TABLE B-26
ELUTRIATE ANALYSIS
SITE AR1-1C, mixed with Mississippi River water

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	Mississippi Water	Elutriate	Applicable Acute Criteria
Antimony	<12,000	<3	<60	
Arsenic (total)	7,700	<3	15	360
Arsenic (III)				360
Beryllium	920	<0.6	0.67	
Cadmium	<1,000	0.3	0.3	6.2
Chromium (total)	19,000	4	17	
Chromium (VI)				16
Chromium (III)				1700
Copper	23,000	<14	190	22
Lead	27,000	6.3	11	137
Mercury	<100		<0.20	2.4
Nickel	25,000	<23	<23	1999
Selenium	<600	<3	<3	
Silver	<1,800	<0.4	<0.4	8.2
Thallium	<400	<2	<2	
Zinc	95,000	100	190	120
Aluminum	13,000,000	4,200	12,000	
Barium	160,000	94	150	
Boron	20,400	<100	140	
Calcium	7,600,000	44,000	31,000	
Cobalt	12,000	<11	<11	
Iron	23,000,000	3,900	12,000	
Magnesium	5,900,000	14,000	34,000	
Manganese	1,200,000	160	2,400	
Molubdenum	<20,400	<1	<100	
Potassium	2,200,000	4,000	14,000	
Vanadium	29,000	<13	27	
TRP Hydrocarbons	14,000	<1,000	broken	
Aldrin	<3.5		broken	3.0
A-BHC	<3.5	<0.05	broken	
B-BHC	<3.5	<0.05	broken	
G-BHC	<3.5	<0.05	broken	2.0
D-BHC	<3.5	<0.05	broken	
PPDDD	<6.9	<0.01	broken	0.03
PPDDE	<6.9	<0.1	broken	52.5
PPDDT	<6.9	<0.1	broken	1.1
Heptachlor	<3.5	<0.05	broken	0.52
Dieldrin	<6.9	<0.1	broken	2.5
A-Endosulfan	<3.5	<0.05	broken	
B-Endosulfan	<6.9	<0.1	broken	
Endosulfan				0.22
Endosulfan sulfate	<6.9	<0.1	broken	
Endrin	<6.9	<0.1	broken	0.18
Endrin Aldehyde	<6.9	<0.1	broken	
Heptachlor Epoxide	<3.5	<0.05	broken	
Methoxychlor	<3.5	<0.5	broken	
Chlordane	<3.5	<0.05	broken	2.4
Toxaphene	<350	<5	broken	0.73
PCB-1016	<67	<1	broken	2.0
PCB-1221	<135	<2	broken	2.0
PCB-1232	<67	<1	broken	2.0
PCB-1242	<67	<1	broken	2.0
PCB-1248	<67	<1	broken	2.0
PCB-1254	<67	<1	broken	2.0
PCB-1260	<67	<1	broken	2.0
Phenol	<670	<10	broken	700
2-Chlorophenol	<670	<10	broken	258
2-Nitrophenol	<670	<10	broken	
2,4-Dimethylphenol	<670	<10	broken	
2,4-Dichlorophenol	<670	<10	broken	202
4-Chloro-3-Methylphenol	<670	<10	broken	
2,4,6-Trichlorophenol	<670	<10	broken	

Sampling Site A (between existing lock and river)
Composite of sediments from various depths

TABLE B-26 (continued)

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	Mississippi Water	Elutriate	Applicable Acute Criteria
2,4-Dinitrophenol	<3,300	<50	broken	
4-Nitrophenol	<3,300	<50	broken	
2-Methyl-4,6-Dinotrophenol	<3,300	<50	broken	
Pentachlorophenol	<3,300	<50	broken	20
Benzoic Acid	<3,300	<50	broken	
2-Methylphenol	<670	<10	broken	
4-Methylphenol	<670	<10	broken	
2,4,5-Trichlorophenol	<3,300	<50	broken	
Benzyl Alcohol	<670	<10	broken	
N-Nitrosodimethylamine			broken	
Bis(2-Chloroisopropyl)Ether	<670	<10	broken	
N-Nitroso-Di-N-Propylamine	<670	<10	broken	
Nitrobenzene	<670	<10	broken	
Isophorone	<670	<10	broken	
Bis(2-Chloroethoxy)Methane	<670	<10	broken	
2,6-Dinitrotoluene	<670	<10	broken	
2,4-Dinitrotoluene	<670	<10	broken	
1,2-Diphenylhydrazine			broken	
Benzidine			broken	250
3,3'Dichlorobenzidine	<1,300	<20	broken	
Bis(2-Chloroethyl)Ether	<670	<10	broken	
1,3-Dichlorobenzene	<670	<10	broken	
1,4-Dichlorobenzene	<670	<10	broken	
1,2-Dichlorobenzene	<670	<10	broken	
Hexachloroethane	<670	<10	broken	
1,2,4-Trichlorobenzene	<670	<10	broken	
Naphthalene	<670	<10	broken	
Hexachlorobutadiene	<670	<10	broken	5.1
Hexachlorocyclopentadiene	<670	<10	broken	
2-Chloronaphthalene	<670	<10	broken	
Acenaphthylene	<670	<10	broken	
Dimehtyl Phthalate	<670	<10	broken	
Acenaphthene	<670	<10	broken	
Fluorene	<670	<10	broken	
Diethyl Phthalate	<670	<10	broken	
4-Chlorophenyl Phenyl Ether	<670	<10	broken	
N-Nitrosodiphenyl Amine	<670	<10	broken	
4-Bromophenyl Ether	<670	<10	broken	
Hexachlorobenzene	<670	<10	broken	
Phenathrene	140	<10	broken	
Anthracene	<670	<10	broken	
Dibutylphthalate	160	<10	broken	
Fluoranathene	<670	<10	broken	
Pyrene	380	<10	broken	
Butylbenzylphthalate	<670	<10	broken	
Chrysene	200	<10	broken	
Benzo(a)Antharacene	130	<10	broken	
Bis(2-Ethylexyl)Phthalate	100	1	broken	
Di-N-Octyphthalate	<670	<10	broken	
Benxo(a)Fluoranthene	290	<10	broken	
Benzo(k)Fluoranthene	<670	<10	broken	
Benzo(a)Pyrene	86	<10	broken	
Indeno(1,2,3-C,D)Pyrene	69	<10	broken	
Dibenzo(A,H)Anthracene	<670	<10	broken	
Benzo(G,H,I)Perylene	<670	<10	broken	
Aniline			broken	
4-Chloroaniline	<670	<10	broken	
Dibenzofuran	<670	<10	broken	
2-Methylnaphthalene	<670	<10	broken	
2-Nitroaniline	<3,300	<50	broken	
3-Nitroaniline	<3,300	<50	broken	
4-Nitroaniline	<3,300	<50	broken	

< Actual value is less than value shown

TABLE B-27
ELUTRIATE ANALYSIS
SITE CR1-AT, mixed with IHNC water

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	IHNC Water	Elutriate	Applicable Acute Criteria
Antimony	<17,700	<3	<3	
Arsenic (total)	9,000	<3	3.8	69
Arsenic (III)				69
Beryllium	1,160	<0.6	<0.6	
Cadmium	<1,500	<3	<0.3	43
Chromium (total)	29,000	<2	3.3	
Chromium (III)				515
Chromium (VI)				1,100
Copper	59,000	<14	110	2.9
Lead	49,000	3.3	3.4	140
Mercury	<100		0.2	2.1
Nickel	32,000	<23	<23	75
Selenium	<900	<3	<6	
Silver	<2,700	<0.4	<0.4	2.3
Thallium	<600	<2	<2	
Zinc	180,000	<20	82	95
Aluminum	18,000,000	900	84	
Barium	530,000	66	140	
Boron	30,400	900	890	
Calcium	4,300,000	100,000	97,000	
Cobalt	13,000	<11	<11	
Iron	31,000,000	860	130	
Magnesium	7,700,000	250,000	290,000	
Manganese	760,000	180	2,300	
Molubdenum	<29,500	<1	<100	
Potassium	4,200,000	91,000	89,000	
Vanadium	40,000	<13	<13	
TRP Hydrocarbons	26,000	<1,000	<1,000	
Aldrin	<5	<0.05	<0.05	1.3
A-BHC	<5	<0.05	<0.05	
B-BHC	<5	<0.05	<0.05	
G-BHC	<5	<0.05	<0.05	0.160
D-BHC	<5	<0.05	<0.05	
PPDDD	<10	<0.01	<0.1	1.25
PPDDE	<10	<0.1	<0.1	0.7
PPDDT	<10	<0.1	<0.1	0.13
Heptachlor	<5	<0.05	<0.05	0.053
Dieldrin	<10	<0.1	<0.1	0.71
A-Endosulfan	<5	<0.05	<0.05	
B-Endosulfan	<10	<0.1	<0.1	
Endosulfan				0.034
Endosulfan sulfate	<10	<0.1	<0.1	
Endrin	<10	<0.1	<0.1	0.037
Endrin Aldehyde	<10	<0.1	<0.1	
Heptachlor Epoxide	<5	<0.05	<0.5	
Methoxychlor	<50	<0.5	<0.5	2.1
Chlordane	<5	<0.05	<0.05	0.09
Toxaphene	<500	<5	<5	0.21
PCB-1016	<97	<1	<1	10
PCB-1221	<190	<2	<2	10
PCB-1232	<97	<1	<1	10
PCB-1242	<97	<1	<1	10
PCB-1248	<97	<1	<1	10
PCB-1254	<97	<1	<1	10
PCB-1260	<97	<1	<1	10
Phenol	<970	<10	<14	580
2-Chlorophenol	<970	<10	<14	
2-Nitrophenol	<970	<10	<14	
2,4-Dimethylphenol	<970	<10	<14	
2,4-Dichlorophenol	<970	<10	<14	
4-Chloro-3-Methylphenol	<970	<10	<14	
2,4,6-Trichlorophenol	<970	<10	<14	

Sampling Site C (between existing lock and Claiborne Ave)
Sediments from 0' to 1' deep

TABLE B-27 (continued)

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	IHNC Water	Elutriate	Applicable Acute Criteria
2,4-Dinitrophenol	<4,700	<50	<68	
4-Nitrophenol	<4,700	<50	<68	
2-Methyl-4,6-Dinotrophenol	<4,700	<50	<68	
Pentachlorophenol	<4,700	<50	<68	13
Benzoic Acid	<4,700	<50	<68	
2-Methylphenol	<970	<10	<14	
4-Methylphenol	<970	<10	<14	
2,4,5-Trichlorophenol	<4,700	<50	<68	
Benzyl Alcohol	<970	<10	<14	
N-Nitrosodimethylamine				
Bis(2-Chloroisopropyl)Ether	<970	<10	<14	
N-Nitroso-Di-N-Propylamine	<970	<10	<14	
Nitrobenzene	<970	<10	<14	
Isophorone	<970	<10	<14	
Bis(2-Chloroethoxy)Methane	<970	<10	<14	
2,6-Dinitrotoluene	<970	<10	<14	
2,4-Dinitrotoluene	<970	<10	<14	
1,2-Diphenylhydrazine				
Benzidine				125
3,3'Dichlorobenzidine	<1,900	<20	<27	
Bis(2-Chloroethyl)Ether	<970	<10	<14	
1,3-Dichlorobenzene	<970	<10	<14	
1,4-Dichlorobenzene	<970	<10	<14	
1,2-Dichlorobenzene	<970	<10	<14	
Hexachloroethane	<970	<10	<14	
1,2,4-Trichlorobenzene	<970	<10	<14	
Naphthalene	<970	<10	<14	
Hexachlorobutadiene	<970	<10	<14	1.6
Hexachlorocyclopentadiene	<970	<10	<14	
2-Chloronaphthalene	<970	<10	<14	
Acenaphthylene	<970	<10	<14	
Dimehtyl Phthalate	<970	<10	<14	
Acenaphthene	<970	<10	<14	
Fluorene	<970	<10	<14	
Diethyl Phthalate	<970	<10	<14	
4-Chlorophenyl Phenyl Ether	<970	<10	<14	
N-Nitrosodiphenyl Amine	<970	<10	<14	
4-Bromophenyl Ether	<970	<10	<14	
Hexachlorobenzene	<970	<10	<14	
Phenathrene	<970	<10	<14	
Anthracene	<970	<10	<14	
Dibutylphthalate	<970	<10	<14	
Fluoranathene	<970	<10	<14	
Pyrene	170	<10	<14	
Butylbenzylphthalate	<970	<10	<14	
Chrysene	<970	<10	<14	
Benzo(a)Antharacene	<970	<10	<14	
Bis(2-Ethylexyl)Phthalate	290	1	2	
Di-N-Octyphthalate	<970	<10	<14	
Benxo(a)Fluoranthene	170	<10	<14	
Benzo(k)Fluoranthene	<970	<10	<14	
Benzo(a)Pyrene	<970	<10	<14	
Indeno(1,2,3-C,D)Pyrene	<970	<10	<14	
Dibenzo(A,H)Anthracene	<970	<10	<14	
Benzo(G,H,I)Perylene	<970	<10	<14	
Aniline				
4-Chloroaniline	<970	<10	<14	
Dibenzofuran	<970	<10	<14	
2-Methylnaphthalene	<970	<10	<14	
2-Nitroaniline	<4,700	<50	<68	
3-Nitroaniline	<4,700	<50	<68	
4-Nitroaniline	<4,700	<50	<68	

< Actual value is less than value shown

TABLE B-28
ELUTRIATE ANALYSIS
SITE CR1-AM, mixed with IHNC water

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	IHNC Water	Elutriate	Applicable Acute Criteria
Antimony	<14,800	<3	<3	
Arsenic (total)	11,000	<3	3.5	69
Arsenic (III)				69
Beryllium	1,120	<0.6	<0.6	
Cadmium	<1,200	<3	<0.3	43
Chromium (total)	26,000	<2	2.8	
Chromium (VI)				1,100
Chromium (III)				515
Copper	38,000	<14	200	2.9
Lead	90,000	3.3	13	140
Mercury	200		<0.2	2.1
Nickel	29,000	<23	<23	75
Selenium	<800	<3	<6	
Silver	<2,200	<0.4	<0.4	2.3
Thallium	<500	<2	<2	
Zinc	230,000	<20	220	95
Aluminum	16,000,000	900	210	
Barium	1,600,000	66	250	
Boron	<24,600	900	870	
Calcium	4,800,000	100,000	88,000	
Cobalt	13,000	<11	<11	
Iron	29,000,000	860	500	
Magnesium	6,600,000	250,000	260,000	
Manganese	650,000	180	310	
Molubdenum	<24,600	<1	<100	
Potassium	3,700,000	91,000	91,000	
Vanadium	38,000	<13	<13	
TRP Hydrocarbons	15,000	<1,000	<1,000	
Aldrin	<4.2	<0.05	<0.05	1.3
A-BHC	<4.2	<0.05	<0.05	
B-BHC	<4.2	<0.05	<0.05	
G-BHC	<4.2	<0.05	<0.05	0.160
D-BHC	<4.2	<0.05	<0.05	
PPDDD	<8.5	<0.01	<0.1	1.25
PPDDE	<8.5	<0.1	<0.1	0.7
PPDDT	<8.5	<0.1	<0.1	0.13
Heptachlor	<4.2	<0.05	<0.05	0.053
Dieldrin	<8.5	<0.1	<0.1	0.71
A-Endosulfan	<4.2	<0.05	<0.05	
B-Endosulfan	<8.5	<0.1	<0.1	
Endosulfan				0.034
Endosulfan sulfate	<8.5	<0.1	<0.1	
Endrin	<8.5	<0.1	<0.1	0.037
Endrin Aldehyde	<8.5	<0.1	<0.1	
Heptachlor Epoxide	<4.2	<0.05	<0.5	
Methoxychlor	<42	<0.5	<0.5	2.1
Chlordane	<4.2	<0.05	<0.05	0.09
Toxaphene	<420	<5	<5	0.21
PCB-1016	<82	<1	<1	10
PCB-1221	<160	<2	<2	10
PCB-1232	<82	<1	<1	10
PCB-1242	<82	<1	<1	10
PCB-1248	<82	<1	<1	10
PCB-1254	<82	<1	<1	10
PCB-1260	<82	<1	<1	10
Phenol	<820	<10	<12	580
2-Chlorophenol	<820	<10	<12	
2-Nitrophenol	<820	<10	<12	
2,4-Dimethylphenol	<820	<10	<12	
2,4-Dichlorophenol	<820	<10	<12	
4-Chloro-3-Methylphenol	<820	<10	<12	
2,4,6-Trichlorophenol	<820	<10	<12	

Sampling Site C (between existing lock and Claiborne Ave)
Sediments from 1' to 5' deep

TABLE B-28 (continued)

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	IHNC Water	Elutriate	Applicable Acute Criteria
2,4-Dinitrophenol	<4,000	<50	<60	
4-Nitrophenol	<4,000	<50	<60	
2-Methyl-4,6-Dinotrophenol	<4,000	<50	<60	
Pentachlorophenol	<4,000	<50	<60	13
Benzoic Acid	<4,000	<50	<60	
2-Methylphenol	<820	<10	<12	
4-Methylphenol	<820	<10	<12	
2,4,5-Trichlorophenol	<4,000	<50	<60	
Benzyl Alcohol	<820	<10	<12	
N-Nitrosodimethylamine				
Bis(2-Chloroisopropyl)Ether	<820	<10	<12	
N-Nitroso-Di-N-Propylamine	<820	<10	<12	
Nitrobenzene	<820	<10	<12	
Isophorone	<820	<10	<12	
Bis(2-Chloroethoxy)Methane	<820	<10	<12	
2,6-Dinitrotoluene	<820	<10	<12	
2,4-Dinitrotoluene	<820	<10	<12	
1,2-Diphenylhydrazine				
Benzidine				125
3,3'Dichlorobenzidine	<1,600	<20	<24	
Bis(2-Chloroethyl)Ether	<820	<10	<12	
1,3-Dichlorobenzene	<820	<10	<12	
1,4-Dichlorobenzene	<820	<10	<12	
1,2-Dichlorobenzene	<820	<10	<12	
Hexachloroethane	<820	<10	<12	
1,2,4-Trichlorobenzene	<820	<10	<12	
Naphthalene	<820	<10	<12	
Hexachlorobutadiene	<820	<10	<12	1.6
Hexachlorocyclopentadiene	<820	<10	<12	
2-Chloronaphthalene	<820	<10	<12	
Acenaphthylene	<820	<10	<12	
Dimehtyl Phthalate	<820	<10	<12	
Acenaphthene	160	<10	<12	
Fluorene	160	<10	<12	
Diethyl Phthalate	110	<10	<12	
4-Chlorophenyl Phenyl Ether	<820	<10	<12	
N-Nitrosodiphenyl Amine	<820	<10	<12	
4-Bromophenyl Ether	<820	<10	<12	
Hexachlorobenzene	<820	<10	<12	
Phenathrene	540	<10	<12	
Anthracene	110	<10	<12	
Dibutylphthalate	84	<10	<12	
Fluoranathene	1,400	<10	<12	
Pyrene	1,100	<10	<12	
Butylbenzylphthalate	<820	<10	<12	
Chrysene	270	<10	<12	
Benzo(a)Antharacene	220	<10	<12	
Bis(2-Ethylexyl)Phthalate	300	1	7	
Di-N-Octyphthalate	<820	<10	<12	
Benxo(a)Fluoranthene	430	<10	<12	
Benzo(k)Fluoranthene	<820	<10	<12	
Benzo(a)Pyrene	150	<10	<12	
Indeno(1,2,3-C,D)Pyrene	140	<10	<12	
Dibenzo(A,H)Anthracene	<820	<10	<12	
Benzo(G,H,I)Perylene	<820	<10	<12	
Aniline				
4-Chloroaniline	<820	<10	<12	
Dibenzofuran	<820	<10	<12	
2-Methylnaphthalene	<820	<10	<12	
2-Nitroaniline	<4,000	<50	<60	
3-Nitroaniline	<4,000	<50	<60	
4-Nitroaniline	<4,000	<50	<60	

< Actual value is less than value shown

TABLE B-29
ELUTRIATE ANALYSIS
SITE CR1-AB, mixed with IHNC water

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	IHNC Water	Elutriate	Applicable Acute Criteria
Antimony	<10,300	<3	<3	
Arsenic (total)	9,500	<3	<3.0	69
Arsenic (III)				69
Beryllium	900	<0.6	<0.6	
Cadmium	<900	<3	<0.3	43
Chromium (total)	16,000	<2	<2.0	
Chromium (VI)				1,100
Chromium (III)				515
Copper	20,000	<14	81	2.9
Lead	18,000	3.3	7.9	140
Mercury	100		<0.2	2.1
Nickel	24,000	<23	<23	75
Selenium	<500	<3	<6	
Silver	<1,500	<0.4	<0.4	2.3
Thallium	<300	<2	<2	
Zinc	72,000	<20	120	95
Aluminum	11,000,000	900	120	
Barium	110,000	66	420	
Boron	<17,100	900	900	
Calcium	13,000,000	100,000	96,000	
Cobalt	9,500	<11	<11	
Iron	20,000,000	860	250	
Magnesium	8,100,000	250,000	260,000	
Manganese	620,000	180	81	
Molubdenum	<17,100	<1	<100	
Potassium	3,400,000	91,000	87,000	
Vanadium	25,000	<13	<13	
TRP Hydrocarbons	11,000	<1,000	<1,000	
Aldrin	<2.9	<0.05	<0.05	1.3
A-BHC	<2.9	<0.05	<0.05	
B-BHC	<2.9	<0.05	<0.05	
G-BHC	<2.9	<0.05	<0.05	0.160
D-BHC	<2.9	<0.05	<0.05	
PPDDD	<5.9	<0.01	<0.1	1.25
PPDDE	<5.9	<0.1	<0.1	0.7
PPDDT	<5.9	<0.1	<0.1	0.13
Heptachlor	<2.9	<0.05	<0.05	0.053
Dieldrin	<5.9	<0.1	<0.1	0.71
A-Endosulfan	<2.9	<0.05	<0.05	
B-Endosulfan	<5.9	<0.1	<0.1	
Endosulfan				0.034
Endosulfan sulfate	<5.9	<0.1	<0.1	
Endrin	5.9	<0.1	<0.1	0.037
Endrin Aldehyde	<5.9	<0.1	<0.1	
Heptachlor Epoxide	<2.9	<0.05	<0.5	
Methoxychlor	<29	<0.5	<0.5	2.1
Chlordane	<2.9	<0.05	<0.05	0.09
Toxaphene	<290	<5	<5	0.21
PCB-1016	<57	<1	<1	10
PCB-1221	<110	<2	<2	10
PCB-1232	<57	<1	<1	10
PCB-1242	<57	<1	<1	10
PCB-1248	<57	<1	<1	10
PCB-1254	<57	<1	<1	10
PCB-1260	<57	<1	<1	10
Phenol	<570	<10	<12	580
2-Chlorophenol	<570	<10	<12	
2-Nitrophenol	<570	<10	<12	
2,4-Dimethylphenol	<570	<10	<12	
2,4-Dichlorophenol	<570	<10	<12	
4-Chloro-3-Methylphenol	<570	<10	<12	
2,4,6-Trichlorophenol	<570	<10	<12	

Sampling Site C (between existing lock and Claiborne Ave)
Sediments from 4′ to 9′ deep

TABLE B-29 (continued)

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	IHNC Water	Elutriate	Applicable Acute Criteria
2,4-Dinitrophenol	<2,800	<50	<60	
4-Nitrophenol	<2,800	<50	<60	
2-Methyl-4,6-Dinotrophenol	<2,800	<50	<60	
Pentachlorophenol	<2,800	<50	<60	13
Benzoic Acid	<2,800	<50	<60	
2-Methylphenol	<570	<10	<12	
4-Methylphenol	<570	<10	<12	
2,4,5-Trichlorophenol	<2,800	<50	<60	
Benzyl Alcohol	<570	<10	<12	
N-Nitrosodimethylamine				
Bis(2-Chloroisopropyl)Ether	<570	<10	<12	
N-Nitroso-Di-N-Propylamine	<570	<10	<12	
Nitrobenzene	<570	<10	<12	
Isophorone	<570	<10	<12	
Bis(2-Chloroethoxy)Methane	<570	<10	<12	
2,6-Dinitrotoluene	<570	<10	<12	
2,4-Dinitrotoluene	<570	<10	<12	
1,2-Diphenylhydrazine				
Benzidine				125
3,3'Dichlorobenzidine	<1,100	<20	<24	
Bis(2-Chloroethyl)Ether	<570	<10	<12	
1,3-Dichlorobenzene	<570	<10	<12	
1,4-Dichlorobenzene	<570	<10	<12	
1,2-Dichlorobenzene	<570	<10	<12	
Hexachloroethane	<570	<11	<12	
1,2,4-Trichlorobenzene	<570	<10	<12	
Naphthalene	<570	<10	<12	
Hexachlorobutadiene	<570	<10	<12	1.6
Hexachlorocyclopentadiene	<570	<10	<12	
2-Chloronaphthalene	<570	<10	<12	
Acenaphthylene	<570	<10	<12	
Dimehtyl Phthalate	<570	<10	<12	
Acenaphthene	<570	<10	<12	
Fluorene	<570	<10	<12	
Diethyl Phthalate	<570	<10	0.3	
4-Chlorophenyl Phenyl Ether	<570	<10	<12	
N-Nitrosodiphenyl Amine	<570	<10	<12	
4-Bromophenyl Ether	<570	<10	<12	
Hexachlorobenzene	<570	<10	<12	
Phenathrene	<570	<10	<12	
Anthracene	<570	<10	<12	
Dibutylphthalate	84	<10	<12	
Fluoranathene	<570	<10	<12	
Pyrene	<570	<10	<12	
Butylbenzylphthalate	<570	<10	<12	
Chrysene	<570	<10	<12	
Benzo(a)Antharacene	<570	<10	<12	
Bis(2-Ethylexyl)Phthalate	190	1	1	
Di-N-Octyphthalate	<570	<10	<12	
Benxo(a)Fluoranthene	<570	<10	<12	
Benzo(k)Fluoranthene	<570	<10	<12	
Benzo(a)Pyrene	<570	<10	<12	
Indeno(1,2,3-C,D)Pyrene	<570	<10	<12	
Dibenzo(A,H)Anthracene	<570	<10	<12	
Benzo(G,H,I)Perylene	<570	<10	<12	
Aniline				
4-Chloroaniline	<570	<10	<12	
Dibenzofuran	<570	<10	<12	
2-Methylnaphthalene	<570	<10	<12	
2-Nitroaniline	<2,800	<50	<60	
3-Nitroaniline	<2,800	<50	<60	
4-Nitroaniline	<2,800	<50	<60	

< Actual value is less than value shown

TABLE B-30
ELUTRIATE ANALYSIS
SITE GR1-AT, mixed with disposal area water

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediment (ug/kg)	Disposal Water	Elutriate	Applicable Acute Criteria
Antimony	<16,200	<3	<60	
Arsenic (total)	11,000	3	<3	69
Arsenic (III)				69
Beryllium	1,130	<0.6	<0.6	
Cadmium	<1,400	<3	<0.3	43
Chromium (total)	31,000	<2	2.2	
Chromium (VI)				1,100
Chromium (III)				515
Copper	45,000	<14	28	2.9
Lead	100,000	8.7	3.2	140
Mercury	300		<0.2	2.1
Nickel	29,000	<23	<23	75
Selenium	<800	<3	<6	
Silver	<2,400	<0.4	<0.4	2.3
Thallium	<500	<2	<2	
Zinc	270,000	<20	81	95
Aluminum	16,000,000	340	73	
Barium	1,700,000	120	190	
Boron	<27,100	980	1,100	
Calcium	5,100,000	100,000	100,000	
Cobalt	12,000	<11	<11	
Iron	28,000,000	530	680	
Magnesium	6,800,000	280,000	290,000	
Manganese	500,000	250	1,300	
Molubdenum	<27,100	<1	<100	
Potassium	4,000,000	96,000	100,000	
Vanadium	36,000	<13	<13	
TRP Hydrocarbons	30,000	<1,000	<1,000	
Aldrin	<4	<0.05	<0.05	1.3
A-BHC	<4	<0.05	<0.05	
B-BHC	<4	<0.05	<0.05	
G-BHC	<4	<0.05	<0.05	0.160
D-BHC	<4	<0.05	<0.05	
PPDDD	<9	<0.01	<0.1	1.25
PPDDE	<9	<0.1	<0.1	0.7
PPDDT	<9	<0.1	<0.1	0.13
Heptachlor	<4	<0.05	<0.05	0.053
Dieldrin	<9	<0.1	<0.1	0.71
A-Endosulfan	<4	<0.05	<0.05	
B-Endosulfan	<9	<0.1	<0.1	
Endosulfan				0.034
Endosulfan sulfate	<9	<0.1	<0.1	
Endrin	<9	<0.1	<0.1	0.037
Endrin Aldehyde	<9	<0.1	<0.1	
Heptachlor Epoxide	<4	<0.05	<0.05	
Methoxychlor	<47	<0.5	<0.5	2.1
Chlordane	<4	<0.05	<0.05	0.09
Toxaphene	<470	<5	<5	0.21
PCB-1016	<92	<1	<1	10
PCB-1221	<180	<2	<2	10
PCB-1232	<92	<1	<1	10
PCB-1242	<92	<1	<1	10
PCB-1248	<92	<1	<1	10
PCB-1254	<92	<1	<1	10
PCB-1260	<92	<1	<1	10
Phenol	<920	<10	<14	580
2-Chlorophenol	<920	<10	<14	
2-Nitrophenol	<920	<10	<14	
2,4-Dimethylphenol	<920	<10	<14	
2,4-Dichlorophenol	<920	<10	<14	
4-Chloro-3-Methylphenol	<920	<10	<14	
2,4,6-Trichlorophenol	<920	<10	<14	

Sampling Site G (adjacent to the Galvez Street Wharf)
Sediments from 0' to 1' deep

TABLE B-30 (continued)

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediment (ug/kg)	Disposal Water	Elutriate	Applicable Acute Criteria
2,4-Dinitrophenol	<4,400	<50	<14	
4-Nitrophenol	<4,400	<50	<68	
2-Methyl-4,6-Dinotrophenol	<4,000	<50	<68	
Pentachlorophenol	<4,000	<50	<68	13
Benzoic Acid	<4,000	<50	<68	
2-Methylphenol	<920	<10	<14	
4-Methylphenol	<920	<10	<14	
2,4,5-Trichlorophenol	<920	<50	<68	
Benzyl Alcohol	<920	<10	<14	
N-Nitrosodimethylamine				
Bis(2-Chloroisopropyl)Ether	<920	<10	<14	
N-Nitroso-Di-N-Propylamine	<920	<10	<14	
Nitrobenzene	<920	<10	<14	
Isophorone	<920	<10	<14	
Bis(2-Chloroethoxy)Methane	<920	<10	<14	
2,6-Dinitrotoluene	<920	<10	<14	
2,4-Dinitrotoluene	<920	<10	<14	
1,2-Diphenylhydrazine				
Benzidine				125
3,3'Dichlorobenzidine	<1,800	<20	<27	
Bis(2-Chloroethyl)Ether	<920	<10	<14	
1,3-Dichlorobenzene	<920	<10	<14	
1,4-Dichlorobenzene	<920	<10	<14	
1,2-Dichlorobenzene	<920	<10	<14	
Hexachloroethane	<920	<10	<14	
1,2,4-Trichlorobenzene	<920	<10	<14	
Naphthalene	<920	<10	<14	
Hexachlorobutadiene	<920	<10	<14	1.6
Hexachlorocyclopentadiene	<920	<10	<14	
2-Chloronaphthalene	<920	<10	<14	
Acenaphthylene	<920	<10	<14	
Dimehtyl Phthalate	<920	<10	<14	
Acenaphthene	150	<10	<14	
Fluorene	110	<10	<14	
Diethyl Phthalate	<920	<10	<14	
4-Chlorophenyl Phenyl Ether	<920	<10	<14	
N-Nitrosodiphenyl Amine	<920	<10	<14	
4-Bromophenyl Ether	<920	<10	<14	
Hexachlorobenzene	<920	<10	<14	
Phenathrene	480	<10	<14	
Anthracene	120	<10	<14	
Dibutylphthalate	120	<10	<14	
Fluoranathene	<920	<10	<14	
Pyrene	1,300	<10	<14	
Butylbenzylphthalate	<920	<10	<14	
Chrysene	600	<10	<14	
Benzo(a)Antharacene	390	<10	<14	
Bis(2-Ethylexyl)Phthalate	610	1	1	
Di-N-Octyphthalate	<920	<10	<14	
Benxo(a)Fluoranthene	990	<10	<14	
Benzo(k)Fluoranthene	<920	<10	<14	
Benzo(a)Pyrene	480	<10	<14	
Indeno(1,2,3-C,D)Pyrene	280	<10	<14	
Dibenzo(A,H)Anthracene	<920	<10	<14	
Benzo(G,H,I)Perylene	<920	<10	<14	
Aniline				
4-Chloroaniline	<920	<10	<14	
Dibenzofuran	<920	<10	<14	
2-Methylnaphthalene	<920	<10	<14	
2-Nitroaniline	<4,400	<50	<68	
3-Nitroaniline	<4,400	<50	<68	
4-Nitroaniline	<4,400	<50	<68	

< Actual value is less than value shown

TABLE B-31
ELUTRIATE ANALYSIS
SITE GR1-AM, mixed with disposal area water

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	Disposal Water	Elutriate	Applicable Acute Criteria
Antimony	<10,600	<3	<60	
Arsenic (total)	6,700	3	<3	69
Arsenic (III)				69
Beryllium	1,070	<0.6	<0.6	
Cadmium	<900	<3	<0.3	43
Chromium (total)	20,000	<2	<2.0	
Chromium (VI)				1,100
Chromium (III)				515
Copper	26,000	<14	38	2.9
Lead	36,000	8.7	3.6	140
Mercury	200		<0.2	2.1
Nickel	27,000	<23	<23	75
Selenium	<500	<3	<6	
Silver	<1,600	<0.4	<0.4	2.3
Thallium	<400	<2	<2	
Zinc	110,000	<20	86	95
Aluminum	14,000,000	340	120	
Barium	170,000	120	740	
Boron	17,100	980	940	
Calcium	9,600,000	100,000	110,000	
Cobalt	11,000	<11	<11	
Iron	22,000,000	530	1,600	
Magnesium	7,600,000	280,000	270,000	
Manganese	510,000	250	400	
Molubdenum	<17,000	<1	<100	
Potassium	3,300,000	96,000	78,000	
Vanadium	31,000	<13	<13	
TRP Hydrocarbons	55,000	<1,000	<1,000	
Aldrin	<3.1	<0.05	<0.05	1.3
A-BHC	<3.1	<0.05	<0.05	
B-BHC	<3.1	<0.05	<0.05	
G-BHC	<3.1	<0.05	<0.05	0.160
D-BHC	<3.1	<0.05	<0.05	
PPDDD	<6.1	<0.01	<0.1	1.25
PPDDE	<6.1	<0.1	<0.1	0.7
PPDDT	<6.1	<0.1	<0.1	0.13
Heptachlor	<3.1	<0.05	<0.05	0.053
Dieldrin	<6.1	<0.1	<0.1	0.71
A-Endosulfan	<3.1	<0.05	<0.05	
B-Endosulfan	<6.1	<0.1	<0.1	
Endosulfan				0.034
Endosulfan sulfate	<6.1	<0.1	<0.1	
Endrin	<6.1	<0.1	<0.1	0.037
Endrin Aldehyde	<6.1	<0.1	<0.1	
Heptachlor Epoxide	<3.1	<0.05	<0.05	
Methoxychlor	<31	<0.5	<0.5	2.1
Chlordane	<3.1	<0.05	<0.05	0.09
Toxaphene	<310	<5	<5	0.21
PCB-1016	<61	<1	<1	10
PCB-1221	<120	<2	<2	10
PCB-1232	<61	<1	<1	10
PCB-1242	<61	<1	<1	10
PCB-1248	<61	<1	<1	10
PCB-1254	<61	<1	<1	10
PCB-1260	<61	<1	<1	10
Phenol	<610	<10	<13	580
2-Chlorophenol	<610	<10	<13	
2-Nitrophenol	<610	<10	<13	
2,4-Dimethylphenol	<610	<10	<13	
2,4-Dichlorophenol	<610	<10	<13	
4-Chloro-3-Methylphenol	<610	<10	<13	
2,4,6-Trichlorophenol	<610	<10	<13	

Sampling Site G (adjacent to the Galvez Street Wharf)
Sediments from 1' to 4' deep

TABLE B-31 (continued)

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	Disposal Water	Elutriate	Applicable Acute Criteria
2,4-Dinitrophenol	<3,000	<50	<13	
4-Nitrophenol	<3,000	<50	<66	
2-Methyl-4,6-Dinotrophenol	<3,000	<50	<66	
Pentachlorophenol	<3,000	<50	<66	13
Benzoic Acid	<3,000	<50	<66	
2-Methylphenol	<610	<10	<13	
4-Methylphenol	<610	<10	<13	
2,4,5-Trichlorophenol	<610	<50	<66	
Benzyl Alcohol	<610	<10	<13	
N-Nitrosodimethylamine				
Bis(2-Chloroisopropyl)Ether	<610	<10	<13	
N-Nitroso-Di-N-Propylamine	<610	<10	<13	
Nitrobenzene	<610	<10	<13	
Isophorone	<610	<10	<13	
Bis(2-Chloroethoxy)Methane	<610	<10	<13	
2,6-Dinitrotoluene	<610	<10	<13	
2,4-Dinitrotoluene	<610	<10	<13	
1,2-Diphenylhydrazine				
Benzidine				125
3,3'Dichlorobenzidine	<1,200	<20	<27	
Bis(2-Chloroethyl)Ether	<610	<10	<13	
1,3-Dichlorobenzene	<610	<10	<13	
1,4-Dichlorobenzene	<610	<10	<13	
1,2-Dichlorobenzene	<610	<10	<13	
Hexachloroethane	<920	<10	<13	
1,2,4-Trichlorobenzene	<920	<10	<13	
Naphthalene	<920	<10	<13	
Hexachlorobutadiene	<920	<10	<13	1.6
Hexachlorocyclopentadiene	<61	<10	<13	
2-Chloronaphthalene	<61	<10	<13	
Acenaphthylene	<61	<10	<13	
Dimehtyl Phthalate	<61	<10	<13	
Acenaphthene	<61	<10	<13	
Fluorene	<6.1	<10	<13	
Diethyl Phthalate	<61	<10	<13	
4-Chlorophenyl Phenyl Ether	<61	<10	<13	
N-Nitrosodiphenyl Amine	<610	<10	<13	
4-Bromophenyl Ether	<610	<10	<13	
Hexachlorobenzene	<610	<10	<13	
Phenathrene	650	<10	<13	
Anthracene	<610	<10	<13	
Dibutylphthalate	<610	<10	<13	
Fluoranathene	<610	<10	<13	
Pyrene	150	<10	<13	
Butylbenzylphthalate	<610	<10	<13	
Chrysene	65	<10	<13	
Benzo(a)Antharacene	<610	<10	<13	
Bis(2-Ethylexyl)Phthalate	<610	1	75	
Di-N-Octyphthalate	<610	<10	<13	
Benxo(a)Fluoranthene	81	<10	<13	
Benzo(k)Fluoranthene	<610	<10	<13	
Benzo(a)Pyrene	460	<10	<13	
Indeno(1,2,3-C,D)Pyrene	<610	<10	<13	
Dibenzo(A,H)Anthracene	<610	<10	<13	
Benzo(G,H,I)Perylene	<610	<10	<13	
Aniline				
4-Chloroaniline	<610	<10	<13	
Dibenzofuran	<610	<10	<13	
2-Methylnaphthalene	<610	<10	<13	
2-Nitroaniline	<3,000	<50	<66	
3-Nitroaniline	<3,000	<50	<66	
4-Nitroaniline	<3,000	<50	<66	

< Actual value is less than value shown

TABLE B-32
ELUTRIATE ANALYSIS
SITE GR1-AB, mixed with disposal area water

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	Disposal Water	Elutriate	Applicable Acute Criteria
Antimony	<10,800	<3	<60	
Arsenic (total)	11,000	3	<3	69
Arsenic (III)				69
Beryllium	920	<0.6	<0.6	
Cadmium	<900	<3	<0.4	43
Chromium (total)	16,000	<2	<2.0	
Chromium (VI)				1,100
Chromium (III)				515
Copper	17,000	<14	<100	2.9
Lead	18,000	8.7	29	140
Mercury	<100		0.2	2.1
Nickel	21,000	<23	<23	75
Selenium	<600	<3	<6	
Silver	<1,600	<0.4	<0.4	2.3
Thallium	<400	<2	<2	
Zinc	66,000	<20	310	95
Aluminum	11,000,000	340	93	
Barium	85,000	120	810	
Boron	<18,100	980	890	
Calcium	9,000,000	100,000	110,000	
Cobalt	9,200	<11	<11	
Iron	19,000,000	530	170	
Magnesium	7,400,000	280,000	260,000	
Manganese	380,000	250	260	
Molubdenum	<18,100	<1	<100	
Potassium	3,600,000	96,000	87,000	
Vanadium	26,000	<13	<13	
TRP Hydrocarbons	10,000	<1,000	<1,000	
Aldrin	<3.2	<0.05	<0.05	1.3
A-BHC	<3.2	<0.05	<0.05	
B-BHC	<3.2	<0.05	<0.05	
G-BHC	<3.2	<0.05	<0.05	0.160
D-BHC	<3.2	<0.05	<0.05	
PPDDD	<6.2	<0.01	<0.1	1.25
PPDDE	<6.2	<0.1	<0.1	0.7
PPDDT	<6.2	<0.1	<0.1	0.13
Heptachlor	<3.2	<0.05	<0.05	0.053
Dieldrin	<6.2	<0.1	<0.1	0.71
A-Endosulfan	<3.2	<0.05	<0.05	
B-Endosulfan	<6.2	<0.1	<0.1	
Endosulfan				0.034
Endosulfan sulfate	<6.2	<0.1	<0.1	
Endrin	<6.2	<0.1	<0.1	0.037
Endrin Aldehyde	<6.2	<0.1	<0.1	
Heptachlor Epoxide	<3.2	<0.05	<0.05	
Methoxychlor	<32	<0.5	<0.5	2.1
Chlordane	<3.2	<0.05	<0.05	0.09
Toxaphene	<320	<5	<5	0.21
PCB-1016	<62	<1	<1	10
PCB-1221	<130	<2	<2	10
PCB-1232	<62	<1	<1	10
PCB-1242	<62	<1	<1	10
PCB-1248	<62	<1	<1	10
PCB-1254	<62	<1	<1	10
PCB-1260	<62	<1	<1	10
Phenol	<620	<10	<13	580
2-Chlorophenol	<620	<10	<13	
2-Nitrophenol	<620	<10	<13	
2,4-Dimethylphenol	<620	<10	<13	
2,4-Dichlorophenol	<620	<10	<13	
4-Chloro-3-Methylphenol	<620	<10	<13	
2,4,6-Trichlorophenol	<620	<10	<13	

Sampling Site G (adjacent to the Galvez Street Wharf)
Sediments from 4' to 9' deep

TABLE B-32 (continued)

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	Disposal Water	Elutriate	Applicable Acute Criteria
2,4-Dinitrophenol	<3,000	<50	<13	
4-Nitrophenol	<3,000	<50	<66	
2-Methyl-4,6-Dinotrophenol	<3,000	<50	<66	
Pentachlorophenol	<3,000	<50	<66	13
Benzoic Acid	<3,000	<50	<66	
2-Methylphenol	<620	<10	<13	
4-Methylphenol	<620	<10	<13	
2,4,5-Trichlorophenol	<3,000	<50	<66	
Benzyl Alcohol	<620	<10	<13	
N-Nitrosodimethylamine				
Bis(2-Chloroisopropyl)Ether	<620	<10	<13	
N-Nitroso-Di-N-Propylamine	<620	<10	<13	
Nitrobenzene	<620	<10	<13	
Isophorone	<620	<10	<13	
Bis(2-Chloroethoxy)Methane	<620	<10	<13	
2,6-Dinitrotoluene	<620	<10	<13	
2,4-Dinitrotoluene	<620	<10	<13	
1,2-Diphenylhydrazine				
Benzidine				125
3,3'Dichlorobenzidine	<1,200	<20	<27	
Bis(2-Chloroethyl)Ether	<620	<10	<13	
1,3-Dichlorobenzene	<620	<10	<13	
1,4-Dichlorobenzene	<620	<10	<13	
1,2-Dichlorobenzene	<620	<10	<13	
Hexachloroethane	<620	<10	<13	
1,2,4-Trichlorobenzene	<620	<10	<13	
Naphthalene	<620	<10	<13	
Hexachlorobutadiene	<620	<10	<13	1.6
Hexachlorocyclopentadiene	<620	<10	<13	
2-Chloronaphthalene	<620	<10	<13	
Acenaphthylene	<620	<10	<13	
Dimehtyl Phthalate	<620	<10	<13	
Acenaphthene	<620	<10	<13	
Fluorene	<620	<10	<13	
Diethyl Phthalate	1,000	<10	9	
4-Chlorophenyl Phenyl Ether	<620	<10	<13	
N-Nitrosodiphenyl Amine	<620	<10	<13	
4-Bromophenyl Ether	<620	<10	<13	
Hexachlorobenzene	<620	<10	<13	
Phenathrene	<620	<10	<13	
Anthracene	<620	<10	<13	
Dibutylphthalate	<620	<10	<13	
Fluoranathene	<620	<10	<13	
Pyrene	<62	<10	<13	
Butylbenzylphthalate	<620	<10	<13	
Chrysene	<620	<10	<13	
Benzo(a)Antharacene	<620	<10	<13	
Bis(2-Ethylexyl)Phthalate	150	1	<13	
Di-N-Octyphthalate	<620	<10	<13	
Benxo(a)Fluoranthene	<620	<10	<13	
Benzo(k)Fluoranthene	<620	<10	<13	
Benzo(a)Pyrene	<620	<10	<13	
Indeno(1,2,3-C,D)Pyrene	<620	<10	<13	
Dibenzo(A,H)Anthracene	<620	<10	<13	
Benzo(G,H,I)Perylene	<620	<10	<13	
Aniline				
4-Chloroaniline	<620	<10	<13	
Dibenzofuran	<620	<10	<13	
2-Methylnaphthalene	<620	<10	<13	
2-Nitroaniline	<3,000	<50	<66	
3-Nitroaniline	<3,000	<50	<66	
4-Nitroaniline	<3,000	<50	<66	

< Actual value is less than value shown

TABLE B-33
ELUTRIATE ANALYSIS
SITE ER1-AT, mixed with disposal area water

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	Disposal Water	Elutriate	Applicable Acute Criteria
Antimony	<13,400	<3	<60	
Arsenic (total)	8,400	3	<3	69
Arsenic (III)				69
Beryllium	800	<0.6	<0.6	
Cadmium	<1,100	<3	<0.3	43
Chromium (total)	26,000	<2	<2.0	
Chromium (VI)				1,100
Chromium (III)				515
Copper	40,000	<14	34	2.9
Lead	150,000	8.7	2.4	140
Mercury	500		<0.2	2.1
Nickel	22,000	<23	<23	75
Selenium	<700	<3	<6	
Silver	<2,000	<0.4	<0.4	2.3
Thallium	<500	<2	<2	
Zinc	190,000	<20	100	95
Aluminum	10,000,000	340	47	
Barium	410,000	120	890	
Boron	<22,400	980	940	
Calcium	22,000,000	100,000	170,000	
Cobalt	8,400	<11	<11	
Iron	27,000,000	530	86	
Magnesium	9,300,000	280,000	230,000	
Manganese	540,000	250	180	
Molubdenum	<22,400	<1	<100	
Potassium	2,900,000	96,000	89,000	
Vanadium	28,000	<13	<13	
TRP Hydrocarbons	31,000	<1,000	<1,000	
Aldrin	<4.0	<0.05	<0.05	1.3
A-BHC	<4.0	<0.05	<0.05	
B-BHC	<4.0	<0.05	<0.05	
G-BHC	<4.0	<0.05	<0.05	0.160
D-BHC	<4.0	<0.05	<0.05	
PPDDD	<7.7	<0.01	<0.1	1.25
PPDDE	<7.7	<0.1	<0.1	0.7
PPDDT	<7.7	<0.1	<0.1	0.13
Heptachlor	<4.0	<0.05	<0.05	0.053
Dieldrin	<7.7	<0.1	<0.1	0.71
A-Endosulfan	<4.0	<0.05	<0.05	
B-Endosulfan	<7.7	<0.1	<0.1	
Endosulfan				0.034
Endosulfan sulfate	<7.7	<0.1	<0.1	
Endrin	<7.7	<0.1	<0.1	0.037
Endrin Aldehyde	<7.7	<0.1	<0.1	
Heptachlor Epoxide	<4.0	<0.05	<0.05	
Methoxychlor	<40	<0.5	<0.5	2.1
Chlordane	<4.0	<0.05	<0.05	0.09
Toxaphene	<400	<5	<5	0.21
PCB-1016	<77	<1	<1	10
PCB-1221	<150	<2	<2	10
PCB-1232	<77	<1	<1	10
PCB-1242	<77	<1	<1	10
PCB-1248	<77	<1	<1	10
PCB-1254	700	<1	<1	10
PCB-1260	<77	<1	<1	10
Phenol	<770	<10	<11	580
2-Chlorophenol	<770	<10	<11	
2-Nitrophenol	<770	<10	<11	
2,4-Dimethylphenol	<770	<10	<11	
2,4-Dichlorophenol	<770	<10	<11	
4-Chloro-3-Methylphenol	<770	<10	<11	
2,4,6-Trichlorophenol	<770	<10	<11	

Sampling Site E (at turn basin just south of Florida Ave)
Vibracore #1. Sediments from 1′ to 1.5′ deep

TABLE B-33 (continued)

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	Disposal Water	Elutriate	Applicable Acute Criteria
2,4-Dinitrophenol	<3,700	<50	<11	
4-Nitrophenol	<3,700	<50	<57	
2-Methyl-4,6-Dinotrophenol	<3,700	<50	<57	
Pentachlorophenol	<3,700	<50	<57	13
Benzoic Acid	<3,700	<50	<57	
2-Methylphenol	<770	<10	<11	
4-Methylphenol	<770	<10	<11	
2,4,5-Trichlorophenol	<3,700	<50	<57	
Benzyl Alcohol	<770	<10	<11	
N-Nitrosodimethylamine				
Bis(2-Chloroisopropyl)Ether	<770	<10	<11	
N-Nitroso-Di-N-Propylamine	<770	<10	<11	
Nitrobenzene	<770	<10	<11	
Isophorone	<770	<10	<11	
Bis(2-Chloroethoxy)Methane	<770	<10	<11	
2,6-Dinitrotoluene	<770	<10	<11	
2,4-Dinitrotoluene	<770	<10	<11	
1,2-Diphenylhydrazine				
Benzidine				125
3,3'Dichlorobenzidine	<1,500	<20	<23	
Bis(2-Chloroethyl)Ether	<770	<10	<11	
1,3-Dichlorobenzene	<770	<10	<11	
1,4-Dichlorobenzene	<770	<10	<11	
1,2-Dichlorobenzene	<770	<10	<11	
Hexachloroethane	<770	<10	<11	
1,2,4-Trichlorobenzene	<770	<10	<11	
Naphthalene	750	<10	<11	
Hexachlorobutadiene	<770	<10	<11	1.6
Hexachlorocyclopentadiene	<770	<10	<11	
2-Chloronaphthalene	<770	<10	<11	
Acenaphthylene	<770	<10	<11	
Dimehtyl Phthalate	<770	<10	<11	
Acenaphthene	1,100	<10	7	
Fluorene	1,200	<10	3	
Diethyl Phthalate	<770	<10	<11	
4-Chlorophenyl Phenyl Ether	<770	<10	<11	
N-Nitrosodiphenyl Amine	<770	<10	<11	
4-Bromophenyl Ether	<770	<10	<11	
Hexachlorobenzene	<770	<10	<11	
Phenathrene	3,900	<10	3	
Anthracene	230	<10	<11	
Dibutylphthalate	130	<10	<11	
Fluoranathene	<770	<10	1	
Pyrene	3,300	<10	1	
Butylbenzylphthalate	<770	<10	<11	
Chrysene	1,700	<10	<11	
Benzo(a)Antharacene	930	<10	<11	
Bis(2-Ethylexyl)Phthalate	240	1	1	
Di-N-Octyphthalate	<770	<10	<11	
Benxo(a)Fluoranthene	25,000	<10	<11	
Benzo(k)Fluoranthene	<770	<10	<11	
Benzo(a)Pyrene	12,000	<10	<11	
Indeno(1,2,3-C,D)Pyrene	8,300	<10	<11	
Dibenzo(A,H)Anthracene	1,800	<10	<11	
Benzo(G,H,I)Perylene	770	<10	<11	
Aniline				
4-Chloroaniline	<770	<10	<11	
Dibenzofuran	620	<10	1	
2-Methylnaphthalene	250	<10	3	
2-Nitroaniline	<3,700	<50	<57	
3-Nitroaniline	<3,700	<50	<57	
4-Nitroaniline	<3,700	<50	<57	

< Actual value is less than value shown

TABLE B-34
ELUTRIATE ANALYSIS
SITE ER1-AB, mixed with disposal area water

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	Disposal Water	Elutriate	Applicable Acute Criteria
Antimony	<20,300	<3	<60	
Arsenic (total)	10,000	3	<3	69
Arsenic (III)				69
Beryllium	1,290	<0.6	<0.6	
Cadmium	<1,700	<3	<0.3	43
Chromium (total)	22,000	<2	<2.0	
Chromium (VI)				1,100
Chromium (III)				515
Copper	24,000	<14	29	2.9
Lead	79,000	8.7	5.1	140
Mercury	400		0.2	2.1
Nickel	23,000	<23	<23	75
Selenium	<1,000	<3	<6	
Silver	<3,000	<0.4	<0.4	2.3
Thallium	<700	<2	<2	
Zinc	110,000	<20	95	95
Aluminum	17,000,000	340	360	
Barium	190,000	120	810	
Boron	<33,800	980	500	
Calcium	72,000,000	100,000	300,000	
Cobalt	7,900	<11	<11	
Iron	20,000,000	530	440	
Magnesium	31,000,000	280,000	180,000	
Manganese	620,000	250	25	
Molubdenum	<33,800	<1	<100	
Potassium	2,900,000	96,000	72,000	
Vanadium	37,000	<13	<13	
TRP Hydrocarbons	30,000	<1,000	<1,000	
Aldrin	<5.9	<0.05	<0.05	1.3
A-BHC	<5.9	<0.05	<0.05	
B-BHC	<5.9	<0.05	<0.05	
G-BHC	<5.9	<0.05	<0.05	0.160
D-BHC	<5.9	<0.05	<0.05	
PPDDD	<11	<0.01	<0.1	1.25
PPDDE	<11	<0.1	<0.1	0.7
PPDDT	<11	<0.1	<0.1	0.13
Heptachlor	<5.9	<0.05	<0.05	0.053
Dieldrin	<11	<0.1	<0.1	0.71
A-Endosulfan	<5.9	<0.05	<0.05	
B-Endosulfan	<11	<0.1	<0.1	
Endosulfan				0.034
Endosulfan sulfate	<11	<0.1	<0.1	
Endrin	<11	<0.1	<0.1	0.037
Endrin Aldehyde	<11	<0.1	<0.1	
Heptachlor Epoxide	<5.9	<0.05	<0.05	
Methoxychlor	<59	<0.5	<0.5	2.1
Chlordane	<5.9	<0.05	<0.05	0.09
Toxaphene	<590	<5	<5	0.21
PCB-1016	<110	<1	<1	10
PCB-1221	<230	<2	<2	10
PCB-1232	<110	<1	<1	10
PCB-1242	<110	<1	<1	10
PCB-1248	<110	<1	<1	10
PCB-1254	<110	<1	<1	10
PCB-1260	<110	<1	<1	10
Phenol	<1,100	<10	<11	580
2-Chlorophenol	<1,100	<10	<11	
2-Nitrophenol	<1,100	<10	<11	
2,4-Dimethylphenol	<1,100	<10	<11	
2,4-Dichlorophenol	<1,100	<10	<11	
4-Chloro-3-Methylphenol	<1,100	<10	<11	
2,4,6-Trichlorophenol	<1,100	<10	<11	

Sampling Site E (at turn basin just south of Florida Ave)
Vibracore #1. Sediments from 0' to 8' deep

TABLE B-34 (continued)

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	Disposal Water	Elutriate	Applicable Acute Criteria
2,4-Dinitrophenol	<5,500	<50	<11	
4-Nitrophenol	<5,500	<50	<57	
2-Methyl-4,6-Dinotrophenol	<5,500	<50	<57	
Pentachlorophenol	<5,500	<50	<57	13
Benzoic Acid	<5,500	<50	<57	
2-Methylphenol	<1,100	<10	<11	
4-Methylphenol	<1,100	<10	<11	
2,4,5-Trichlorophenol	<5,500	<50	<57	
Benzyl Alcohol	<1,100	<10	<11	
N-Nitrosodimethylamine				
Bis(2-Chloroisopropyl)Ether	<1,100	<10	<11	
N-Nitroso-Di-N-Propylamine	<1,100	<10	<11	
Nitrobenzene	<1,100	<10	<11	
Isophorone	<1,100	<10	<11	
Bis(2-Chloroethoxy)Methane	<1,100	<10	<11	
2,6-Dinitrotoluene	<1,100	<10	<11	
2,4-Dinitrotoluene	<1,100	<10	<11	
1,2-Diphenylhydrazine				
Benzidine				125
3,3'Dichlorobenzidine	<2,300	<20	<23	
Bis(2-Chloroethyl)Ether	<1,100	<10	<11	
1,3-Dichlorobenzene	<1,100	<10	<11	
1,4-Dichlorobenzene	<1,100	<10	<11	
1,2-Dichlorobenzene	<1,100	<10	<11	
Hexachloroethane	<1,100	<10	<11	
1,2,4-Trichlorobenzene	<1,100	<10	<11	
Naphthalene	210	<10	6	
Hexachlorobutadiene	<1,100	<10	<11	1.6
Hexachlorocyclopentadiene	<1,100	<10	<11	
2-Chloronaphthalene	<1,100	<10	<11	
Acenaphthylene	<1,100	<10	<11	
Dimehtyl Phthalate	<1,100	<10	<11	
Acenaphthene	650	<10	15	
Fluorene	480	<10	6	
Diethyl Phthalate	<1,100	<10	4	
4-Chlorophenyl Phenyl Ether	<1,100	<10	<11	
N-Nitrosodiphenyl Amine	<1,100	<10	<11	
4-Bromophenyl Ether	<1,100	<10	<11	
Hexachlorobenzene	<1,100	<10	<11	
Phenathrene	1,900	<10	8	
Anthracene	140	<10	1	
Dibutylphthalate	160	<10	<11	
Fluoranathene	<1,100	<10	1	
Pyrene	1,200	<10	1	
Butylbenzylphthalate	<1,100	<10	<11	
Chrysene	390	<10	<11	
Benzo(a)Antharacene	310	<10	<11	
Bis(2-Ethylexyl)Phthalate	230	1	<11	
Di-N-Octyphthalate	<1,100	<10	<11	
Benxo(a)Fluoranthene	740	<10	<11	
Benzo(k)Fluoranthene	<1,100	<10	<11	
Benzo(a)Pyrene	130	<10	<11	
Indeno(1,2,3-C,D)Pyrene	<1,100	<10	<11	
Dibenzo(A,H)Anthracene	<1,100	<10	<11	
Benzo(G,H,I)Perylene	<1,100	<10	<11	
Aniline				
4-Chloroaniline	<1,100	<10	<11	
Dibenzofuran	<1,100	<10	<11	
2-Methylnaphthalene	180	<10	2	
2-Nitroaniline	<5,500	<50	<57	
3-Nitroaniline	<5,500	<50	<57	
4-Nitroaniline	<5,500	<50	<57	

< Actual value is less than value shown

TABLE B-35
ELUTRIATE ANALYSIS
SITE ER2-BT, mixed with disposal area water

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	Disposal Water	Elutriate	Applicable Acute Criteria
Antimony	<11,800	<3	18	
Arsenic (total)	9,400	3	<3	69
Arsenic (III)				69
Beryllium	1,580	<0.6	<0.6	
Cadmium	<1,000	<3	<0.3	43
Chromium (total)	24,000	<2	<2.0	
Chromium (VI)				1,100
Chromium (III)				515
Copper	64,000	<14	18	2.9
Lead	200,000	8.7	2.0	140
Mercury	900		<0.2	2.1
Nickel	31,000	<23	<23	75
Selenium	<600	<3	<6	
Silver	<1,800	<0.4	<0.4	2.3
Thallium	<400	<2	<2	
Zinc	330,000	<20	69	95
Aluminum	14,000,000	340	120	
Barium	270,000	120	730	
Boron	<19,600	980	840	
Calcium	10,000,000	100,000	150,000	
Cobalt	11,000	<11	<11	
Iron	25,000,000	530	210	
Magnesium	7,400,000	280,000	250,000	
Manganese	500,000	250	1,300	
Molubdenum	<19,600	<1	<100	
Potassium	2,700,000	96,000	73,000	
Vanadium	34,000	<13	<13	
TRP Hydrocarbons	400,000	<1,000	<1,000	
Aldrin	<3.4	<0.05	<0.05	1.3
A-BHC	<3.4	<0.05	<0.05	
B-BHC	<3.4	<0.05	<0.05	
G-BHC	<3.4	<0.05	<0.05	0.160
D-BHC	<3.4	<0.05	<0.05	
PPDDD	<6.8	<0.01	<0.1	1.25
PPDDE	<6.8	<0.1	<0.1	0.7
PPDDT	<6.8	<0.1	<0.1	0.13
Heptachlor	<3.4	<0.05	<0.05	0.053
Dieldrin	<6.8	<0.1	<0.1	0.71
A-Endosulfan	<3.4	<0.05	<0.05	
B-Endosulfan	<6.8	<0.1	<0.1	
Endosulfan				0.034
Endosulfan sulfate	<6.8	<0.1	<0.1	
Endrin	<6.8	<0.1	<0.1	0.037
Endrin Aldehyde	<6.8	<0.1	<0.1	
Heptachlor Epoxide	<3.4	<0.05	<0.05	
Methoxychlor	<34	<0.5	<0.5	2.1
Chlordane	<3.4	<0.05	<0.05	0.09
Toxaphene	<340	<5	<5	0.21
PCB-1016	<68	<1	<1	10
PCB-1221	<130	<2	<2	10
PCB-1232	<68	<1	<1	10
PCB-1242	<68	<1	<1	10
PCB-1248	<68	<1	<1	10
PCB-1254	<68	<1	<1	10
PCB-1260	<68	<1	<1	10
Phenol	<3,300	<10	<16	580
2-Chlorophenol	<3,300	<10	<16	
2-Nitrophenol	<3,300	<10	<16	
2,4-Dimethylphenol	<3,300	<10	<16	
2,4-Dichlorophenol	<3,300	<10	<16	
4-Chloro-3-Methylphenol	<3,300	<10	<16	
2,4,6-Trichlorophenol	<3,300	<10	<16	

Sampling Site E (at turn basin just south of Florida Ave)
Vibracore #2. Sediments from 0' to 8' deep

TABLE B-35 (continued)

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	Disposal Water	Elutriate	Applicable Acute Criteria
2,4-Dinitrophenol	<16,000	<50	<16	
4-Nitrophenol	<16,000	<50	<78	
2-Methyl-4,6-Dinotrophenol	<16,000	<50	<78	
Pentachlorophenol	<16,000	<50	<78	13
Benzoic Acid	<16,000	<50	<78	
2-Methylphenol	<3,300	<10	<16	
4-Methylphenol	<3,300	<10	<16	
2,4,5-Trichlorophenol	<16,000	<50	<78	
Benzyl Alcohol	<3,300	<10	<16	
N-Nitrosodimethylamine				
Bis(2-Chloroisopropyl)Ether	<3,300	<10	<16	
N-Nitroso-Di-N-Propylamine	<3,300	<10	<16	
Nitrobenzene	<3,300	<10	<16	
Isophorone	<3,300	<10	<16	
Bis(2-Chloroethoxy)Methane	<3,300	<10	<16	
2,6-Dinitrotoluene	<3,300	<10	<16	
2,4-Dinitrotoluene	<3,300	<10	<16	
1,2-Diphenylhydrazine				
Benzidine				125
3,3'Dichlorobenzidine	<6,600	<20	<31	
Bis(2-Chloroethyl)Ether	<3,300	<10	<16	
1,3-Dichlorobenzene	<3,300	<10	<16	
1,4-Dichlorobenzene	<3,300	<10	<16	
1,2-Dichlorobenzene	<3,300	<10	<16	
Hexachloroethane	<3,300	<10	<16	
1,2,4-Trichlorobenzene	<3,300	<10	<16	
Naphthalene	<3,300	<10	<16	
Hexachlorobutadiene	<3,300	<10	<16	1.6
Hexachlorocyclopentadiene	<3,300	<10	<16	
2-Chloronaphthalene	<3,300	<10	<16	
Acenaphthylene	<3,300	<10	2	
Dimehtyl Phthalate	<3,300	<10	<16	
Acenaphthene	17,000	<10	70	
Fluorene	13,000	<10	12	
Diethyl Phthalate	<3,300	<10	<16	
4-Chlorophenyl Phenyl Ether	<3,300	<10	<16	
N-Nitrosodiphenyl Amine	<3,300	<10	<16	
4-Bromophenyl Ether	<3,300	<10	<16	
Hexachlorobenzene	<3,300	<10	<16	
Phenathrene	50,000	<10	4	
Anthracene	7,700	<10	10	
Dibutylphthalate	<3,300	<10	<16	
Fluoranathene	<3,300	<10	14	
Pyrene	30,000	<10	15	
Butylbenzylphthalate	<3,300	<10	<16	
Chrysene	7,300	<10	3	
Benzo(a)Antharacene	9,100	<10	3	
Bis(2-Ethylexyl)Phthalate	<3,300	1	2	
Di-N-Octyphthalate	<3,300	<10	<16	
Benxo(a)Fluoranthene	13,000	<10	3	
Benzo(k)Fluoranthene	<3,300	<10	<16	
Benzo(a)Pyrene	5,800	<10	2	
Indeno(1,2,3-C,D)Pyrene	1,600	<10	<16	
Dibenzo(A,H)Anthracene	<3,300	<10	<16	
Benzo(G,H,I)Perylene	2,300	<10	<16	
Aniline				
4-Chloroaniline	<3,300	<10	<16	
Dibenzofuran	<3,300	<10	<16	
2-Methylnaphthalene	7,600	<10	30	
2-Nitroaniline	<5,500	<50	<78	
3-Nitroaniline	<5,500	<50	<78	
4-Nitroaniline	<5,500	<50	<78	

< Actual value is less than value shown

TABLE B-36
ELUTRIATE ANALYSIS
SITE ER2-BB, mixed with disposal area water

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	Disposal Water	Elutriate	Applicable Acute Criteria
Antimony	<11,300	<3	<60	
Arsenic (total)	8,000	3	<3	69
Arsenic (III)				69
Beryllium	1,020	<0.6	<0.6	
Cadmium	<900	<3	<0.3	43
Chromium (total)	17,000	<2	<2.0	
Chromium (VI)				1,100
Chromium (III)				515
Copper	25,000	<14	60	2.9
Lead	22,000	8.7	7.2	140
Mercury	<100		<0.2	2.1
Nickel	24,000	<23	<23	75
Selenium	<500	<3	<6	
Silver	<1,700	<0.4	0.4	2.3
Thallium	<400	<2	<2	
Zinc	82,000	<20	120	95
Aluminum	11,000,000	340	1,600	
Barium	140,000	120	820	
Boron	<18,800	980	760	
Calcium	12,000,000	100,000	140,000	
Cobalt	9,300	<11	<11	
Iron	20,000,000	530	1,500	
Magnesium	7,800,000	280,000	240,000	
Manganese	630,000	250	480	
Molubdenum	<18,800	<1	<100	
Potassium	3,200,000	96,000	79,000	
Vanadium	27,000	<13	<13	
TRP Hydrocarbons	20,000	<1,000	<1,000	
Aldrin	<3.2	<0.05	<0.05	1.3
A-BHC	<3.2	<0.05	<0.05	
B-BHC	<3.2	<0.05	<0.05	
G-BHC	<3.2	<0.05	<0.05	0.160
D-BHC	<3.2	<0.05	<0.05	
PPDDD	<6.2	<0.01	<0.1	1.25
PPDDE	<6.2	<0.1	<0.1	0.7
PPDDT	<6.2	<0.1	<0.1	0.13
Heptachlor	<3.2	<0.05	<0.05	0.053
Dieldrin	<6.2	<0.1	<0.1	0.71
A-Endosulfan	<3.2	<0.05	<0.05	
B-Endosulfan	<6.2	<0.1	<0.1	
Endosulfan				0.034
Endosulfan sulfate	<6.2	<0.1	<0.1	
Endrin	<6.2	<0.1	<0.1	0.037
Endrin Aldehyde	<6.2	<0.1	<0.1	
Heptachlor Epoxide	<3.2	<0.05	<0.05	
Methoxychlor	<32	<0.5	<0.5	2.1
Chlordane	<3.2	<0.05	<0.05	0.09
Toxaphene	<320	<5	<5	0.21
PCB-1016	<62	<1	<1	10
PCB-1221	<130	<2	<2	10
PCB-1232	<62	<1	<1	10
PCB-1242	<62	<1	<1	10
PCB-1248	<62	<1	<1	10
PCB-1254	<62	<1	<1	10
PCB-1260	<62	<1	<1	10
Ph[illegible]	<620	<10	<13	580
2-[illegible]rophenol	<620	<10	<13	
2-[illegible]rophenol	<620	<10	<13	
2,4-Dimethylphenol	<620	<10	<13	
2,4-Dichlorophenol	<620	<10	<13	
4-Chloro-3-Methylphenol	<620	<10	<13	
2,4,6-Trichlorophenol	<62	<10	<13	

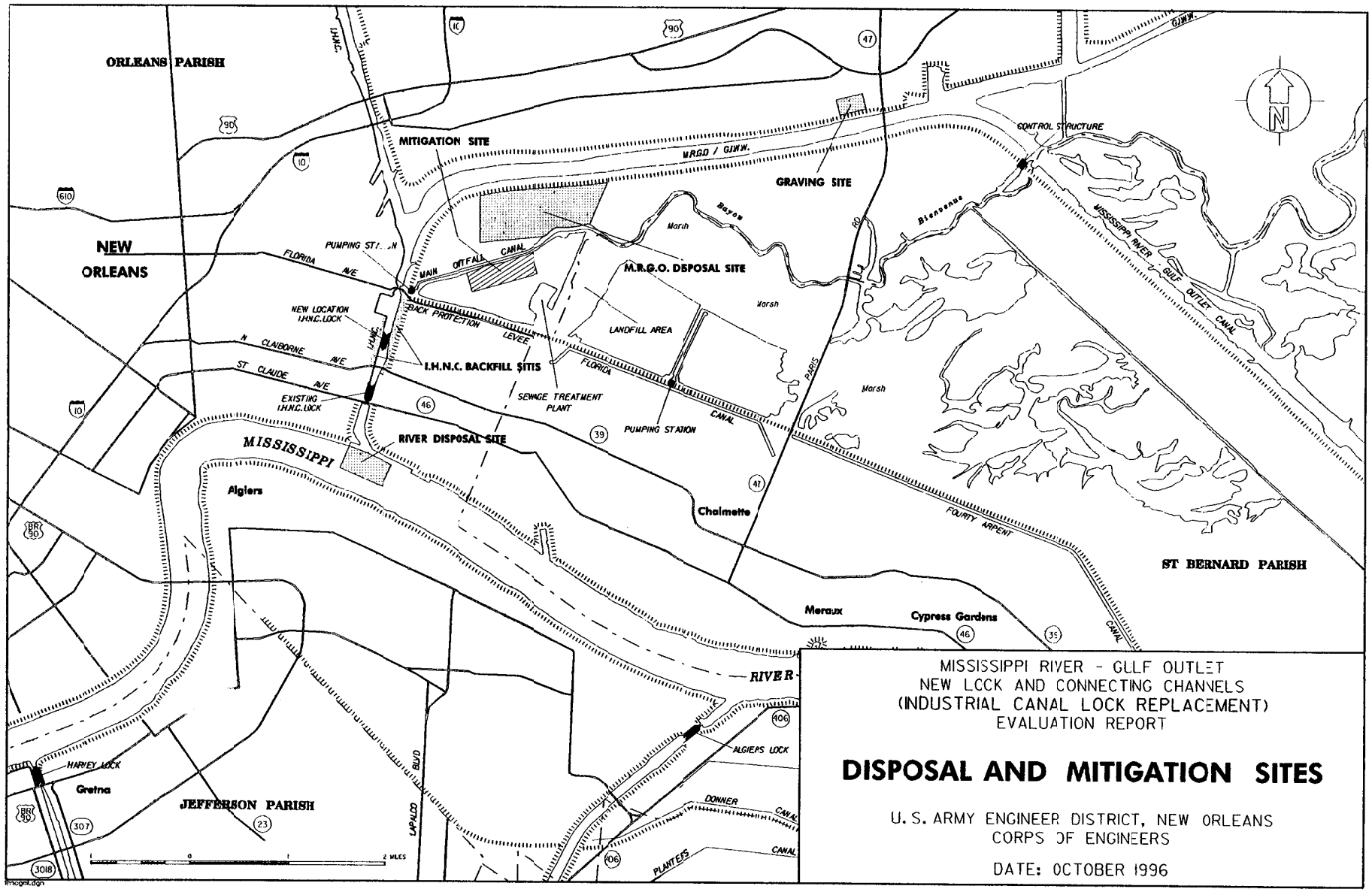
Sampling Site E (at turn basin just south of Florida Ave)
Vibracore #2. Sediments from 8' to 12' deep

TABLE B-36 (continued)

(Units are ug/L unless otherwise specified.)

Constituent	Bulk Sediments (ug/kg)	Disposal Water	Elutriate	Applicable Acute Criteria
2,4-Dinitrophenol	<3,000	<50	<13	
4-Nitrophenol	<3,000	<50	<65	
2-Methyl-4,6-Dinotrophenol	<3,000	<50	<65	
Pentachlorophenol	<3,000	<50	<65	13
Benzoic Acid	<3,000	<50	<65	
2-Methylphenol	<620	<10	<13	
4-Methylphenol	<620	<10	<13	
2,4,5-Trichlorophenol	<3,000	<50	<65	
Benzyl Alcohol	<620	<10	<13	
N-Nitrosodimethylamine				
Bis(2-Chloroisopropyl)Ether	<620	<10	<13	
N-Nitroso-Di-N-Propylamine	<620	<10	<13	
Nitrobenzene	<620	<10	<13	
Isophorone	<620	<10	<13	
Bis(2-Chloroethoxy)Methane	<620	<10	<13	
2,6-Dinitrotoluene	<620	<10	<13	
2,4-Dinitrotoluene	<620	<10	<13	
1,2-Diphenylhydrazine				
Benzidine				125
3,3'Dichlorobenzidine	<1,200	<20	<26	
Bis(2-Chloroethyl)Ether	<620	<10	<13	
1,3-Dichlorobenzene	<620	<10	<13	
1,4-Dichlorobenzene	<620	<10	<13	
1,2-Dichlorobenzene	<620	<10	<13	
Hexachloroethane	<620	<10	<13	
1,2,4-Trichlorobenzene	<620	<10	<13	
Naphthalene	<620	<10	<13	
Hexachlorobutadiene	<620	<10	<13	1.6
Hexachlorocyclopentadiene	<620	<10	<13	
2-Chloronaphthalene	<620	<10	<13	
Acenaphthylene	<620	<10	<13	
Dimehtyl Phthalate	<620	<10	<13	
Acenaphthene	<620	<10	<13	
Fluorene	<620	<10	<13	
Diethyl Phthalate	<620	<10	<13	
4-Chlorophenyl Phenyl Ether	<620	<10	<13	
N-Nitrosodiphenyl Amine	<620	<10	<13	
4-Bromophenyl Ether	<620	<10	<13	
Hexachlorobenzene	<620	<10	<13	
Phenathrene	<620	<10	<13	
Anthracene	<620	<10	<13	
Dibutylphthalate	290	<10	<13	
Fluoranathene	<620	<10	<13	
Pyrene	<620	<10	<13	
Butylbenzylphthalate	<620	<10	<13	
Chrysene	75	<10	<13	
Benzo(a)Antharacene	6.4	<10	<13	
Bis(2-Ethylexyl)Phthalate	700	1	1	
Di-N-Octyphthalate	<620	<10	<13	
Benxo(a)Fluoranthene	140	<10	<13	
Benzo(k)Fluoranthene	<620	<10	<13	
Benzo(a)Pyrene	370	<10	<13	
Indeno(1,2,3-C,D)Pyrene	<620	<10	<13	
Dibenzo(A,H)Anthracene	<620	<10	<13	
Benzo(G,H,I)Perylene	<620	<10	<13	
Aniline				
4-Chloroaniline	<620	<10	<13	
Dibenzofuran	<620	<10	<13	
2-Methylnaphthalene	<620	<10	<13	
2-Nitroaniline	<3,000	<50	<65	
3-Nitroaniline	<3,000	<50	<65	
4-Nitroaniline	<3,000	<50	<130	

< Actual value is less than value shown



MISSISSIPPI RIVER - GULF OUTLET
NEW LOCK AND CONNECTING CHANNELS
(INDUSTRIAL CANAL LOCK REPLACEMENT)
EVALUATION REPORT

DISPOSAL AND MITIGATION SITES

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: OCTOBER 1996

PLATE 1

GRAVING SITE

SECTION 404(b)(1)

This section contains an evaluation of the effects of dredged material disposal. This 404(b)(1) evaluation is prepared to fulfill the requirements of the Clean Water Act. The following short form 404(b)(1) evaluation follows the format designed by the Office of the Chief of Engineers, (OCE). As a measure to avoid unnecessary paperwork and to streamline regulation procedures while fulfilling the spirit and intent of environmental statutes, New Orleans District is using this format for all proposed project elements requiring 404 evaluation, but involving no significant impact.

PROJECT TITLE. Mississippi River-Gulf Outlet New Lock and Connecting Channels, Industrial Canal Lock Replacement Graving Site, Orleans Parish, Louisiana

PROJECT DESCRIPTION

The U.S. Army Corps of Engineers, New Orleans District, proposes construction of a graving site located northwest of the Paris Road Bridge in eastern New Orleans, Orleans Parish, Louisiana. Approximately 32 acres of waters (and wetlands) of the United States regulated by Section 404 guidelines would be impacted by the proposed project. The proposed graving site would be used to construct 4 precast ship locks for a new canal lock and associated Mississippi River-Gulf Outlet (MRGO) levee protection. Completion of all phases of the proposed project would take approximately 5 years (construction of the proposed graving site is expected to take about 1 year, construction of the 4 precast ship locks would take approximately 4 years). Following construction of the ship locks, the site would then be turned over to the local sponsor (Orleans Parish Levee Board).

Flood protection along the MRGO would follow the present line of levee protection and tie into the graving site hurricane protection levees (see Plate 1). Excavation of the graving site would be done in a dry condition to approximate elevation of -27.5 NGVD. Material excavated would be used to construct the hurricane levee protection surrounding the graving site and the tie-in dikes between the channel closure and the main levees. The excavation would require a well and/or wellpoint dewatering system to keep the slopes and base dry. Piezometric levels would be lowered a minimum of 5 feet below the slopes of the bottom of the excavation. Piezometers would be required for monitoring water levels below slopes and the excavation base.

Concrete grade beams spaced on 6-foot intervals supported by 74-foot long 12-inch by 12-inch precast prestressed concrete (PPC) piles would provide a working foundation. Between the grade beams a 1-foot sand base would be placed over the bottom of the excavation and overlain by a 4-inch reinforced concrete stabilization slab to facilitate the fabrication of the lock modules. Flood side protection of the site would consist of a tie-in dike to elevation 7.0, a 45-foot diameter cofferdam cell, and a sand or crushed stone closure at elevation 0.0 NGVD with sheetpile protection to elevation 8.0 NGVD to protect against high tides. The closure would be removed after a lock module is completed and ready for transfer to another site; the closure would be

reinstalled to facilitate the construction of other lock modules. A total of 4 lock modules would be constructed.

The new hurricane levees surrounding the graving site would experience some consolidation during and after construction. It will therefore be necessary to retain an elevation close to 15.0 NGVD as settlement occurs.

A sheetpile seepage cutoff will extend into the pleistocene along the length of the channel closure. The tip of the sheetpile would be driven to approximate elevation -55 NGVD to substantially slow down seepage from the channel.

The following total quantities of dredged or fill material would be placed into approximately 32 acres of waters (and wetlands) of the United States regulated by Section 404 guidelines. Approximately 270,500 cubic yards (cy) of earthen material would be excavated from the proposed graving site. Approximately 90,200 cy of this excavated material would be used for levee construction; the remaining excavated material would be stockpiled for future levee lifts. Approximately 63,800 square feet (sf) of steel sheet piling would be used in the levee/I-wall construction. Approximately 2,400 cy of light weight aggregate would be used as fill in the cofferdam cells. Approximately 80,000 cy of stone would be used for closure of the cofferdams. Construction of the work slab would require approximately 174,500 linear feet of 12 inch by 12 inch precast prestressed concrete (PPC) pipe piles; 3,200 cy of reinforced concrete grade beams; 1,000 cy of concrete for slab construction; 2,100 cy of sand; and 8,200 cy of gravel for road construction.

1. Review of Compliance (§230.10 (a)-(d)).

	Preliminary[1]		Final[2]	
A review of this project indicates that:				
a. The discharge represents the least environmentally damaging practicable alternative and if in a special aquatic site, the activity associated with the discharge must have direct access or proximity to, or be located in the aquatic ecosystem to fulfill its basic purpose (if no, see section 2 and information gathered for environmental assessment alternative);	YES	NO*	YES	NO
b. The activity does not appear to: (1) violate applicable state water quality standards or effluent standards prohibited under Section 307 of the Clean Water Act; (2) jeopardize the existence of Federally listed endangered or threatened species or their habitat; and (3) violate requirements of any Federally designated marine sanctuary (if no, see section 2b for (1) and check responses from resource and water quality certifying agencies);	YES	NO*	YES	NO
c. The activity will not cause or contribute to significant degradation of waters of the United States including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, esthetic, and economic values (if no, see section 2);	YES	NO*	YES	NO
d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem (if no, see section 5).	YES	NO*	YES	NO

2. Technical Evaluation Factors (Subparts C-F).

	N/A	Not Significant	Significant*
a. Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C).			
(1) Substrate impacts.		X	
(2) Suspended particulates/turbidity impacts.		X	
(3) Water column impacts.		X	
(4) Alteration of current patterns and water circulation.		X	
(5) Alteration of normal water fluctuations/hydro period.		X	
(6) Alteration of salinity gradients.		X	
b. Biological Characteristics of the Aquatic Ecosystem (Subpart D).			
(1) Effect on threatened/endangered species and their habitat.		X	
(2) Effect on the aquatic food web.		X	
(3) Effect on other wildlife (mammals, birds, reptiles, and amphibians).		X	

	N/A	Not Significant	Significant*
c. Special Aquatic Sites (Subpart E).			
(1) Sanctuaries and refuges.		x	
(2) Wetlands.		X	
(3) Mud flats.	X		
(4) Vegetated shallows.		X	
(5) Coral reefs.	x		
(6) Riffle and pool complexes.	X		
d. Human Use Characteristics (Subpart F).			
(1) Effects on municipal and private water supplies.	X		
(2) Recreational and commercial fisheries impacts		X	
(3) Effects on water-related recreation.		X	
(4) Esthetic impacts.		x	
(5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves.	X		

Remarks. Where a check is placed under the significant category, preparer has attached an explanation below.

3. Evaluation of Dredged or Fill Material (Subpart G).[3]

a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material.

(1) Physical characteristics	X
(2) Hydrography in relation to known or anticipated sources of contaminants	X
(3) Results from previous testing of the material or similar material in the vicinity of the project	X
(4) Known, significant sources of persistent pesticides from land runoff or percolation	
(5) Spill records for petroleum products or designated (Section 311 of CWA) hazardous substances	
(6) Other public records of significant introduction of contaminants from industries, municipalities, or other sources	X
(7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities	
(8) Other sources (specify)	

Appropriate references:

(1) Draft Report, Environmental Data for Hazardous, Toxic, and Radioactive Waste (HTRW) Investigations Inter Harbor Navigation Channel - Graving Site. Prepared by Gulf Engineers & Contractors, Inc., Baton Rouge, Louisiana, for the U.S. Army Corps of Engineers, New Orleans District, New Orleans, Louisiana. September, 1996

(2) Initial site assessment for Inter Harbor Navigation Channel - Graving Site, HTRW# 109, October 1996.

(3) Water Quality input for the MRGO New Locks and Connecting Channels Reevaluation Study Long Form 404(b)(1), New Orleans District, 1995.

(4) Water, Sediment, and elutriate testing for Chalmette Area Protection, New Orleans District, 1981.

(5) Louisiana Department of Environmental Quality, State of Louisiana Water Quality Management Plan, Volume 5 Part B Water Quality Inventory, 1994.

b. An evaluation of the appropriate information in 3a above indicates that there is reason to believe the proposed dredge or fill material is not a carrier of contaminants, or the material meets the testing exclusion criteria. . . . . YES NO*

4. Disposal Site Delineation (§230.11(f)).

a. The following factors, as appropriate, have been considered in evaluating the disposal site.

(1) Depth of water at disposal site X
(2) Current velocity, direction, and variability at disposal site X
(3) Degree of turbulence . . . . . ____
(4) Water column stratification . . . . . ____
(5) Discharge vessel speed and direction . . . . . ____
(6) Rate of discharge . . . . . ____

(7) Dredged material characteristics (constituents, amount, and type of material, settling velocities) X
(8) Number of discharges per unit of time . . . . . ____
(9) Other factors affecting rates and patterns of mixing (specify) . . . . . ____

Appropriate references:

(1) Louisiana Coast High Altitude Photographs, NASA, Vol.16, 1985

(2) Little Woods, Louisiana Quadrangle Map. Scale 1:24,000, 1979.

(3) 1995 Infra-red aerial photograph ACC#04866 FR 1374

(4) Soil Survey of Orleans Parish, Louisiana. U.S. Department of Agriculture, Soil Conservation Service with Louisiana Agricultural Experiment Station. 1989.

(5) Same as 3.(a)

b. An evaluation of the appropriate factors in 4a above indicates that the disposal site and/or size of mixing zone are acceptable . . . . . YES NO*

5. Actions to Minimize Adverse Effects (Subpart H).

All appropriate and practicable steps have been taken, through application of the recommendations of §230.70-230.77 to ensure minimal adverse effects of the proposed discharge . . . . . YES NO*

Actions taken:

(1) Excavation of the proposed graving site would be done in a dry condition, Material would be excavated in the dry (via cofferdams). Piezometers would be required for monitoring water levels below slopes and the excavation base. A sheetpile seepage cutoff would extend to the pliestocene along the length of the channel closure. The tip of the sheetpile would be driven to approximate elevation of -55 NGVD to slow down seepage from the channel.

6. Factual Determination (§230.11).

A review of appropriate information as identified in items 2-5 above indicates that there is minimal potential for short- or long-term environmental effects of the proposed discharge as related to:

a. Physical substrate at the disposal site (review sections 2a, 3, 4, and 5 above) . . . . . YES NO*

b. Water circulation, fluctuation and salinity (review sections 2a, 3, 4, and 5) . . . . . YES NO*

c. Suspended particulates/turbidity (review sections 2a, 3, 4, and 5) . . . . . YES NO

d. Contaminant availability (review sections 2a, 3, and 4). . . . . YES NO

e. Aquatic ecosystem structure and function (review sections 2b, and c, 3, and 5) . . . . . YES NO*

f. Disposal site (review sections 2, 4, and 5) . . . . . YES NO*

g. Cumulative impact on the aquatic ecosystem . . . . . YES NO

h. Secondary impacts on the aquatic ecosystem . . . . . YES NO

* A negative, significant, or unknown response indicates that the project may not be in compliance with the Section 404(b)(1) Guidelines.

[1] Negative responses to three or more of the compliance criteria at this stage indicates that the proposed projects may not be evaluated using this short form procedure.

[2] If the dredged or fill material cannot be excluded from individual testing, the "short form" evaluation process is inappropriate.

[3] If the dredged or fill material cannot be excluded from individual testing, the "short form" evaluation process is inappropriate.

7. Evaluation Responsibility.

a. Water Quality input was prepared by: Julie Z. LeBlanc, P.E.

Position: Hydraulic Engineer GS-11

Date: 30 Sep 1996

b. Biological input was prepared by: William P. Klein, Jr.

Position: Wildlife Biologist GS-11

Date: 3 Oct 96

c. This evaluation was reviewed by: R. H. Schroeder Jr.

Position: Chief, Planning Division

Date: _____

8. Findings.

a. The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines X

b. The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines with the inclusion of the following conditions . _____

c. The proposed disposal site for discharge of dredged or fill material does not comply with the Section 404(b)(1) guidelines for the following reason(s):

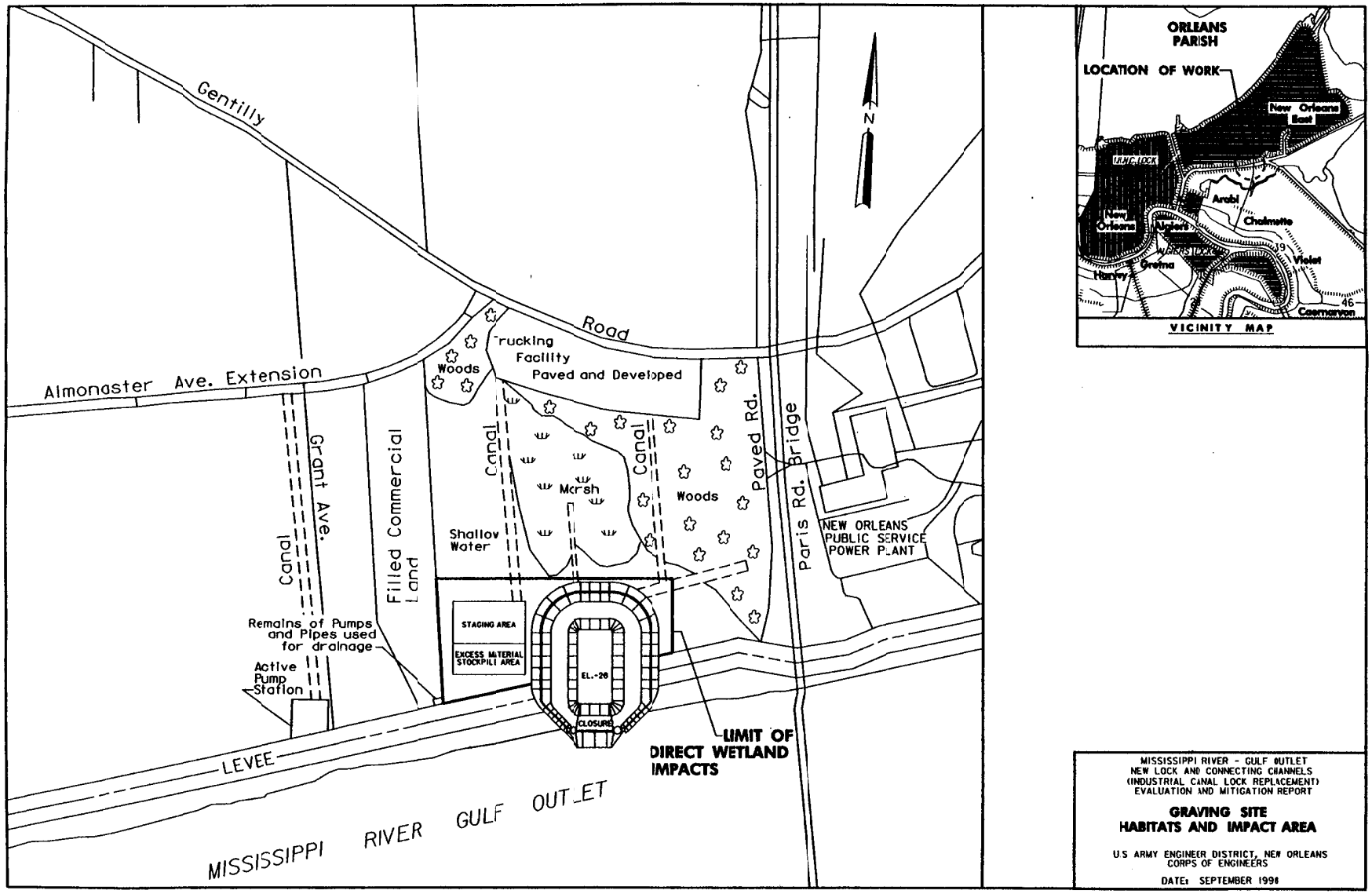
(1) There is a less damaging practicable alternative . . . . . _____

(2) The proposed discharge will result in significant degradation of the aquatic ecosystem . . . . . _____

(3) The proposed discharge does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem . . . . . _____

18 Mar 97
Date

William L. Conner
William L. Conner
Colonel, U.S. Army
District Engineer



MISSISSIPPI RIVER - GULF OUTLET
NEW LOCK AND CONNECTING CHANNELS
(INDUSTRIAL CANAL LOCK REPLACEMENT)
EVALUATION AND MITIGATION REPORT

GRAVING SITE
HABITATS AND IMPACT AREA

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: SEPTEMBER 1996

Plate 1