-Isopropyltoluene	125	1	1%	3.54	3.54	--	--
Methane	88	77	88%	3.18	7,941	--	--
4-Methyl-2-Pentanone	251	2	1%	17	5,600	13,000	ESL
Methyl-tert-Butyl Ether	150	7	5%	0.5	30	--	--
Methylene Chloride	301	0	0%	--	--	3,200	ESL
Naphthalene	137	12	9%	2.68	2,410	62	ESL
n-Propylbenzene	125	3	2%	6.31	118	--	--
Styrene	278	0	0%	--	--	110	ESL
Tetrachloroethene	301	1	0%	0.62	0.62	225	ESL
Tetrahydrofuran	0	0	--	--	--	--	--
Toluene	547	92	17%	0.3	17,000	400	ESL
1,1,1-Trichloroethane	364	25	7%	12	53,000	3,120	ESL
Trichloroethene	366	28	8%	0.73	160,000	2,190	ESL
Trichlorofluoromethane	299	0	0%	--	--	--	--
Trichlorotrifluoroethane	279	0	0%	--	--	--	--
1,2,4-Trimethylbenzene	125	1	1%	0.78	0.78	--	--
1,3,5-Trimethylbenzene	125	2	2%	0.55	9.7	--	--
Vinyl Chloride	366	29	8%	0.95	16,000	34,000	ESL
Xylenes, Total	544	97	18%	0.7	5,660	100	ESL
SVOCs (Including PAHs and TICs)							
Acenaphthene	167	15	9%	0.19	142	40	ESL
Acenaphthylene	167	4	2%	0.15	2.6	30	ESL
Anthracene	167	10	6%	0.12	21.1	22	ESL
Benzo(a)Anthracene	166	3	2%	0.11	0.69	5	ESL
Benzo(a)Pyrene	167	2	1%	0.25	0.35	1.9	ESL

TABLE 1
SUMMARY OF GROUNDWATER DATA
Oakland Harbor Partners, LLC, Oakland, California

Chemical (a)	Groundwater						Screening Level Based on Surface Water Protection (ug/L) (c)
	Number of Samples Analyzed	Number of Detections	Frequency of Detection	Minimum Detection (ug/L)	Maximum Detection (ug/L) (b)		
SVOCs (Including PAHs and TICs)							
Benzo(b)Fluoranthene	119	2	2%	0.27	0.62	7	ESL
Benzo(b,k)Fluoranthene	48	0	0%	0	--	--	--
Benzo(g,h,i)Perylene	165	1	1%	0.16	0.16	0.13	ESL
Benzo(k)Fluoranthene	119	1	1%	0.18	0.18	0.4	ESL
Benzoic Acid	50	1	2%	280	280	--	--
Benzyl Alcohol	130	1	1%	11	11	--	--
Benzyl Butyl Phthalate	129	0	0%	0	--	--	--
Bis(2-Ethylhexyl)Phthalate	130	1	1%	11	11	650	ESL
o-Cresol	130	1	1%	55	55	--	--
p-Cresol	129	2	2%	4.7	110	--	--
Chrysene	167	3	2%	0.12	2.12	0.8	ESL
Dibenz(a,h)Anthracene	166	0	0%	0	--	0.25	ESL
Dibenzofuran	129	1	1%	90.8	90.8	--	--
1,2-Dichlorobenzene	130	0	0%	0	--	64.5	ESL
1,3-Dichlorobenzene	129	0	0%	0	--	65	ESL
1,4-Dichlorobenzene	130	0	0%	0	--	64.5	ESL
2,4-Dimethylphenol	130	1	1%	40	40	110	ESL
Di-n-Octyl Phthalate	130	1	1%	5.5	5.5	--	--
Fluoranthene	167	13	8%	0.1	12.8	8	ESL
Fluorene	167	10	6%	0.14	100	30	ESL
HpCDD	80	0	0%	0	--	--	--
HpCDF	80	0	0%	0	--	--	--
HxCDD	80	0	0%	0	--	--	--
Indeno(1,2,3-cd)Pyrene	167	0	0%	0	--	0.265	ESL
2-Methylnaphthalene	138	7	5%	6	108	30	ESL
Naphthalene	167	25	15%	0.16	322	62	ESL
Nitrobenzene	129	1	1%	23.1	23.1	--	--
OCDD	80	0	0%	0	--	--	--
OCDF	80	0	0%	0	--	--	--
Pentachlorophenol	130	0	0%	0	--	7.9	ESL
Phenanthrene	167	16	10%	0.11	114	4.6	ESL
Phenol	130	2	2%	14	27	256	ESL
Pyrene	166	15	9%	0.1	12	67.5	ESL
1,2,4-Trichlorobenzene	129	0	0%	0	--	65	ESL
PCBs							
PCB 1248	49	0	0%	0	--	0.03	ESL
PCB 1254	50	0	0%	0	--	0.03	ESL
PCB 1260	59	0	0%	0	--	0.03	ESL
Pesticides and Herbicides							
Aldrin	46	1	2%	0.33	0.33	0.13	ESL
Beta-BHC	45	2	4%	0.5	0.9	--	--
Chlordane (d)	45	1	2%	0.9	0.9	0.004	ESL
DDD	48	21	44%	0.099	18	0.001	ESL
DDE	48	8	17%	0.2	7.8	0.001	ESL
DDT	48	2	4%	0.11	1.6	0.001	ESL
Endosulfan II (e)	45	1	2%	0.3	0.3	0.0087	ESL
Endrin Ketone (f)	4	0	0%	0	--	0.0023	ESL
Lindane	45	0	0%	0	--	0.016	ESL

TABLE 1
SUMMARY OF GROUNDWATER DATA
Oakland Harbor Partners, LLC, Oakland, California

Chemical (a)	Groundwater						Screening Level Based on Surface Water Protection (ug/L) (c)
	Number of Samples Analyzed	Number of Detections	Frequency of Detection	Minimum Detection (ug/L)	Maximum Detection (ug/L) (b)		
TPH							
TPH as Gasoline	353	108	31%	51	48,900,000	5,000	ESL
TPH as Diesel	632	325	51%	50	620,000	2,500	ESL
TPH as Motor Oil	489	121	25%	50	26,000	2,500	ESL
TPH as Bunker C	34	11	32%	500	34,000	2,500	ESL
Oil and Grease	57	11	19%	5000	330,000	--	--

Abbreviations:

Beta-BHC = beta-Hexachlorocyclohexane
DDD = p,p'-Dichlorodiphenyldichloroethane
DDE = p,p'-Dichlorodiphenyldichloroethene
DDT = p,p'-Dichlorodiphenyltrichloroethane
HpCDF = Total heptachlorodibenzofuran
HxCDD = Total hexachlorodibenzo-p-dioxin
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PAHs = Polycyclic aromatic hydrocarbons

PCBs = Polychlorinated biphenyls
RWQCB = Regional Water Quality Control Board
SVOCs = Semi-volatile organic compounds
TIC = Tentatively Identified Compound
TPH = Total petroleum hydrocarbons
ug/L = Micrograms per liter
U.S. EPA = U.S. Environmental Protection Agency
VOCs = Volatile organic compounds

"--" = not applicable, no screening levels are available, or no data exist for the chemical because sample matrix was not analyzed for chemical or it was not detected at concentrations greater than analytical method reporting limits

Notes:

- (a) Only those chemicals that have been detected at least once above analytical method reporting limits in soil, grab groundwater, groundwater, or soil gas samples collected from the Project Area are included in this table.
- (b) Bolded values indicate that the maximum detected concentration exceeded the respective screening level.
- (c) ESLs for marine surface water bodies in RWQCB's Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, dated May 2008 (Table F-4a, RWQCB, 2008). The ceiling value presented in Table F-2b was selected as the screening level for a chemical when the lowest marine aquatic habitat goal in Table F-4a was based on drinking water or freshwater goals. U.S. EPA's Ambient Aquatic Life Water Quality Criteria for Tributyltin (U.S. EPA, 2003) was used as the screening criteria for dibutyltin and tributyltin in groundwater.
- (d) Detection in groundwater shown is for gamma-chlordane. Alpha-chlordane was also detected at a concentration of 0.05 ug/L.
- (e) ESL shown is for endosulfan.
- (f) ESL shown is for endrin.

References:

RWQCB, 2008. *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, California Regional Water Quality Control Board, San Francisco Bay Region, May 2008.
U.S. EPA, 2003. *Ambient Aquatic Life Water Quality Criteria for Tributyltin*, U.S. Environmental Protection Agency, December 2003.

Table 1
Summary of Soil Results for Metals for the Wetlands Creation Area
Oakland Harbor Partners LLC, Oak-to-Ninth Development, Oakland, California

Sample Location	Sample ID	Sample Date	Sample Depth (feet, bgs)	Analytical Results (mg/kg) (a)(b)(c)(d)																
				Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Wetlands Creation Area																				
DD-1	DD-1-0.5	9/3/2002	0.5	<2	<1	7	<0.5	1.1	9.3	6.7	100	22	1.5	<1	14	<2	<1	1.3	20	130
DD-1	DD-1-2.5	9/3/2002	2.5	--	--	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	--
DD-2	DD-2-1	9/3/2002	1	--	--	--	--	--	--	--	--	30	--	--	--	--	--	--	--	--
DD-2	DD-2-4	9/3/2002	4	<2	<1	18	<0.5	1.8	45	12	27	<1	1.1	<1	47	<2	<1	<1	49	20
OHP-PDD-SB29	PDDSB29(2.5-3)	2/2/2007	2.5-3	2.59	2.59	31	<2.5	<2.5	81.4	19	52.6	2.87	0.226	4.87	66.4	<2.5	<2.5	<2.5	98	50
OHP-PDD-SB29	PDDSB29(7.5-8)	2/2/2007	7.5-8	<2.5	<2.5	16	<2.5	<2.5	28.7	4.5	4.43	5.4	<0.1	<2.5	29.5	<2.5	<2.5	<2.5	20	17.2
OHP-PDD-SB32	PDDSB32(2-2.5)	2/5/2007	2-2.5	<2.5	3.61	81	<2.5	<2.5	57.4	8.2	25.7	12	<0.1	<2.5	43.7	<2.5	<2.5	<2.5	33	75.4
OHP-PDD-SB32	PDDSB32(7-7.5)	2/5/2007	7-7.5	<2.5	2.64	21	<2.5	<2.5	34.3	4.4	6.7	4.14	<0.1	<2.5	29.5	<2.5	<2.5	<2.5	24	23.8
OHP-PDD-SB33	PDDSB33(2-2.5)	2/5/2007	2-2.5	<2.5	13.8	269	<2.5	<2.5	41.4	13	38.2	15.9	0.282	<2.5	28	<2.5	<2.5	<2.5	52	209
OHP-PDD-SB33	PDDSB33(7-7.5)	2/5/2007	7-7.5	<2.5	<2.5	42	<2.5	<2.5	115	26	51.5	<2.5	<0.1	<2.5	105	<2.5	<2.5	<2.5	96	46.6
OHP-PDD-SB34	PDDSB34(2-2.5)	2/5/2007	2-2.5	<2.5	3.74	40	<2.5	<2.5	45.1	6.9	13	26.1	0.238	4.27	41.7	<2.5	<2.5	<2.5	30	30.6
OHP-PDD-SB34	PDDSB34(6-6.5)	2/5/2007	6-6.5	<2.5	3.49	13	<2.5	<2.5	46.7	14	26.6	<2.5	<0.1	7.3	51	<2.5	<2.5	<2.5	66	40.2
OHP-PDD-SB35	PDDSB35(2-2.5)	2/5/2007	2-2.5	<2.5	<2.5	13	<2.5	<2.5	73.1	18	80	11.6	0.293	<2.5	80.6	<2.5	<2.5	<2.5	69	223
OHP-PDD-SB35	PDDSB35(7.5-8)	2/5/2007	7.5-8	<2.5	3.99	35	<2.5	<2.5	47.9	15	55.1	21.6	0.282	<2.5	37.9	<2.5	<2.5	<2.5	74	118
OHP-PDD-SB37	PDDSB37(2-2.5)	2/5/2007	2-2.5	<2.5	7.12	68	<2.5	<2.5	14.4	11	13.5	13.5	0.182	<2.5	12.6	<2.5	<2.5	<2.5	35	77.5
OHP-PDD-SB37	PDDSB37(7.5-8)	2/5/2007	7.5-8	<2.5	<2.5	40	<2.5	<2.5	95.8	22	39.6	<2.5	0.21	<2.5	72	<2.5	<2.5	<2.5	99	41.4
OHP-PDD-SB39	PDDSB39(2-2.5)	2/5/2007	2-2.5	<2.5	4.45	52	<2.5	<2.5	32.4	15	67.7	23.9	0.598	<2.5	22	<2.5	<2.5	<2.5	97	586
OHP-PDD-SB39	PDDSB39(7-7.5)	2/5/2007	7-7.5	<2.5	2.87	24	<2.5	<2.5	40.3	5.7	7.85	4	0.165	<2.5	36.1	<2.5	<2.5	<2.5	30	28.4
Maximum Detected Concentration				2.59	13.8	269	ND	1.8	115	26	100	30	1.5	7.3	105	ND	ND	1.3	99	586
Screening Level for Wetland Surface Material				--	15.3	--	--	0.33	112	--	68.1	43.2	0.43	--	112	0.64	0.58	--	--	158
Screening Level for Wetland Foundation Material				--	70	--	--	9.6	370	--	270	218	0.7	--	120	--	3.7	--	--	410

Abbreviations:

"--" = Not available

< = Compound not detected at or above indicated laboratory detection limit

mg/kg = Milligrams per kilogram

ND = Analyte not detected above its laboratory reporting limit

Notes:

(a) Data presented herein were collected during different investigations and were analyzed by different laboratories.

(b) Only samples that were analyzed for metals are shown herein.

(c) Data from soil samples that were excavated as part of remedial activities are not included herein.

(d) Screening levels from Table 4 of the May 2000 *Draft Staff Report, Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines*. Detected concentrations that exceed the screening levels are shown in bold.

Table 2
Summary of Soil Results for PCBs and Pesticides for the Wetlands Creation Area
Oakland Harbor Partners LLC, Oak-to-Ninth Development, Oakland, California

Sample Location	Sample ID	Sample Date	Sample Depth (feet, bgs)	Analytical Results (mg/kg) (a)(b)(c)(d)							
				PCBs			Pesticides				
				PCB 1248	PCB 1254	PCB 1260	DDD	DDE	DDT	Endrin ketone	Lindane
Wetlands Creation Area											
DD-1	DD-1-0.5	9/3/2002	0.5	<0.05	<0.05	<0.05	<0.002	<0.002	<0.002	<0.002	<0.002
DD-2	DD-2-4	9/3/2002	4	<0.05	<0.05	<0.05	<0.002	<0.002	<0.002	<0.002	<0.002
OHP-PDD-SB29	PDDSB29(2.5-3)	2/2/2007	2.5-3	--	--	--	<0.01	<0.01	<0.01	--	<0.005
OHP-PDD-SB29	PDDSB29(7.5-8)	2/2/2007	7.5-8	--	--	--	<0.01	<0.01	<0.01	--	<0.005
OHP-PDD-SB32	PDDSB32(2-2.5)	2/5/2007	2-2.5	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	--	<0.005
OHP-PDD-SB32	PDDSB32(7-7.5)	2/5/2007	7-7.5	<0.1	<0.1	<0.1	--	--	--	--	--
OHP-PDD-SB33	PDDSB33(2-2.5)	2/5/2007	2-2.5	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	--	<0.005
OHP-PDD-SB33	PDDSB33(7-7.5)	2/5/2007	7-7.5	<0.1	<0.1	<0.1	--	--	--	--	--
OHP-PDD-SB34	PDDSB34(2-2.5)	2/5/2007	2-2.5	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	--	<0.005
OHP-PDD-SB34	PDDSB34(6-6.5)	2/5/2007	6-6.5	<0.1	<0.1	<0.1	--	--	--	--	--
OHP-PDD-SB35	PDDSB35(2-2.5)	2/5/2007	2-2.5	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	--	<0.005
OHP-PDD-SB35	PDDSB35(7.5-8)	2/5/2007	7.5-8	<0.1	<0.1	<0.1	--	--	--	--	--
OHP-PDD-SB37	PDDSB37(2-2.5)	2/5/2007	2-2.5	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	--	<0.005
OHP-PDD-SB37	PDDSB37(7.5-8)	2/5/2007	7.5-8	<0.1	<0.1	<0.1	--	--	--	--	--
OHP-PDD-SB39	PDDSB39(2-2.5)	2/5/2007	2-2.5	<0.1	<0.1	<0.1	0.047	0.0143	0.0352	--	<0.005
OHP-PDD-SB39	PDDSB39(7-7.5)	2/5/2007	7-7.5	<0.1	<0.1	<0.1	--	--	--	--	--
Maximum Detected Concentration				ND	ND	ND	0.047	0.0143	0.0352	ND	ND
Screening Level for Wetland Surface Material				0.0227	0.0227	0.0227	--	--	0.007	--	0.00078
Screening Level for Wetland Foundation Material				0.18	0.18	0.18	--	--	0.0461	--	--

Abbreviations:

"--" = Not available

< = Compound not detected at or above indicated laboratory detection limit

DDD = 1,1-dichloro-2, 2-bis(p-chlorophenyl)ethane

DDE = 1,1-dichloro-2, 2-bis(p-chlorophenyl)ethylene

DDT = 1,1,1-trichloro-2, 2-bis-(p-chlorophenyl)ethane

mg/kg = Milligrams per kilogram

ND = Analyte not detected above its laboratory reporting limit

PCBs = Polychlorinated Biphenyls

Notes:

(a) Data presented herein were collected during multiple investigations and were analyzed by different laboratories.

(b) Only samples that were analyzed for PCBs or pesticides are shown herein. Other PCBs and pesticides that have been detected above laboratory reporting limits.

(c) Data from soil samples that were excavated as part of remedial activities are not included herein.

(d) Screening levels from Table 4 of the May 2000 *Draft Staff Report, Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines*. Detected concentrations that exceed the screening levels are shown in bold.

Table 3
Summary of Soil Results for PAHs for the Wetlands Creation Area
Oakland Harbor Partners LLC, Oak-to-Ninth Development, Oakland, California

Sample Location	Sample ID	Sample Date	Sample Depth (feet, bgs)	Analytical Results (mg/kg) (a)(b)(c)(d)																		
				PAHs																		
				Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)Anthracene	Benzo(a)Pyrene	Benzo(b)Fluoranthene	Benzo(g,h,i)Perylene	Benzo(k)Fluoranthene	Chrysene	Dibenz(a,h)Anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)Pyrene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene	Total BaP Equivalents	Total PAHs
Wetlands Creation Area																						
DD-1	DD-1-0.5	9/3/2002	0.5	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.01	<0.005	<0.005	<0.01	--	<0.015	<0.005	<0.005	ND	ND
DD-1	DD-1-8.5	9/3/2002	8.5	0.03	<0.01	0.0082	0.034	0.04	0.028	<0.01	<0.005	0.027	<0.01	0.085	<0.005	<0.01	--	<0.015	0.038	0.088	0.04647	0.3782
DD-2	DD-2-4	9/3/2002	4	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.01	<0.005	<0.005	<0.01	--	<0.015	<0.005	<0.005	ND	ND
OHP-PDD-SB29	PDDSB29(2.5-3)	2/2/2007	2.5-3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.33	<0.05	<0.05	<0.05	ND	ND
OHP-PDD-SB29	PDDSB29(7.5-8)	2/2/2007	7.5-8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.33	<0.05	<0.05	<0.05	ND	ND
OHP-PDD-SB32	PDDSB32(2-2.5)	2/5/2007	2-2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.33	<0.05	<0.05	<0.05	ND	ND
OHP-PDD-SB32	PDDSB32(7-7.5)	2/5/2007	7-7.5	0.0769	<0.05	0.0638	0.24	0.206	0.25	0.145	0.284	0.522	<0.05	0.184	<0.05	0.11	<0.33	<0.05	<0.05	1.6	0.29962	3.6817
OHP-PDD-SB33	PDDSB33(2-2.5)	2/5/2007	2-2.5	0.768	<0.25	2.49	12	21.9	17.1	14	17	15.7	4.03	27.7	0.412	12.1	<1.65	<0.25	8.3	35.1	31.907	188.6
OHP-PDD-SB33	PDDSB33(7-7.5)	2/5/2007	7-7.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.0512	<0.05	0.0507	<0.05	<0.05	<0.33	<0.05	<0.05	0.058	0.000512	0.1599
OHP-PDD-SB34	PDDSB34(2-2.5)	2/5/2007	2-2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.33	<0.05	<0.05	<0.05	ND	ND
OHP-PDD-SB34	PDDSB34(6-6.5)	2/5/2007	6-6.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.0573	<0.05	0.0503	<0.05	<0.05	<0.33	<0.05	<0.05	0.0639	0.000573	0.1715
OHP-PDD-SB35	PDDSB35(2-2.5)	2/5/2007	2-2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.33	<0.05	<0.05	<0.05	ND	ND
OHP-PDD-SB35	PDDSB35(7.5-8)	2/5/2007	7.5-8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.33	<0.05	<0.05	0.0869	ND	0.0869
OHP-PDD-SB37	PDDSB37(2-2.5)	2/5/2007	2-2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.33	<0.05	<0.05	<0.05	ND	ND
OHP-PDD-SB37	PDDSB37(7-7.5)	2/5/2007	7-7.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.33	<0.05	<0.05	<0.05	ND	ND
OHP-PDD-SB39	PDDSB39(2-2.5)	2/5/2007	2-2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.258	<0.05	<0.05	<0.05	<0.05	<1.65	<0.05	<0.05	0.0667	0.00258	0.3247
OHP-PDD-SB39	PDDSB39(7-7.5)	2/5/2007	7-7.5	<0.05	<0.05	<0.05	<0.05	0.0608	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.33	<0.05	<0.05	<0.05	0.0608	0.0608
OHP-PDD-SB40	PDDSB40(5-5.5)	3/14/2007	5-5.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.33	<0.05	<0.05	<0.05	ND	ND
OHP-PDD-SB40	PDDSB40(6.5-7)	3/14/2007	6.5-7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.33	<0.05	<0.05	<0.05	ND	ND
Maximum Detected Concentration				0.768	ND	2.49	12	21.9	17.1	14	17	15.7	4.03	27.7	0.412	12.1	ND	ND	8.3	35.1	31.907	188.6
Screening Level for Wetland Surface Material				0.026	0.088	0.088	0.412	0.371	0.371	0.31	0.258	0.289	0.0327	0.514	0.0253	0.382	0.0194	0.0558	0.237	0.665	--	3.39
Screening Level for Wetland Foundation Material				0.5	0.64	1.1	1.6	1.6	--	--	--	2.8	0.26	5.1	0.54	--	0.67	2.1	1.5	2.6	--	44.792

Abbreviations:
"--" = Not available
< = Compound not detected at or above indicated laboratory detection limit
BaP = Benzo(a)pyrene
bgs = below ground surface
J = Estimated value
mg/kg = Milligrams per kilogram
ND = Analyte not detected above its laboratory reporting limit
PAHs = Polycyclic aromatic hydrocarbons

Notes:
(a) Data presented herein were collected during different investigations and were analyzed by different laboratories.
(b) Only samples that were analyzed for PAHs are shown herein.
(c) Data from soil samples that were excavated as part of remedial activities are not included herein.
(d) Screening levels from Table 4 of the May 2000 *Draft Staff Report, Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines* . Detected concentrations that exceed the screening levels are shown in bold.