

C2.3.3.4 Summary and Discussion. LDEQ water quality data on the Alternate Route indicated that while some metals, pesticides, and PCB's possibly exceeded the LDEQ criteria, most constituent levels were below the LDEQ acute and chronic criteria. The mean concentration of fecal coliform exceeded the maximum LDEQ level of 200 col/100 mL. This value could be a result of urban runoff, septic tanks and animal management areas. Minimum DO levels were below the minimum LDEQ level of 5 mg/L. Such levels could result from a combination of high BOD industrial wastes, stormwater discharge from the stormwater pumping stations and local domestic wastes all being discharged into the Alternate Route.

The 1996 US Army Corps of Engineers (USACE) water quality analysis indicated possible exceedances from the LDEQ criteria in concentrations of mercury, PPDDD, PPDDT, dieldrin, endrin, chlordane, PCB's, A and B endosulfan, and hexachlorobutadien. However, these constituents are indicated as possibly exceeding the LDEQ criteria because the concentrations are known to be less than the value reported. Levels of mercury and heptachlor exceeded the LDEQ chronic criteria in sample 2BS96.

C2.3.4 Projected Water Quality. This section sets forth the projected impacts to water quality in the study area which might be reasonably expected as a result of the construction of a new lock at Bayou Sorrel and the closure of the existing lock. The subject feasibility study includes the following alternatives:

- a. Earthen chambered with sector gates
 1. 75 feet X 1,200 feet
 2. 110 feet X 1,200 feet
 3. 56 feet X 790 feet (replacement in-kind)

- b. Concrete chambered with miter gates
 1. 75 feet X 1,200 feet
 2. 110 feet X 1,200 feet

The proposed plan will include the construction of an earthen cofferdam and the dewatering of the new lock site. The lock chamber, inflow channel and outflow channel will be hydraulically

dredged and the fill will be placed in a nearby disposal area. The existing lock will remain open during the construction of the new lock.

C2.3.4.1 Future Without-Project Conditions. The future water quality conditions of the Alternate Route in the vicinity of Bayou Sorrel Lock will be similar to existing conditions if the project is not constructed.

C2.3.4.2 Future With-Project Conditions. The impacts to the water quality of the Alternate Route will be similar for all of the proposed alternatives. Water quality impacts would occur from hydraulically dredging the lock forebay, tailbay, and chamber. The hydraulic dredging operation will disturb the bottom sediment of the waterway resulting in the temporary suspension of large clouds of sedimentary particles. The nature of pollution caused by disturbing the bottom sediment is in large measure dependent on the material being disturbed. The June 1996 Corps of Engineers sediment analysis indicated that organic matter was present in the sediment. Such materials have very high chemical and biological oxygen demands when resuspended in the water column by dredging. In addition, the sedimentary particles and interstitial waters disturbed may contain immediately toxic materials such as hydrogen sulfide, methane, and a variety of organic acids, ketones, aldehydes, etc., as well as heavy metals and pesticides which exhibit persistent toxic effects. These adverse effects are temporary in nature and will diminish soon after the completion of the project.

a. Water quality impacts could result from the construction and dewatering of the cofferdam area and the dredging of the lock forebay, tailbay and chamber. The placement of material to be used for the earthen cofferdam would cause short term impacts by increasing turbidity in the immediate construction area. Turbidity affects the water quality of the waterway in several ways. The suspended sedimentary particles decrease the light penetration and interfere with the photosynthetic production of oxygen. At the same time these particles absorb solar energy from the sunlight and transform this energy into heat, thus elevating the temperature of the stream. The fact that oxygen is less soluble in warm water than in cold water coupled with the decreased photosynthetic oxygen production can result in decreased oxygen levels.

b. Channel and dike clearing activities and dike construction will result in large denuded areas from which soils will readily erode. Furthermore, equipment operations and spills during equipment maintenance operations can result in petroleum products finding their way into the stream segments. The initial clearing of the land removes the vegetative cover and permits the

rainfall to strike the bare land surface that leads to increased surface runoff and severe erosion. Runoff and erosion adds a great deal of soil solids to a stream in the form of turbidity and increased sedimentation. Denuded areas have been shown to lose large quantities of dissolved minerals, particularly sodium, potassium, calcium, magnesium, nitrates and phosphates. The primary effect of these mineral nutrients is the stimulation of plant growth. Secondly, this enrichment stimulates animal production, decomposition, and increased oxygen demand. However, devegetation may lead to only temporary nutrient enrichment, because once the minerals are leached out and eroded they are gone. If the trees and brush cleared from the land are burned in the floodplain the ashes, which are highly alkaline, may enter the stream segments and cause an immediate increase in the pH of the water.

c. Environmental protection practices normally implemented at construction sites can be effective in reducing the gross erosion and soil loss that can cause shoaling and elevated levels of suspended solids at some relatively short distance downstream of the project site.

d. Although control channel cross sections are usually designed to minimize erosion problems, some channel stabilization and bank protection is required on nearly all channels. Vegetation is widely used for these purposes. Woody vegetation is usually restricted to banks, but grass may be used to line intermittent channels such as the tributaries to the main stream segments. In order to reduce soil erosion during floods, construction of grassed channels should be scheduled to allow for at least one complete growing season after seeding.

e. While these adverse impacts are temporary in nature and will diminish soon after the completion of the project, annual or regular maintenance may prevent the shade cover of the stream from reestablishing itself. Thus, elevated stream temperatures could be a long term impact of these alternatives. However, these elevated water temperatures should not be significant due to the minimal size of the impacted area.

f. Subsequent to construction of the cofferdam, the construction area would be dewatered by pumping the confined water into the GIWW Alternate Route. As there is periodic flow from the lock chamber to the GIWW Alternate Route at the present time, there should be little adverse impact.

g. Since no closure of the existing lock would be required during construction, general water quality in the Bayou Sorrel Lock and beyond should not be affected, other than for turbidity adjacent to the construction area.

h. Material from the dredging operation would be discharged into an upland confined disposal area located west of the proposed lock. The confined disposal area does not truly confine deposited sediment but rather provides a settling area where the larger, more dense particles are removed and the water associated with the hydraulic dredging operation is allowed to enter the channel through a weir. Any chemical constituents released from sediments during the dredging operation, as well as those constituents associated with the fine materials that are not removed in the disposal area, enter the channel. Since it is the fine materials that often have the greatest affinity for constituents, if the constituents are or become available from the fines, water quality damage could result. In order to determine the level of chemical constituents released to the water column during the dredging and disposal operation, elutriate testing would be required. The elutriate test is a simplified simulation of the dredging process wherein predetermined amounts of dredging site water and sediment are mixed together to approximate a dredged material slurry. An elutriate test was performed for Bayou Sorrel Lock on the June 1996 Corps of Engineers water and sediment samples. A sediment sample (1BS96) was taken in a borrow canal in the proposed channel south of the lock. Sediment and water samples (2BS96) were taken in the Alternate Route channel on the south side of the lock. Sediment and water samples (3BS96) were taken in the Alternate Route channel on the north side of the lock. Sediment sample (4BS96) was taken in a borrow canal east of the proposed lock location. Sediment samples from 1BS96 and 2BS96 were mixed with water samples from 2BS96. Sediment samples from 3BS96 and 4BS96 were mixed with water from 3BS96. The results from the elutriate tests are presented in Tables C15, C16, C17 and C18 below. Figure C1 shows the locations of the sampling stations.

FIGURE C1
IWW LOCK SAMPLING LOCATIONS

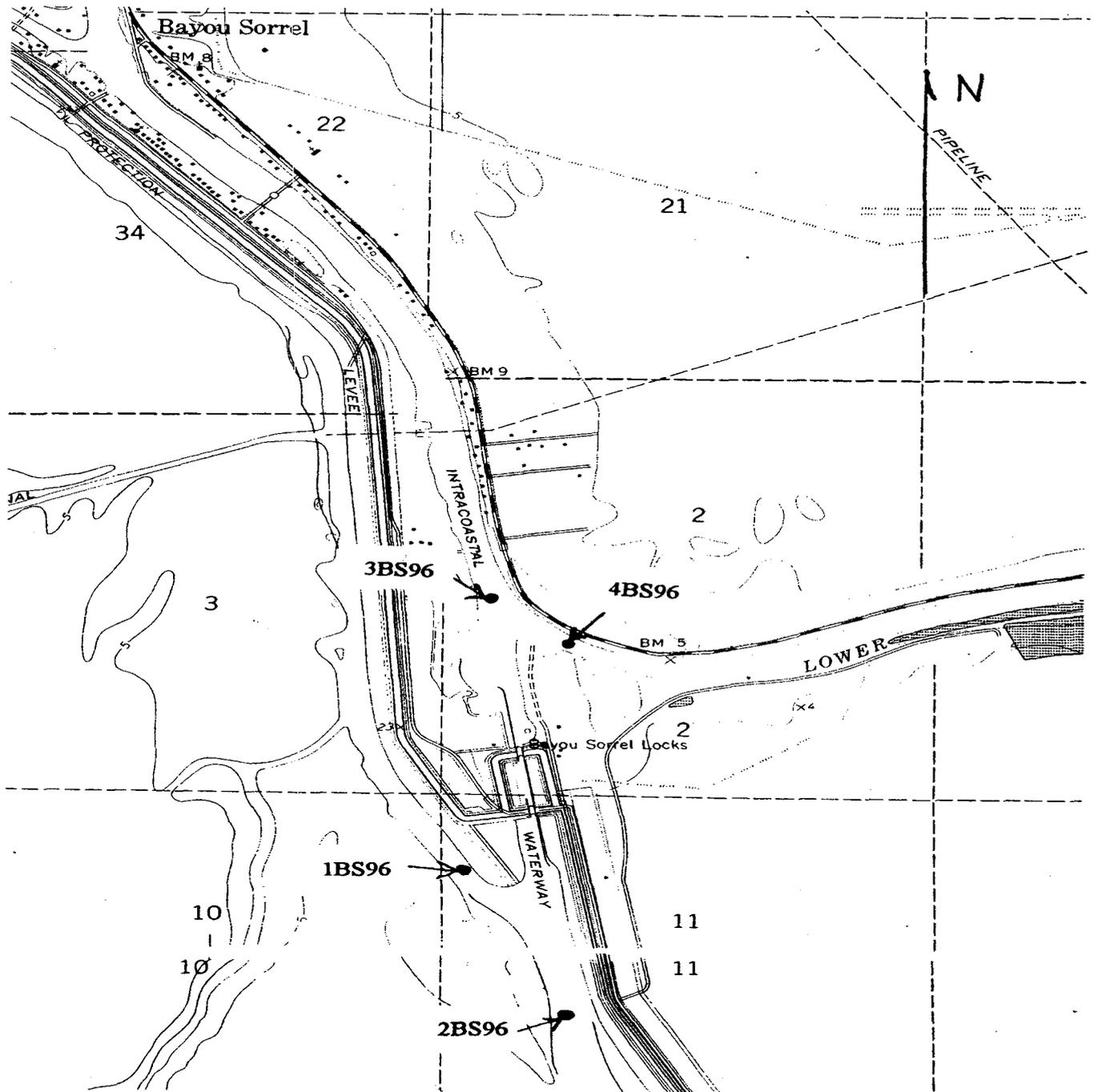


Table C15
 Elutriate Analysis
 Site 1BS96 Sediment Mixed With Water From Site 2BS96

CONSTITUENT	BULK SEDIMENT (MG/KG)	WATER	ELUTRIATE	APPLICABLE ACUTE CRITERIA (ug/L)	APPLICABLE CHRONIC CRITERIA (ug/L)
Antimony	<0.30	<0.0030 ppm	<0.0030 ppm		
Arsenic	1.63	<0.0020 ppm	<0.0020 ppm		
Beryllium	0.2	<0.001 ppm	<0.001 ppm		
Cadmium	0.036	<0.00020 ppm	<0.00020 ppm		
Chromium (total)	3.6	<0.0010 ppm	<0.0010 ppm		
Chromium (III)				1700	210
Copper	0.89	0.0014 ppm	0.0022 ppm	19.2	12.8
Lead	3.1	<0.0010 ppm	<0.0010 ppm	82	3.2
Mercury	0.445	0.00021 ppm	<0.00020 ppm	2.4	0.1210
Nickel	8.8	0.0011 ppm	<0.0010 ppm	1400	160
Selenium	<0.20	<0.0020 ppm	<0.0020 ppm		
Silver	<0.10	<0.0010 ppm	<0.0010 ppm		
Thallium	<0.20	<0.0020 ppm	<0.0020 ppm		
Zinc	14.8	0.012 ppm	<0.010 ppm	120	110
Aldrin	<0.0063	<0.000050 ppm	<0.00010 ppm	3.0	
A-BHC	<0.0063	<0.00010 ppm	<0.00020 ppm		
B-BHC	<0.0063	0.000076 ppm	<0.00010 ppm		
G-BHC	<0.0063	<0.00010 ppm	<0.00020 ppm	5.3	0.21
D-BHC	<0.0063	0.000050 ppm	<0.00010 ppm		
PPDD	<0.013	<0.00020 ppm	<0.00040 ppm	0.03	0.006
PPDE	<0.013	<0.00010 ppm	<0.00020 ppm	52.5	10.5

J - Indicates an estimated value below the laboratory reporting limit, but greater than the instrument detection limit.
 B - Indicates analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
 Bold Print indicates possible exceedances over LDEQ criteria or an increase in concentration from ambient to elutriate.

CONSTITUENT	BULK SEDIMENT (MG/KG)	WATER	ELUTRIATE	APPLICABLE ACUTE CRITERIA (ug/L)	APPLICABLE CHRONIC CRITERIA (ug/L)
PPDDT	<0.013	<0.00020 ppm	<0.00040 ppm	1.10	0.0010
Heptachlor	<0.0088	0.000025 ppm	<0.00020 ppm	0.52	0.0038
Dieldrin	<0.0063	<0.00020 ppm	<0.00040 ppm	2.5	0.0019

A-Endosulfan	<0.0063	<0.00010 ppm	<0.00020 ppm	0.22	0.056
B-Endosulfan	<0.0063	<0.00010 ppm	<0.00020 ppm	0.22	0.056
Endosulfan sulfate	<0.013	<0.00020 ppm	<0.00040 ppm		
Endrin	<0.019	<0.00020 ppm	<0.00040 ppm	0.18	0.0023
Endrin Aldehyde	<0.013	<0.00020 ppm	<0.00040 ppm		
Heptachlor Epoxide	<0.0063	<0.000050 ppm	<0.000110 ppm		
Methoxychlor	<0.0063	<0.00075 ppm	<0.0015 ppm	2.1	
Chlordane	<0.0063	<0.000050 ppm	<0.00010 ppm	2.4	0.0043
Toxaphene	<0.063	<0.000050 ppm	<0.0010 ppm	0.21	
PCB-1016	<0.13	<0.00020 ppm	<0.00040 ppm	2.0	0.014
PCB-1221	<0.13	<0.00020 ppm	<0.00040 ppm	2.0	0.014
PCB-1232	<0.13	<0.00020 ppm	<0.00040 ppm	2.0	0.014
PCB-1242	<0.13	<0.00020 ppm	<0.00040 ppm	2.0	0.014
PCB-1248	<0.13	<0.00020 ppm	<0.00040 ppm	2.0	0.014
PCB-1254	<0.13	<0.00020 ppm	<0.00040 ppm	2.0	0.014
PCB-1260	<0.13	<0.00020 ppm	<0.00040 ppm	2.0	0.014
Phenol	<0.82	<0.010 ppm	<0.022 ppm	700	350
2-Chlorophenol	<0.82	<0.010 ppm	<0.022 ppm	258	129
2-Nitrophenol	<0.82	<0.010 ppm	<0.022 ppm		
2,4-Dimethylphenol	<1.6	<0.020 ppm	<0.044 ppm		
2,4-Dichlorophenol	<0.82	<0.010 ppm	<0.022 ppm		

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CONSTITUENT	BULK SEDIMENT (MG/KG)	WATER	ELUTRIATE	APPLICABLE ACUTE CRITERIA (ug/L)	APPLICABLE CHRONIC CRITERIA (ug/L)
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4-Chloro-3-Methylphenol	<0.82	<0.010 ppm	<0.022 ppm		
2,4,6-Trichlorophenol	<0.82	<0.010 ppm	<0.022 ppm		
4-Dinitrophenol	<2.0				
4-Nitrophenol	<2.0	<0.025 ppm	<0.055 ppm		
2-Methyl-4,6-Dinitrophenol	<2.0	<0.025 ppm	<0.055 ppm		
Pentachlorophenol	<2.0	<0.025 ppm	<0.055 ppm		
Benzoic Acid	<2.0	<0.025 ppm	<0.055 ppm		
2-Methylphenol	<0.82	<0.010 ppm	<0.022 ppm		
4-Methylphenol	<0.82	<0.010 ppm	<0.022 ppm		
2,4,5-Trichlorophenol	<0.82	<0.010 ppm	<0.022 ppm		
Benzyl Alcohol	<2.0	<0.010 ppm	<0.022 ppm		
N-Nitrosodimethylamine	<0.82	<0.010 ppm	<0.022 ppm		
Bis(2-Chloroisopropyl) Ether	<0.82	<0.010 ppm	<0.022 ppm		
N-Nitroso-Di-N-Propylamine	<0.82	<0.010 ppm	<0.022 ppm		
Nitrobenzene	<0.82	<0.010 ppm	<0.022 ppm		
Isophorone	<0.82	<0.010 ppm	<0.022 ppm		
Bis(2-Chloroethoxy) Methane	<0.82	<0.010 ppm	<0.022 ppm		
2,6-Dinitrotoluene	<0.82	<0.010 ppm	<0.022 ppm		
2,4-Dinitrotoluene	<0.82	<0.010 ppm	<0.022 ppm		
1,2-Diphenylhydrazine					
Benzidine	<4.1	<0.050 ppm	<0.11 ppm	250	125
3,3'Dichlorobenzidine	<1.6	<0.020 ppm	<0.044 ppm		
Bis(2-Chloroethyl) Ether	<0.82	<0.010 ppm	<0.022 ppm		

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CONSTITUENT	BULK SEDIMENT (MG/KG)	WATER	ELUTRIATE	APPLICABLE ACUTE CRITERIA (ug/L)	APPLICABLE CHRONIC CRITERIA (ug/L)
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1,3-Dichlorobenzene	<0.82	<0.010 ppm	<0.022 ppm		
1,4-Dichlorobenzene	<0.82	<0.010 ppm	<0.022 ppm		
1,2-Dichlorobenzene	<0.82	<0.010 ppm	<0.022 ppm		
Hexachloroethane	<0.82	<0.010 ppm	<0.022 ppm		
1,2,4-Trichlorobenzene	<0.82	<0.010 ppm	<0.022 ppm		
Naphthalene	<0.82	<0.010 ppm	<0.022 ppm		
Hexachlorobutadiene	<0.82	<0.010 ppm	<0.022 ppm	5.1	1.02

Hexachlorocyclopentadiene	<0.82	<0.010 ppm	<0.022 ppm		
2-Chloronaphthalene	<0.82	<0.010 ppm	<0.022 ppm		
Acenaphthylene	<0.82	<0.010 ppm	<0.022 ppm		
Dimethyl Phthalate	<0.82	<0.010 ppm	<0.022 ppm		
Acenaphthene	<0.82	<0.010 ppm	<0.022 ppm		
Fluorene	<0.82	<0.010 ppm	<0.022 ppm		
Diethyl Phthalate	<0.82	<0.010 ppm	<0.022 ppm		
4-Chlorophenyl Phenyl Ether	<0.82	<0.010 ppm	<0.022 ppm		
N-Nitrosodiphenyl Amine	<0.82	<0.010 ppm	<0.022 ppm		
4-Bromophenyl Ether	<0.82	<0.010 ppm	<0.022 ppm		
Hexachlorobenzene	<0.82	<0.010 ppm	<0.022 ppm		
Phenathrene	<0.82	<0.010 ppm	<0.022 ppm		
Anthracene	<0.82	<0.010 ppm	<0.022 ppm		
Dibutylphthalate	0.88 B	0.0037 J ppm	<0.022 ppm		
Fluoranthene	<0.82	<0.010 ppm	<0.022 ppm		
Pyrene	<0.82	<0.010 ppm	<0.022 ppm		

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CONSTITUENT	BULK SEDIMENT (MG/KG)	WATER	ELUTRIATE	APPLICABLE ACUTE CRITERIA (ug/L)	APPLICABLE CHRONIC CRITERIA (ug/L)
Butylbenzylphthalate	<0.82	<0.010 ppm	<0.022 ppm		
Chrysene	<0.82	<0.010 ppm	<0.022 ppm		
Benzo (a) Anthracene	<0.82	<0.010 ppm	<0.022 ppm		
Bis(2-Ethylhexyl) Phthalate	<0.82	0.0029 J ppm	<0.022 ppm		
Di-N-Octylphthalate	<0.82	0.0015ppm BJ	0.0086 ppm BJ		
Benzo (a) Fluoranthene	<0.82	<0.010 ppm	<0.022 ppm		
Benzo (k) Fluoranthene	<0.82	<0.010 ppm	<0.022 ppm		
Benzo (a) Pyrene	<0.82	<0.010 ppm	<0.022 ppm		
Indeno (1, 2, 3-C, D) Pyrene	<0.82	<0.010 ppm	<0.022 ppm		
Dibenzo (A, H) Anthracene	<0.82	<0.010 ppm	<0.022 ppm		
Benzo (G, H, I) Perylene	<0.82	<0.010 ppm	<0.022 ppm		
Aniline	<0.82	<0.010 ppm	<0.022 ppm		
4-Chloroaniline	<0.82	<0.010 ppm	<0.022 ppm		
Dibenzofuran	<0.82	<0.010 ppm	<0.022 ppm		
2-Methylnaphthalene	<0.82	<0.010 ppm	<0.022 ppm		
2-Nitroaniline	<2.0	<0.025 ppm	<0.055 ppm		
3-Nitroaniline	<2.0	<0.025 ppm	<0.055 ppm		
4-Nitroaniline	<2.0	<0.025 ppm	<0.055 ppm		
Cyanide	<0.500	<0.005 ppm	<0.005 ppm		
Total Suspended Solids		84 ppm			
2, 4-Dinitrophenol	<2.0	<0.025 ppm	<0.055 ppm		

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Table C16
Elutriate Analysis
Site 2BS96 Sediment Mixed With Water From Site 2BS96

CONSTITUENT	BULK SEDIMENT (MG/KG)	WATER	Elutriate	APPLICABLE ACUTE CRITERIA (ug/L)	APPLICABLE CHRONIC CRITERIA (ug/L)
Antimony	<0.30	<0.0030 ppm	<0.0030 ppm		
Arsenic	2.01	<0.0020 ppm	<0.0020 ppm		
Beryllium	0.2	<0.001 ppm	<0.001 ppm		
Cadmium	0.044	<0.00020 ppm	<0.00020 ppm		
Chromium	3.8	<0.0010 ppm	<0.0010 ppm		
Chromium (III)				1700	210
Copper	1.11	0.0014 ppm	0.0015 ppm	19.7	12.8
Lead	4.1	<0.0010 ppm	<0.0010 ppm	82	3.2
Mercury	0.455	0.00021 ppm	<0.00020 ppm	2.4	0.1210
Nickel	9.8	0.0011 ppm	0.0012 ppm	1400	160
Selenium	<0.20	<0.0020 ppm	<0.0020 ppm		
Silver	<0.10	<0.0010 ppm	<0.0010 ppm		
Thallium	<0.20	<0.0020 ppm	<0.0020 ppm		
Zinc	15.4	0.012 ppm	<0.010 ppm	120	110
A-BHC	<0.0063	<0.00010	<0.00010 ppm		
B-BHC	<0.0063	<0.000076 ppm	0.000083 ppm		
G-BHC	<0.0063	<0.00010 ppm	<0.00010 ppm	5.3	0.21
D-BHC	<0.0063	<0.000050 ppm	<0.000052 ppm		
PPDDD	<0.013	<0.00020 ppm	<0.00021 ppm	0.03	0.006
PPDDE	<0.013	<0.00010 ppm	<0.00010 ppm	52.5	10.5
PPDDT	<0.013	<0.00020 ppm	<0.00021 ppm	1.10	0.0010
Heptachlor	0.0010 J	0.000025 ppm	<0.00010 ppm	0.52	0.0038

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CONSTITUENT	BULK SEDIMENT (MG/KG)	WATER	ELUTRIATE	APPLICABLE ACUTE CRITERIA (ug/L)	APPLICABLE CHRONIC CRITERIA (ug/L)
Dieldrin	<0.0063	<0.00020 ppm	<0.00021 ppm	2.5	0.0019

A-Endosulfan	<0.0063	<0.00010 ppm	<0.00010 ppm		
B-Endosulfan	<0.0063	<0.00010 ppm	<0.00010 ppm		
Endosulfan				0.22	0.056
Aldrin	<0.0063	<0.000050 ppm	<0.000052 ppm	3.0	
A-BHC	<0.0063	<0.00010 ppm	<0.00010 ppm		
Endosulfan sulfate	<0.013	<0.00020 ppm	<0.00021 ppm		
Endrin	<0.019	<0.00020 ppm	<0.00021 ppm	0.18	0.0023
Endrin Aldehyde	<0.013	<0.00020 ppm	<0.00021 ppm		
Heptachlor Epoxide	<0.0063	<0.000050 ppm	<0.000052 ppm		
Methoxychlor	<0.0063	<0.00075 ppm	<0.00078 ppm	2.1	
Chlordane	<0.0063	<0.000050 ppm	<0.000052 ppm	2.4	0.0043
Toxaphene	<0.0063	<0.000050 ppm	<0.000052 ppm	0.21	
PCB-1016	<0.13	<0.00020 ppm	<0.00021 ppm	2.0	0.014
PCB-1221	<0.13	<0.00020 ppm	<0.00021 ppm	2.0	0.014
PCB-1232	<0.13	<0.00020 ppm	<0.00021 ppm	2.0	0.014
PCB-1242	<0.13	<0.00020 ppm	<0.00021 ppm	2.0	0.014
PCB-1248	<0.13	<0.00020 ppm	<0.00021 ppm	2.0	0.014
PCB-1254	<0.13	<0.00020 ppm	<0.00021 ppm	2.0	0.014
PCB-1260	<0.13	<0.00020 ppm	<0.00021 ppm	2.0	0.014
Phenol	<0.85	<0.010 ppm	<0.010 ppm	700	350
2-Chlorophenol	<0.85	<0.010 ppm	<0.010 ppm	258	129
2-Nitrophenol	<0.85	<0.010 ppm	<0.010 ppm		

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CONSTITUENT	BULK SEDIMENT (MG/KG)	WATER	ELUTRIATE	APPLICABLE ACUTE CRITERIA (ug/L)	APPLICABLE CHRONIC CRITERIA (ug/L)
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2,4-Dimethylphenol	<1.7	<0.020 ppm	<0.020 ppm		
2,4-Dichlorophenol					
4-Chloro-3-Methylphenol	<0.85	<0.010 ppm	<0.010 ppm		
2,4,6-Trichlorophenol	<0.85	<0.010 ppm	<0.010 ppm		
2,4-Dinitrophenol	<0.85	<0.010 ppm	<0.010 ppm		
4-Dinitrophenol	<2.1	<0.025 ppm	<0.025 ppm		

4-Nitrophenol	<2.1	<0.025 ppm	<0.025 ppm		
2-Methyl-4,6-Dinitrophenol	<2.1	<0.025 ppm	<0.025 ppm		
Pentachlorophenol	<2.1	<0.025 ppm	<0.025 ppm		
Benzoic Acid	<2.1	<0.025 ppm	<0.025 ppm	13	
2-Methylphenol	<0.85	<0.010 ppm	<0.010 ppm		
4-Methylphenol	<0.85	<0.010 ppm	<0.010 ppm		
2,4,5-Trichlorophenol	<0.85	<0.010 ppm	<0.010 ppm		
Benzyl Alcohol	<2.1	<0.010 ppm	<0.010 ppm		
N-Nitrosodimethylamine	<0.85	<0.010 ppm	<0.010 ppm		
Bis(2-Chloroisopropyl) Ether	<0.85	<0.010 ppm	<0.010 ppm		
N-Nitroso-Di-N-Propylamine	<0.85	<0.010 ppm	<0.010 ppm		
Nitrobenzene	<0.85	<0.010 ppm	<0.010 ppm		
Isophorone	<0.85	<0.010 ppm	<0.010 ppm		
Bis(2-Chloroethoxy) Methane	<0.85	<0.010 ppm	<0.010 ppm		
2,6-Dinitrotoluene	<0.85	<0.010 ppm	<0.010 ppm		

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CONSTITUENT	BULK SEDIMENT (MG/KG)	WATER	ELUTRIATE	APPLICABLE ACUTE CRITERIA (ug/L)	APPLICABLE CHRONIC CRITERIA (ug/L)
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2,4-Dinitrotoluene	<0.85	<0.010 ppm	<0.010 ppm		
1,2-Diphenylhydrazine					
Benzidine	<4.3	<0.050 ppm	<0.050 ppm	250	125
3,3'Dichlorobenzidine	<1.7	<0.020 ppm	<0.020 ppm		
Bis(2-Chloroethyl) Ether	<0.85	<0.010 ppm	<0.010 ppm		
1,3-Dichlorobenzene	<0.85	<0.010 ppm	<0.010 ppm		
1,4-Dichlorobenzene	<0.85	<0.010 ppm	<0.010 ppm		
1,2-Dichlorobenzene	<0.85	<0.010 ppm	<0.010 ppm		
Hexachloroethane	<0.85	<0.010 ppm	<0.010 ppm		
1,2,4-Trichlorobenzene	<0.85	<0.010 ppm	<0.010 ppm		
Naphthalene	<0.85	<0.010 ppm	<0.010 ppm		
Hexachlorobutadiene	<0.85	<0.010 ppm	<0.010 ppm	5.1	1.02
Hexachlorocyclopentadiene	<0.85	<0.010 ppm	<0.010 ppm		
2-Chloronaphthalene	<0.85	<0.010 ppm	<0.010 ppm		
Acenaphthylene	<0.85	<0.010 ppm	<0.010 ppm		
Dimethyl Phthalate	<0.85	<0.010 ppm	<0.010 ppm		
Acenaphthene	<0.85	<0.010 ppm	<0.010 ppm		
Fluorene	<0.85	<0.010 ppm	<0.010 ppm		
Diethyl Phthalate	<0.85	<0.010 ppm	0.0044 J		
4-Chlorophenyl Phenyl Ether	<0.85	<0.010 ppm	<0.010 ppm		
N-Nitrosodiphenyl Amine	<0.85	<0.010 ppm	<0.010 ppm		

J - Indicates an estimated value below the laboratory reporting limit, but greater than the instrument detection limit.

B - Indicates analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.

Bold Print indicates possible exceedances over LDEQ criteria or an increase in concentration from ambient to elutriate.

CONSTITUENT	BULK SEDIMENT (MG/KG)	WATER	ELUTRIATE	APPLICABLE ACUTE CRITERIA (ug/L)	APPLICABLE CHRONIC CRITERIA (ug/L)
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4-Bromophenyl Ether	<0.85	<0.010 ppm	<0.010 ppm		
Hexachlorobenzene	<0.85	<0.010 ppm	<0.010 ppm		
Phenanthrene	<0.85	<0.010 ppm	<0.010 ppm		
Anthracene	<0.85	<0.010 ppm	<0.010 ppm		
Dibutylphthalate	0.10 B J	0.0037 J ppm	0.0057 J ppm		
Fluoranthene	<0.85	<0.010 ppm	<0.010 ppm		
Pyrene	<0.85	<0.010 ppm	<0.010 ppm		
Butylbenzylphthalate	<0.85	<0.010 ppm	0.0018 J ppm		
Chrysene	<0.85	<0.010 ppm	<0.010 ppm		
Benzo(a)Anthracene	<0.85	<0.010 ppm	<0.010 ppm		
Bis(2-Ethylexyl) Phthalate	<0.85	0.0029 J ppm	<0.010 ppm		
Di-N-Octylphthalate	<0.85	0.0015 B J ppm	<0.010 ppm		
Benzo(a)Fluoranthene	<0.85	<0.010 ppm			
Benzo(k)Fluoranthene	<0.85	<0.010 ppm	<0.010 ppm		
Benzo(a)Pyrene	<0.85	<0.010 ppm	<0.010 ppm		
Indeno(1,2,3-C,D)Pyrene	<0.85	<0.010 ppm	<0.010 ppm		
Dibenzo(A,H)Anthracene	<0.85	<0.010 ppm	<0.010 ppm		
Benzo(G,H,I)Perylene	<0.85	<0.010 ppm	<0.010 ppm		
Aniline	<0.85	<0.010 ppm	<0.010 ppm		
4-Chloroaniline	<0.85	<0.010 ppm	<0.010 ppm		
Dibenzofuran	<0.85	<0.010 ppm	<0.010 ppm		
2-Methylnaphthalene	<0.85	<0.010 ppm	<0.010 ppm		

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CONSTITUENT	BULK SEDIMENT (MG/KG)	WATER	ELUTRIATE	APPLICABLE ACUTE CRITERIA (ug/L)	APPLICABLE CHRONIC CRITERIA (ug/L)
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2-Nitroaniline	<2.1	<0.025 ppm	<0.025 ppm		
3-Nitroaniline	<2.1	<0.025 ppm	<0.025 ppm		
4-Nitroaniline	<2.1	<0.025 ppm	<0.025 ppm		
Cyanide	<0.495	<0.005 ppm	<0.005 ppm		
Benzo (b) Fluoranthene	<0.85	<0.010 ppm	<0.010 ppm		
Total Suspended Solids		84 ppm			

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