REFERENCE 16

United States Army Corps of Engineers (USACE), January 1998, Columbia river Channel Deepening Sediment Quality Evaluation, Presented by the USACE at the Environmental Roundtable, Portland, Oregon.

Doc ID# 136747

Reference 16

January 29, 1998

Attached is the report of the January 15, 1998, meeting of the Environmental Roundtable.

A make-up Roundtable for those who were not able to attend the regular Roundtable meeting on Jan. 15 will be held on:

February 5, 1998
3-5 p.m.
10th floor training room
Robert Duncan Plaza
333 SW 1st Avenue
Portland, Oregon

The Agenda will be the same as that of Jan. 15, 1998: Follow-up on sediment quality analysis/investigations on the Willamette and Columbia rivers. Because the subject is the same, this report, which is mailed to the entire Roundtable mailing list, will not be duplicated.

The next regular meeting of the Environmental Roundtable will be held on:

March 24, 1998
Clatskanie, Washington
3 – 5 p.m.
Place to be announced

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Report of Environmental Roundtable
January 15, 1998
Portland District Office, Robert Duncan Plaza
Portland, Oregon

Eighteen people **(see attendance list, attachment 1)** turned out for the January 15 meeting. The principal agenda item was the Sediment Quality Study conducted in the Willamette and Columbia rivers in conjunction with the Columbia River Channel Improvement Feasibility Study. Mark Siipola, Corps civil engineer, presented the findings of that study. Handouts were provided **(see attachment 2, 46 pages)**.

Mark stated that Corps and EPA guidance is used to perform sediment sampling, testing and analysis of the results. As he did in the July Roundtable, he outlined the National and Regional Tiered Testing approach. Sediments were collected at 89 stations on the Columbia River and 43 stations on the Willamette River. Sediments from all stations were subjected to physical analyses. In addition, 22 stations on the Columbia River and all stations on the Willamette River were subjected to chemical analyses. The chemical data was presented and related to '94 and '97 screening levels. Tiers IIA and IIB testing are used to evaluate the suitability of dredged material for "unconfined open-water disposal."

He also indicated attendees could learn more about the sediment evaluation process at a two-day seminar, to be held on April 22 and 23, 1998, in Portland. The time and place will be announced later.

The sediment samples discussed at the Roundtable were submitted to Tier II testing: "physical and chemical testing." If sediments had been discovered that were above established screening levels (values below screening levels are considered not to require further testing), Mark explained, they would be examined under Tier III testing methods: "biological testing." None of the sediment samples from the Columbia River require Tier III testing based upon the results of the current testing. Some sediment, if dredged in the Willamette River, would require further testing or some method of disposal other than open-water. It is likely that some sediment would fail biological testing, he said.

Mark showed the current advanced maintenance dredging requirements for the Columbia and Willamette river navigation channels: a 40-foot channel with a 2-foot overdepth in the Willamette, and a 40-foot channel with a 5-foot overdepth in the Columbia. The overdepth is the amount dredged to maintain a safe cushion because of the continual sand movement in the rivers.

A graph was shown outlining the amounts of maintenance dredging from 1980 through 1997 for both the Columbia and Willamette rivers. Amounts of dredging vary because flows vary from time to time, causing more material movement. Last year he said the Columbia had flows of 500,000 cubic feet per second (cfs), while the Willamette reached 120,000 cfs flows. A separate column noted the amount of sediment dredged as a direct result of 1980's Mount St. Helens eruption.

The Columbia is dredged every year; the Willamette every three to five years. Mark explained two types of shoaling: sand waves (underwater sand dunes where the material is constantly moving) and cutline shoals. Mark also explained the differences between the Columbia and Willamette rivers in bedload materials (fine to coarse) and in the behavior and type of shoaling that occurs. While the material dredged in the Columbia River is very consistent throughout the dredged areas, sediments proposed to be dredged in the Willamette River are much more varied.

Tables and graphs were presented showing various physical and chemical parameters. The percentage of fines in the samples exceeded 20 percent in only five places on the Columbia River. That is important because chemical contamination binds to fines more closely than to coarse grained sands. Under the Regional guidelines, a sample testing greater than 20 percent requires Tier II chemical testing.

Mark then presented a series of charts outlining the locations tested, the physical properties of the materials tested, and the amounts of various metals, pesticides, polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs), and tributyltin (TBTs).

In the Willamette, 43 locations were sampled with 52 separate samples subjected to chemical analyses. Twenty-nine of the samples taken on the Willamette River exceeded the '94 screening levels in one or more tested contaminates.

An attendee questioned: "In the Willamette do you have movement analogous to sand waves in the Columbia?" Mark answered, "No, because the Willamette is a backwater subject to slow moving water. Coarse grained sediment moving down the Willamette River is trapped in the pool above the Willamette Falls."

A question was asked about whether the Corps had done "bio-assays" on exceedences (those samples exceeding screening levels)? The answer was "No, not yet. If we end up actually going ahead with channel improvements," Mark explained, "the testing would need to be done over again because things will have changed in the years between the completion of the current study and project start." He noted that the earliest date dredging could take place under the improvement project would be in the year 2003. Disposal decisions might not be made on this set of data, but based on data gathered just before dredging. On the Columbia River, however, this set of data is probably enough, Mark indicated.

A question was asked: "Do chemicals bind to fine grains?" The answer is "Yes," because of "their hydrophobic and lipophilic characteristics," said Mark. Lipophilic means that chemicals are attracted to the finer organic particles, which have more binding sites. "Since the chemicals bind so well, they can be buried and the contaminates will pretty much stay there. That is why capping works," he explained.

John Malek, Sediment Management Program, U.S. Environmental Protection Agency, indicated that erosion from upriver is a system-wide source of contamination, but that

local sources are also a problem. Site impacts from air deposition from such things as car exhausts, street runoff, etc., all influence the content of river water and deposits.

Attendees requested that the Corps consider holding some future meetings outside of Portland. The next meeting will be held in Clatskanie, Wash., from 3 - 5 p.m., Tuesday, March 24, 1998, place to be announced.

Any comments or questions regarding these minutes can be directed to Laura Hicks, project manager, at (503) 808-4705, or Dawn Edwards, facilitator, at (503) 808-4510.

January 15, 1998
Environmental Roundtable
Sign in sheet

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Name	Address	Affiliation	Telephone
Randi Wexler	5 Centerpointe Dr. Suite 240 Lake Oswego	HART CROWSER	620-7284
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Gil Wistar	811 SW 6TH Portland 97204	DEQ	229-5512
Gene Foster	811 SW 6th Ave Portland, OR 97204	DEQ-WQ	229-5358
John Malek	ECO - 083 1200-6TH Ave Seattle, WA 98101	BPA	206-553-1286
Jim Seeman	Corps Safety Office	Corps	

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January 15, 1998
Environmental Roundtable
Sign in sheet

Name	Address	Affiliation	Telephone
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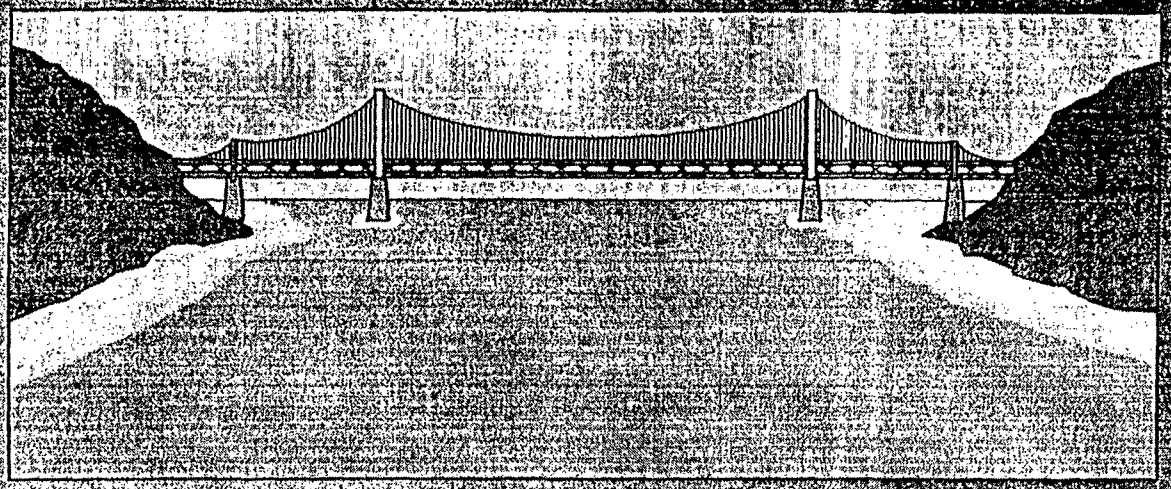
Sandra Hart	220 N W 2nd Ave	N.W. Natural	(503) 721 2478
Kathi Fitzpatrick	Box 3529 700 NE Multnomah Portland, OR 97208	PDP	731-7236
Paul Vik	(b) (6)	Puget Island Waterfront Owner	(b) (6)
Philip Vik	(b) (6)	Consolidated Diking Dist No 1. Wahkiakum County Puget Island Dairy Farmer	(b) (6)
Sebastian Degens	P.O. Box 3529 Portland, OR	Port of Portland	503 731-7214



Columbia River Channel Deepening

Sediment Quality Evaluation

United States
Environmental Protection
Agency

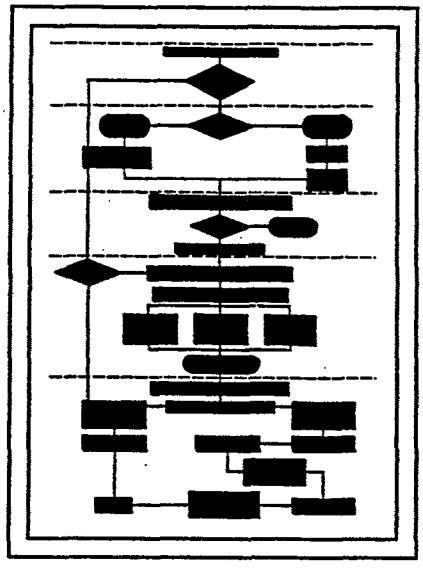
Department of the Army
U.S. Army Corps of Engineers

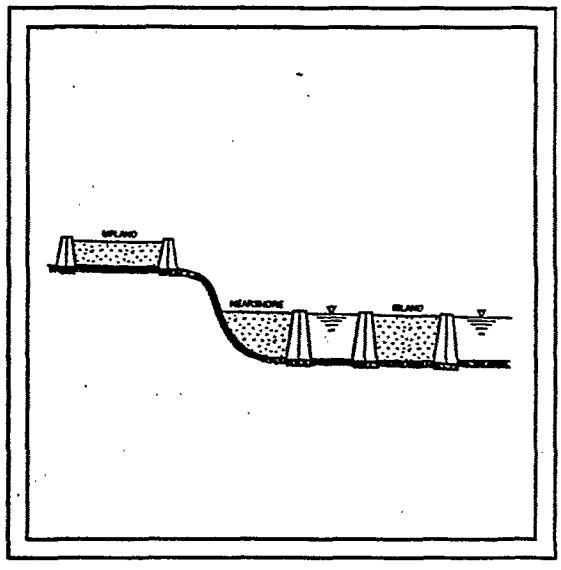
EPA842-B-92-008
November 1992

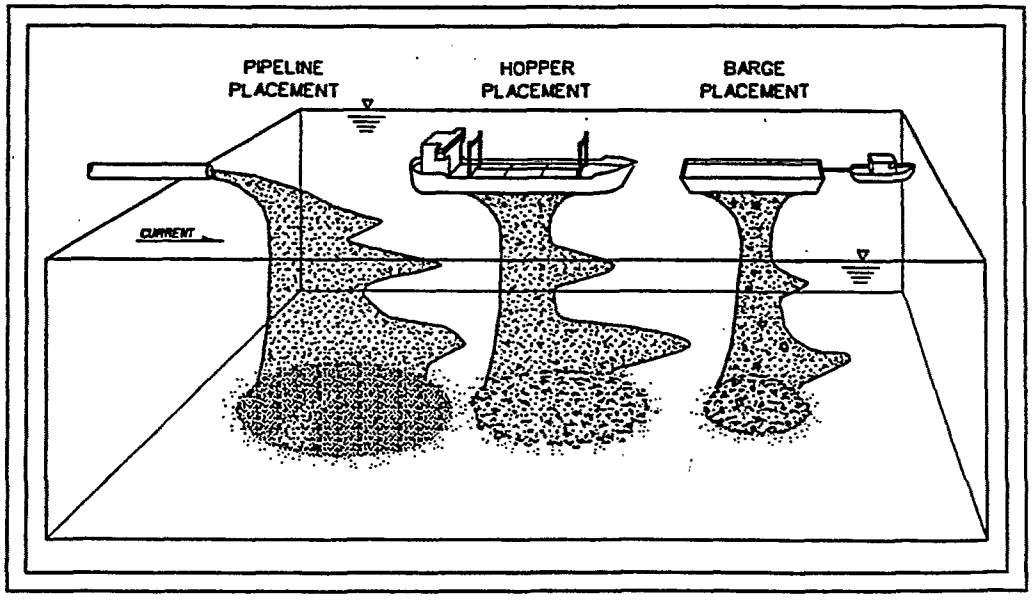
EPA

US Army Corps
of Engineers

Evaluating Environmental Effects of Dredged Material Management Alternatives— A Technical Framework







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United States
Environmental Protection
Agency

Department Of The Army
U.S. Army Corps Of Engineers

EPA-503/8-91/001
February 1991

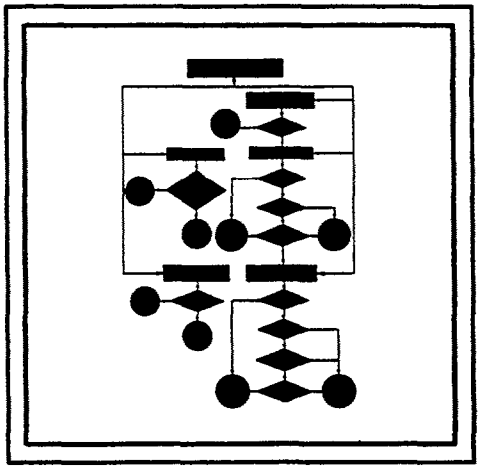
Office of Water (WH-556F)

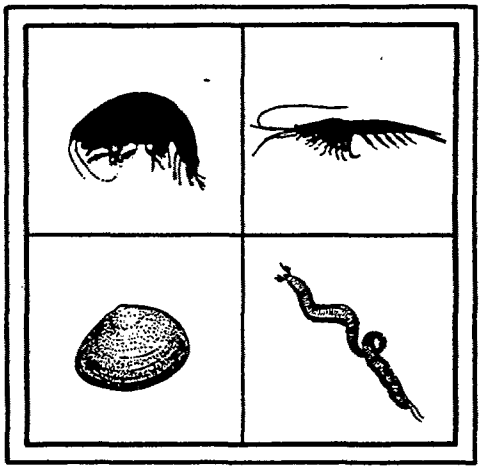
EPA

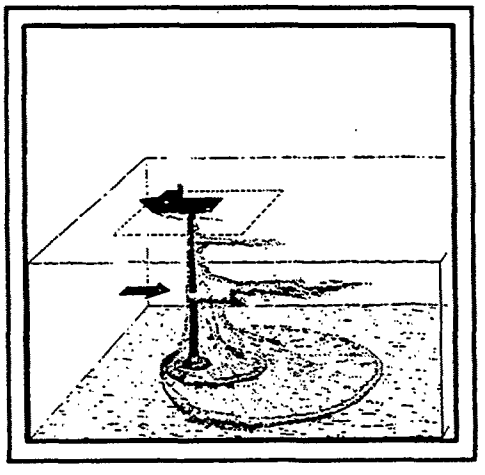
U.S. Army Corps
Of Engineers

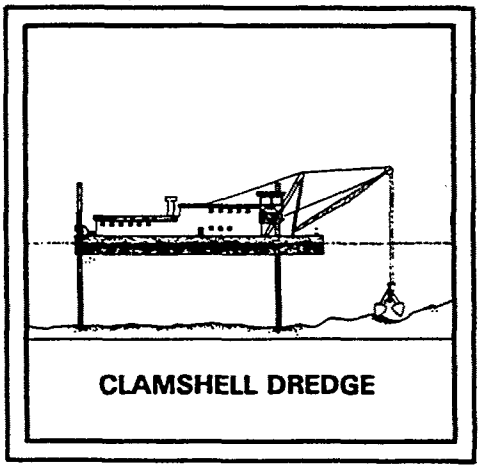
Evaluation Of Dredged Material Proposed For Ocean Disposal

Testing Manual









009

United States
Environmental Protection
Agency

Department of The Army
US Army Corps of Engineers

EPA-823-B-94-002
December 1995

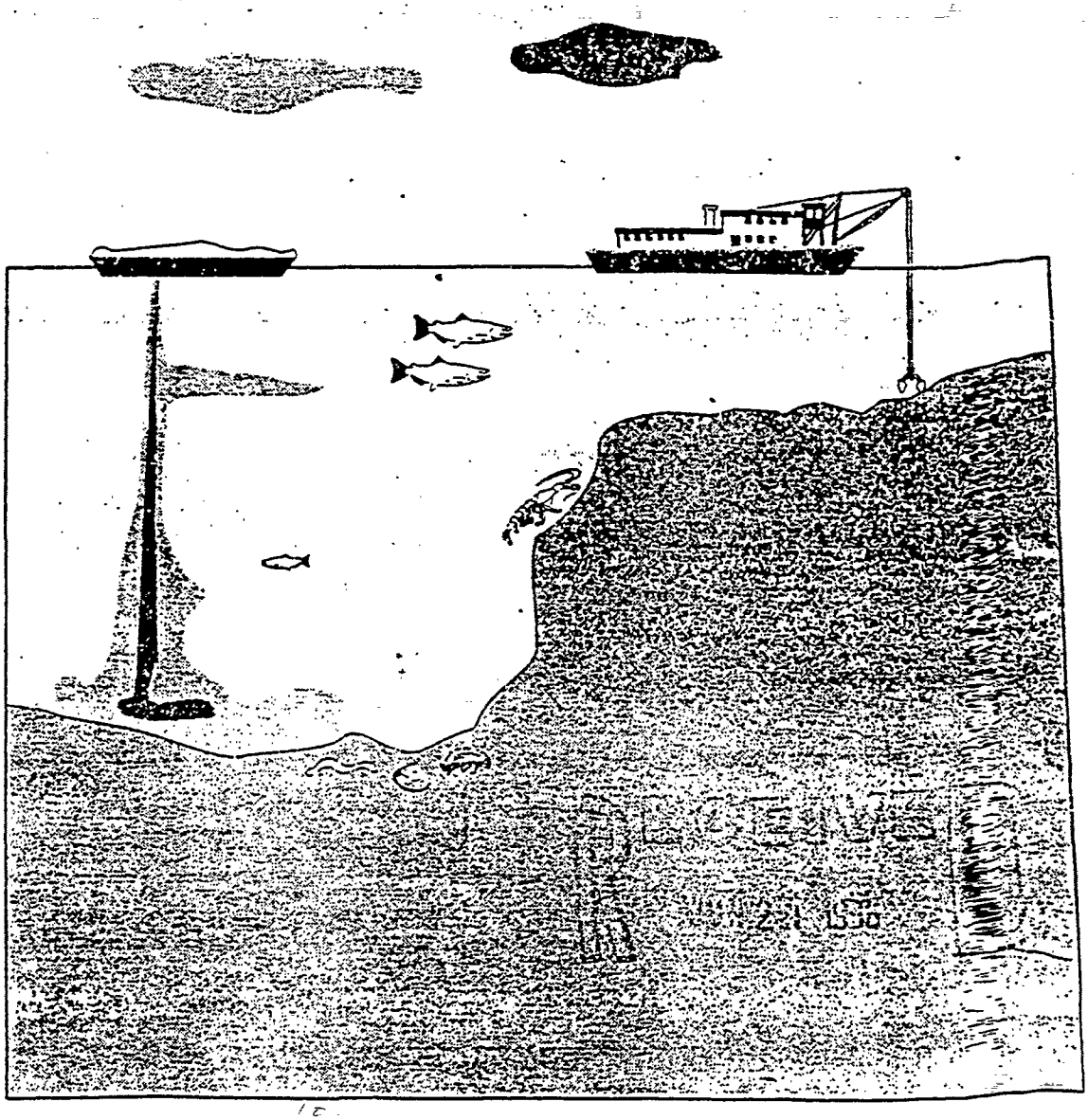
Office of Water (4305)

EPA

U.S. Army Corps
of Engineers

Evaluation of Dredged Material Proposed For Discharge in Waters of the U.S. - Testing Manual

Inland Testing Manual



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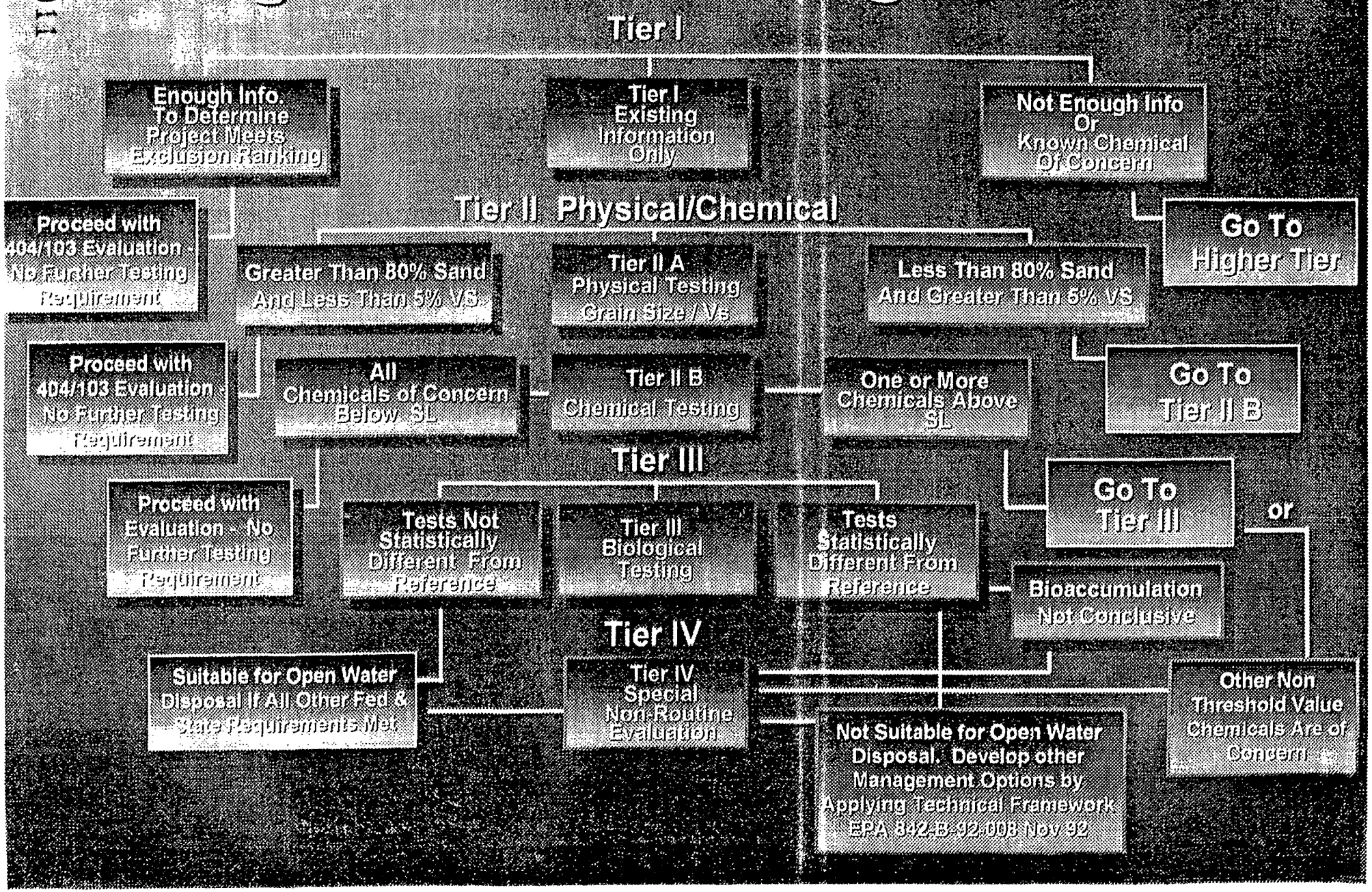
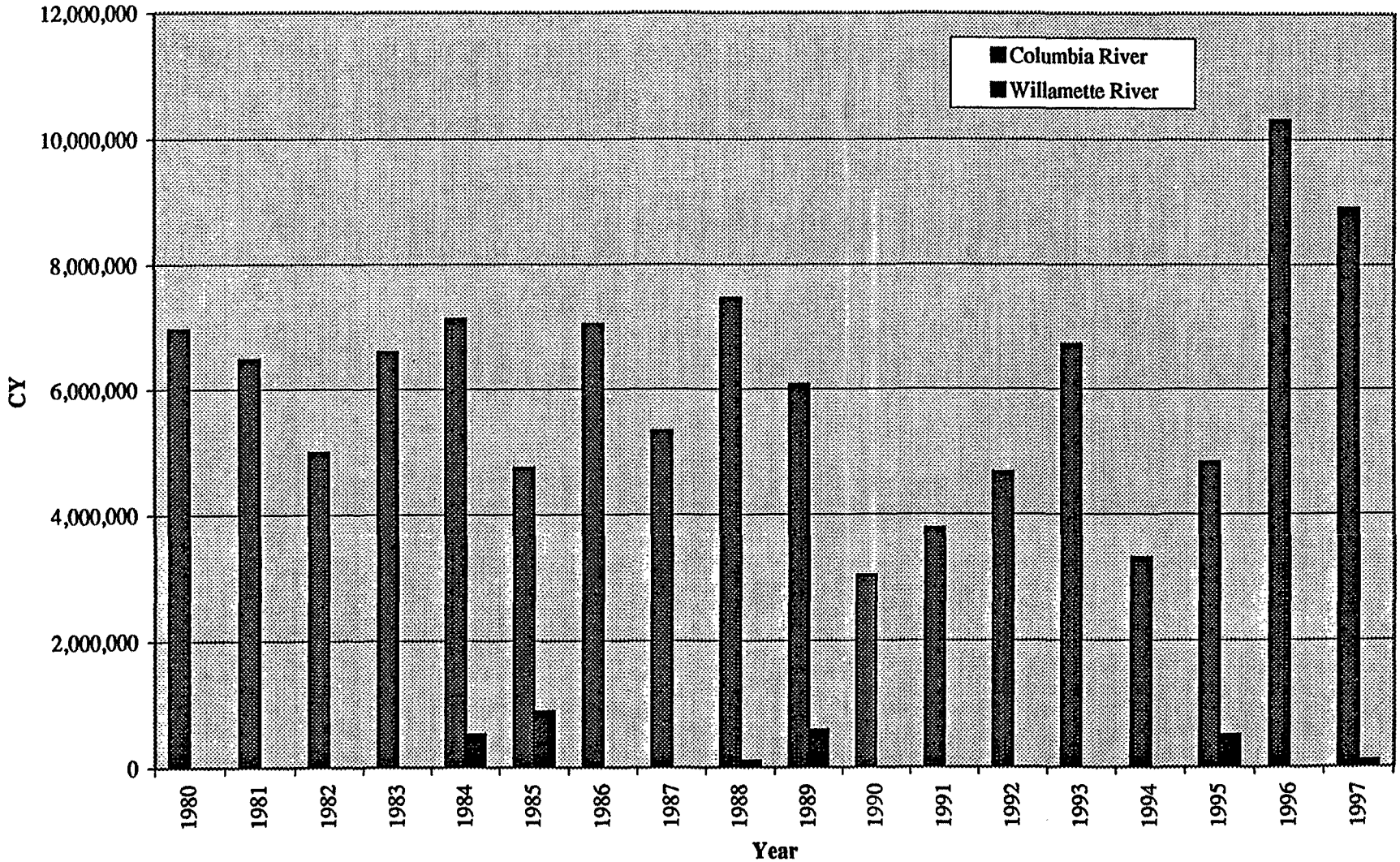
Regional Tiered Testing (Open Water)

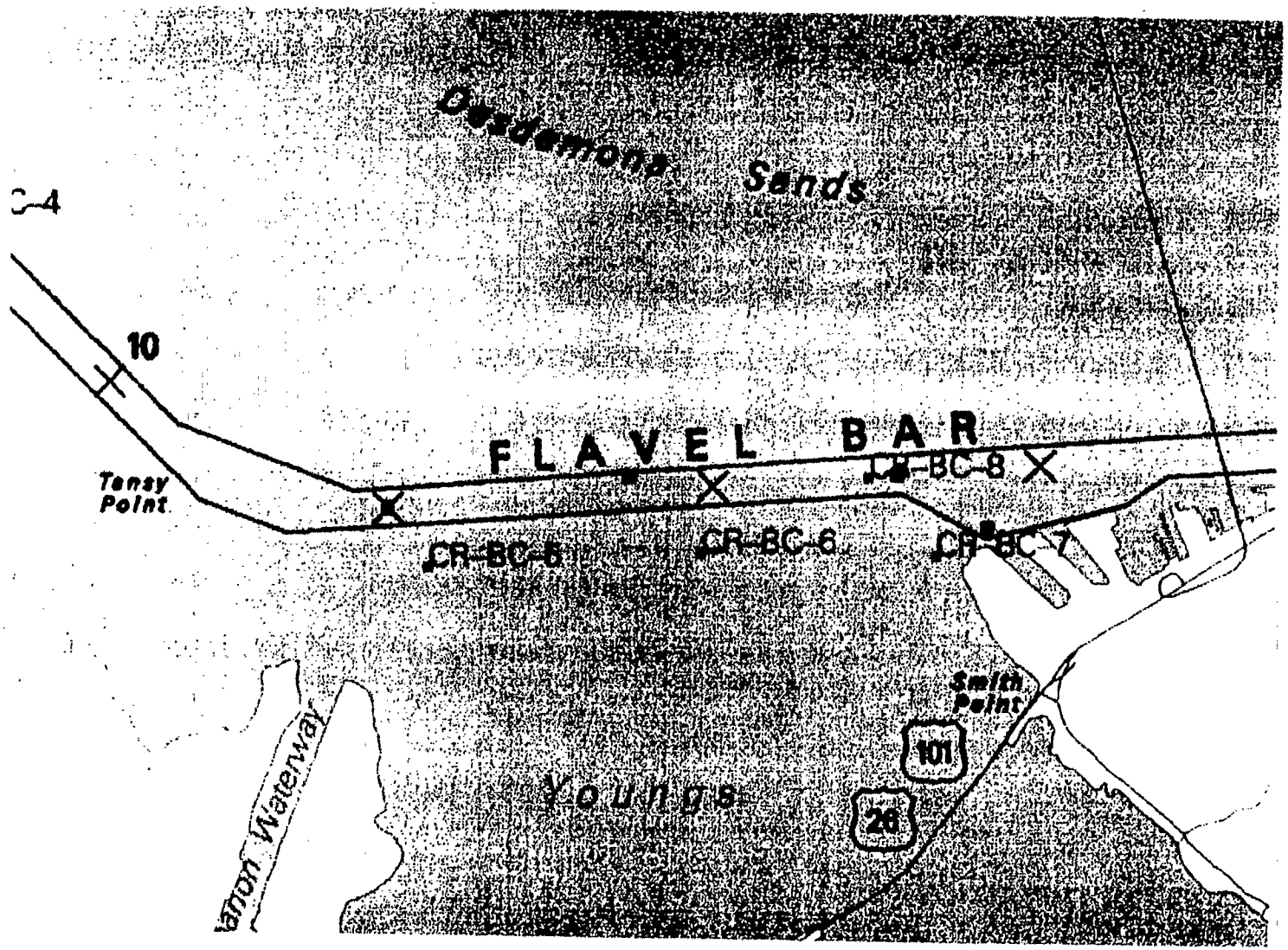


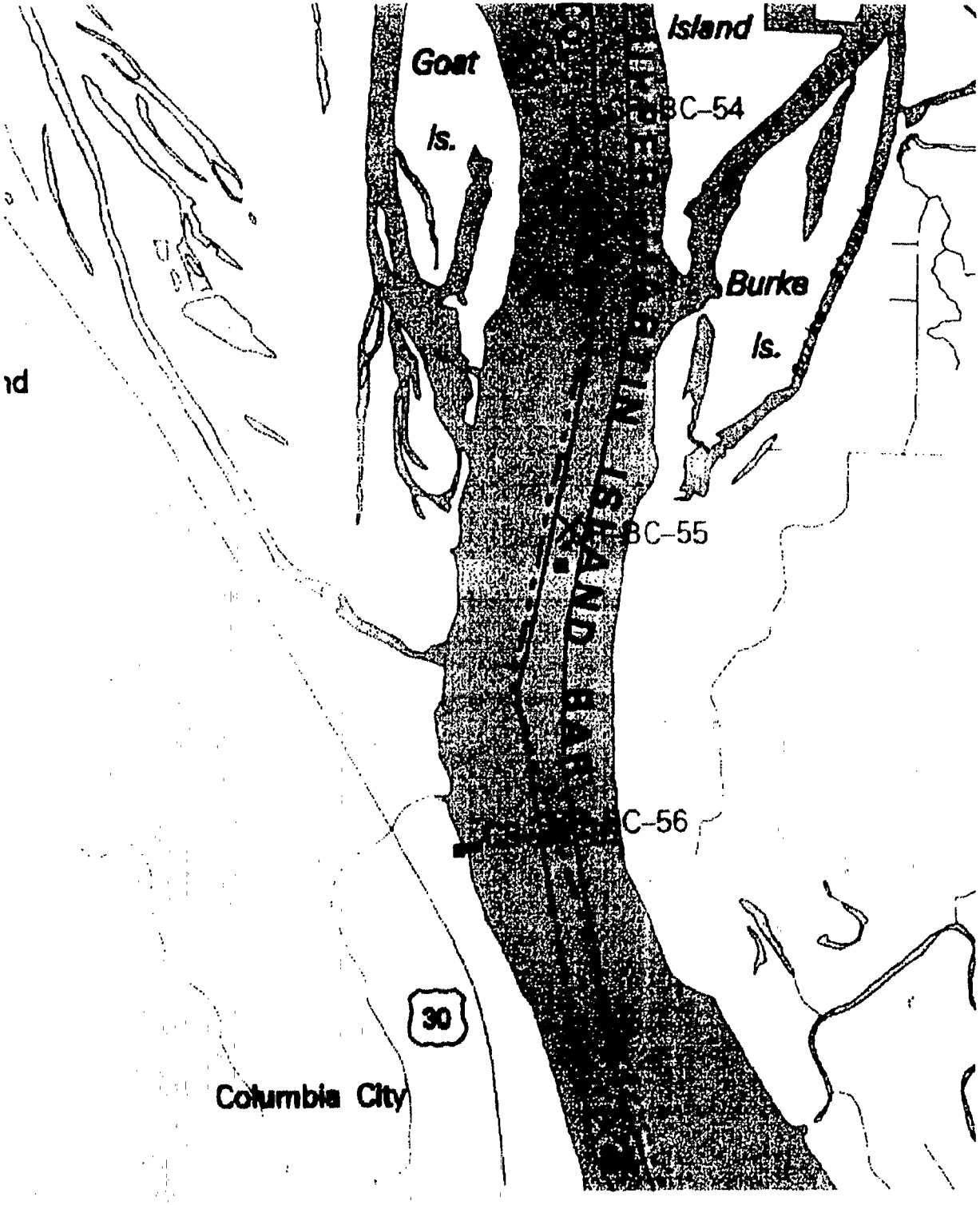
O&M Dredged Material Qualities 1980-1977

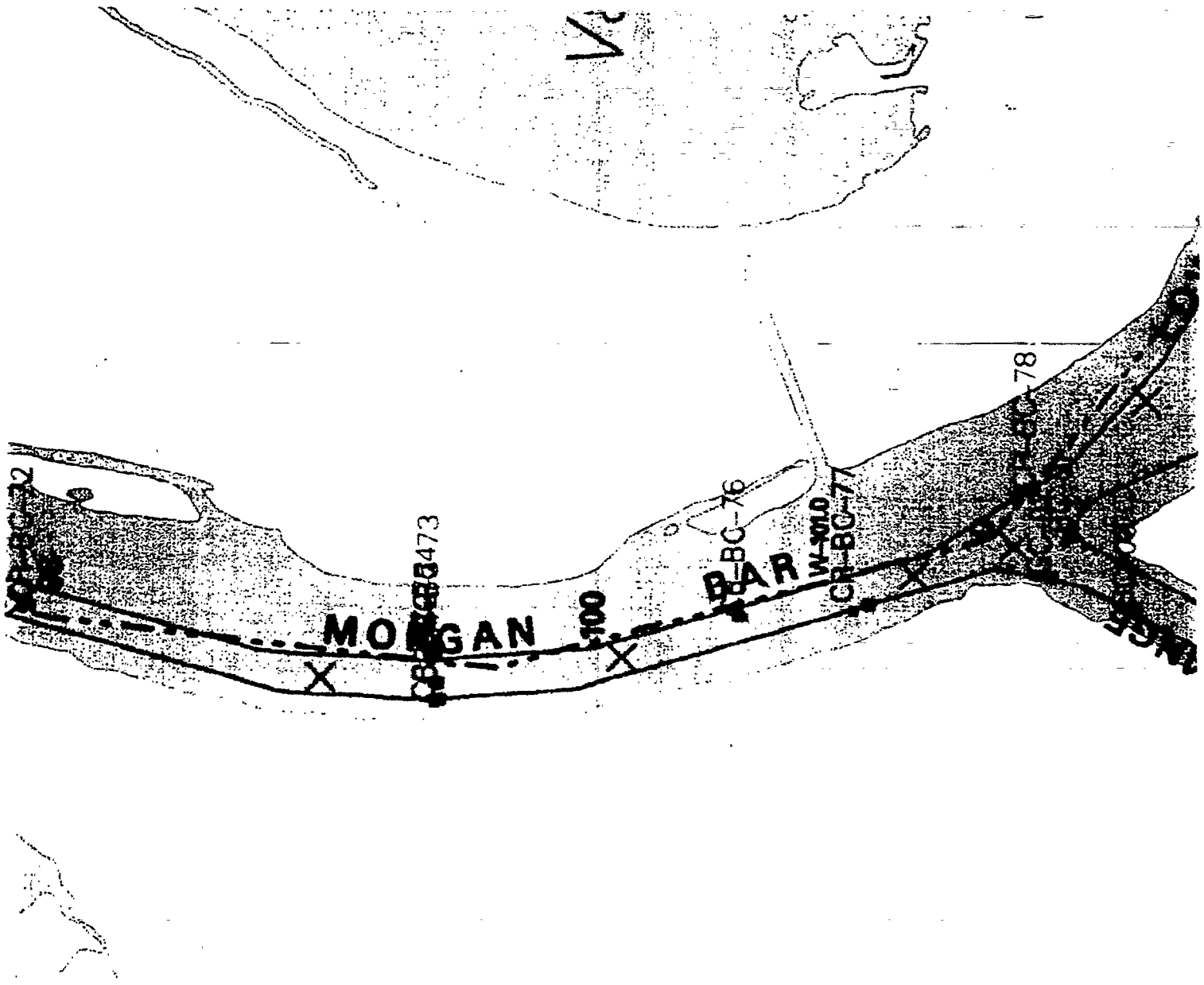
Year	O&M Volume in Cubic Yards		O&M and
	Columbia River	Willamette River	Mt. St. Helens
1980	6,960,385	0	19,000,000
1981	6,478,560	0	21,500,000
1982	4,978,057	0	12,300,000
1983	6,596,144	0	12,900,000
1984	7,119,284	517,073	13,500,000
1985	4,737,288	890,171	8,000,000
1986	7,049,330	0	
1987	5,328,348	0	
1988	7,452,395	97,808	
1989	6,072,103	586,935	
1990	3,023,977	1,777	
1991	3,775,708	0	
1992	4,657,346	0	
1993	6,709,819	0	
1994	3,299,245	0	
1995	4,820,972	499,897	
1996	10,300,000	0	
1997	8,900,000	101,700	
Total	108,258,961	2,695,361	
		2.5%	

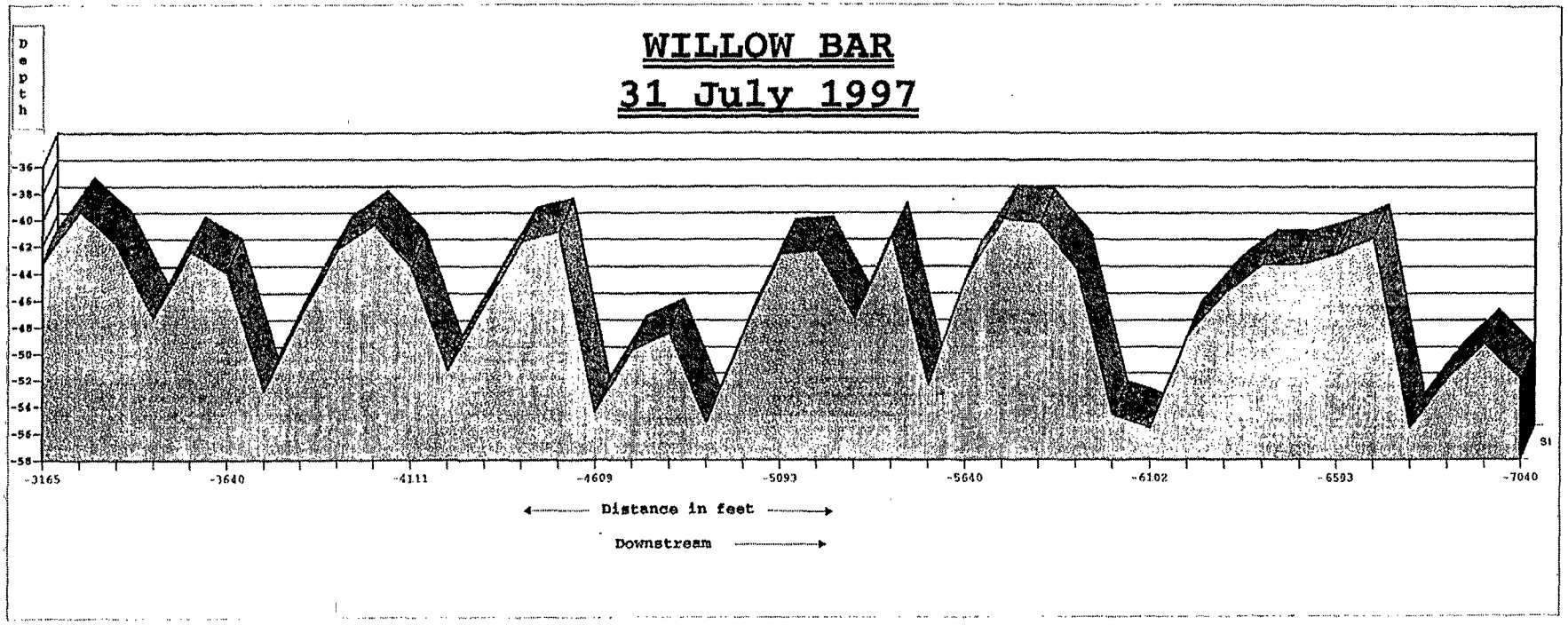
Dredging Volumes 1980-1997




Desdemona Sands
10
FLAVEL BAR
Tansy Point
CR-BC-8
CR-BC-6
CR-BC-7
Smith Point
101
26
Youngs
Waterway


Island
Goat
Is.
BC-54
Burke
Is.
BC-55
C-56
30
Columbia City


MORGAN
BAR
100
CR-BC-77
CR-BC-76
CR-BC-78


WILLOW BAR
31 July 1997
Depth
-36
-38
-40
-42
-44
-46
-48
-50
-52
-54
-56
-58
-3165
-3640
-4111
-4609
-5093
-5640
-6102
-6593
-7040
Distance in feet
Downstream

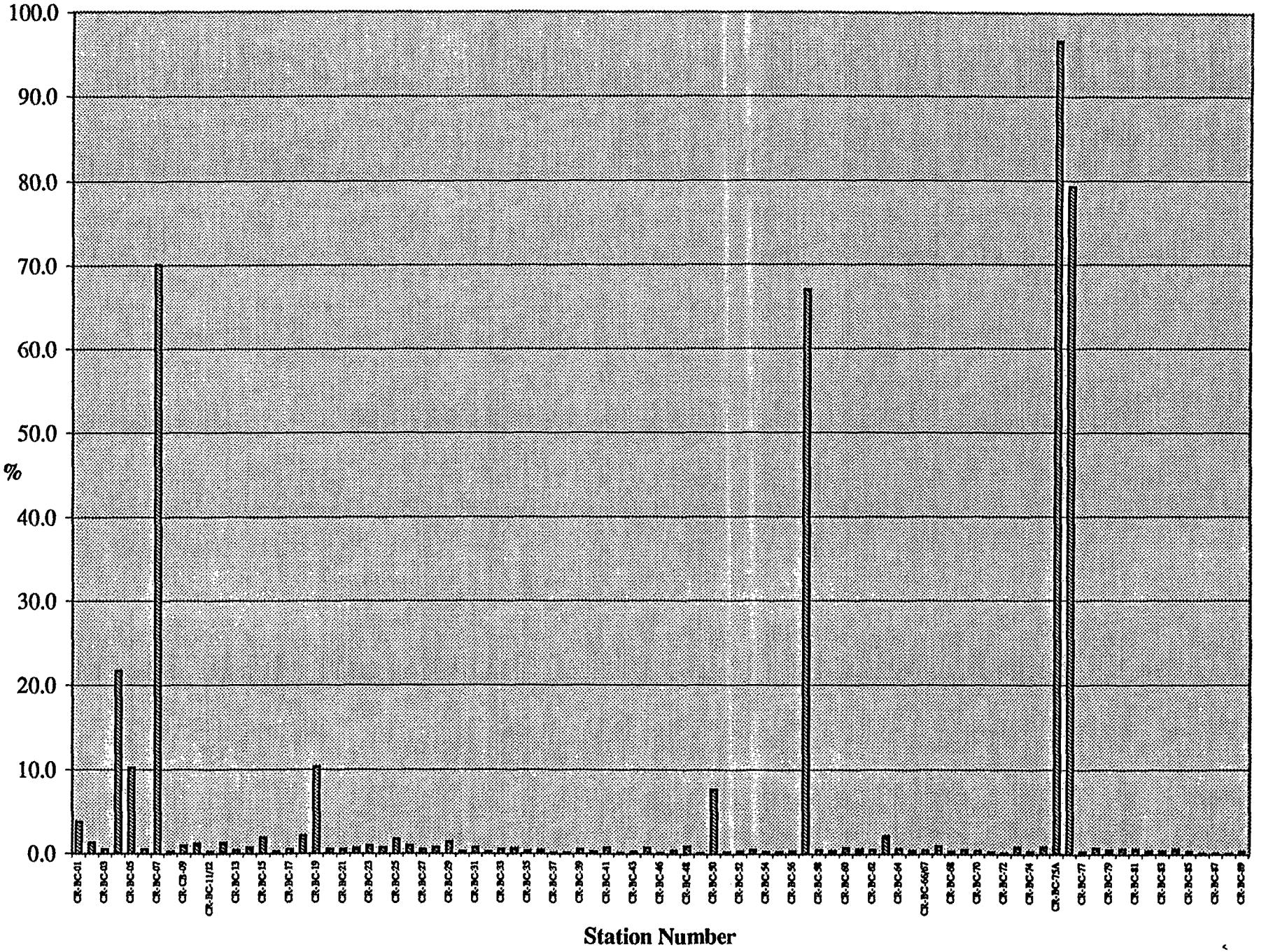
COLUMBIA RIVER PHYSICAL

Site	Date	RM	Mean mm	Median mm	Sand	vfsand % finer	Silt	Clay %	Vol Solids %	Solids %	TOC %
CR-BC-01	02-Jun-97	6.00	0.47	0.42	11.3	3.8	2.5	0.0	1.0		
CR-BC-02	02-Jun-97	6.18	0.27	0.26	47.8	1.3	0.7	0.0	0.6		
CR-BC-03	02-Jun-97	6.40	0.31	0.30	32.2	0.5	0.0	0.0	0.6		
CR-BC-04	02-Jun-97	9.10	0.16	0.17	90.1	21.7	14.3	3.2	1.5		
CR-BC-05	02-Jun-97	11.00	0.19	0.18	83.4	10.2	5.9	1.6	0.9	74.4	0.16
CR-BC-06	02-Jun-97	11.40	0.38	0.36	16.9	0.5	0.1	0.0	0.0		
CR-BC-07	02-Jun-97	12.45	0.00	0.05	91.3	70.1	59.1	15.4	4.0	66.3	1.29
CR-BC-08	02-Jun-97	12.30	0.38	0.36	10.9	0.2	0.0	0.0	0.5		
CR-CB-09	02-Jun-97	15.00	0.33	0.32	26.5	0.9	0.5	0.0	0.7		
CR-CB-10	02-Jun-97	16.25	0.33	0.32	26.9	1.2	0.5	0.0	0.0		
CR-BC-11/12	02-Jun-97	18.35	0.36	0.32	31.9	0.2	0.4	0.0	0.6		
CR-BC-11/12	02-Jun-97	20.00	0.29	0.27	41.9	1.3	0.1	0.0	0.6		
CR-BC-13	02-Jun-97	20.50	0.52	0.46	3.3	0.4	0.2	0.0	0.6		
CR-BC-14	02-Jun-97	22.00	0.41	0.38	9.1	0.7	0.5	0.0	0.0		
CR-BC-15	02-Jun-97	23.40	0.44	0.34	37.0	1.9	0.4	0.0	0.7		
CR-BC-16	02-Jun-97	24.40	0.36	0.35	12.5	0.2	0.1	0.0	0.7		
CR-BC-17	02-Jun-97	27.10	0:85	0.62	4.7	0.5	0.4	0.0	0.6		
CR-BC-18	02-Jun-97	28.30	0.22	0.21	70.7	2.1	0.3	0.0	0.0		
CR-BC-19	02-Jun-97	29.40	0.18	0.17	94.4	10.3	0.3	0.0	0.7		
CR-BC-20	02-Jun-97	32.05	0.33	0.32	22.1	0.5	0.2	0.0	0.6		
CR-BC-21	03-Jun-97	33.10	0.66	0.54	7.0	0.5	0.3	0.0	0.6		
CR-BC-22	03-Jun-97	35.10	0.33	0.32	27.0	0.6	0.5	0.0	0.7	73.7	<0.05
CR-BC-23	03-Jun-97	38.00	0.31	0.30	31.1	0.9	0.5	0.0	0.0		
CR-BC-24	03-Jun-97	39.00	0.34	0.33	19.4	0.7	0.4	0.0	0.6	72.8	<0.05
CR-BC-25	03-Jun-97	40.45	0.28	0.27	42.2	1.7	0.0	0.0	0.4	77.1	<0.05
CR-BC-26	03-Jun-97	42.40	0.33	0.32	25.2	0.9	0.6	0.0	0.6		
CR-BC-27	03-Jun-97	44.10	0.33	0.32	24.4	0.5	0.2	0.0	0.0		
CR-BC-28	03-Jun-97	45.00	0.41	0.37	10.8	0.7	0.3	0.0	0.0		
CR-BC-29	03-Jun-97	46.00	0.28	0.26	46.5	1.4	0.2	0.0	0.6		
CR-BC-30	03-Jun-97	47.10	0.35	0.34	11.1	0.2	0.1	0.0	0.0		
CR-BC-31	03-Jun-97	48.00	0.61	0.53	3.2	0.7	0.6	0.0	0.5		
CR-BC-32	03-Jun-97	51.20	0.78	0.73	1.1	0.2	0.1	0.0	0.0		
CR-BC-33	03-Jun-97	54.30	0.65	0.57	7.3	0.5	0.4	0.0	0.0		
CR-BC-34	03-Jun-97	56.20	0.37	0.35	14.9	0.6	0.4	0.0	0.4		
CR-BC-35	03-Jun-97	57.20	0.41	0.38	8.3	0.3	0.0	0.0	0.4	72.0	<0.05
CR-BC-36	03-Jun-97	58.20	0.46	0.41	8.1	0.4	0.3	0.0	0.0		
CR-BC-37	03-Jun-97	59.10	0.45	0.40	7.5	0.1	0.0	0.0	0.0		
CR-BC-38	03-Jun-97	60.20	0.40	0.37	10.7	0.1	0.0	0.0	0.5		
CR-BC-39	03-Jun-97	62.00	0.68	0.48	6.4	0.5	0.4	0.0	0.0		
CR-BC-40	03-Jun-97	63.10	0.72	0.55	5.3	0.2	0.1	0.0	0.4	86.5	<0.05
CR-BC-41	03-Jun-97	64.00	0.56	0.49	5.3	0.7	0.6	0.0	0.3	87.2	<0.05
CR-BC-42	04-Jun-97	65.00	0.49	0.42	6.4	0.1	0.1	0.0	0.0		
CR-BC-43	04-Jun-97	65.40	1.17	0.86	4.0	0.2	0.1	0.0	0.0		
CR-BC-44	04-Jun-97	66.10	0.34	0.33	17.4	0.7	0.5	0.0	0.2		
CR-BC-46	04-Jun-97	67.15	2.22	1.79	0.3	0.1	0.1	0.0	0.0		

COLUMBIA RIVER PHYSICAL

Site	Date	RM	Mean mm	Median mm	Sand	vfsand % finer	Silt	Clay %	Vol Solids %	Solids %	TOC %
CR-BC-47	04-Jun-97	70.45	0.34	0.33	23.4	0.4	0.3	0.0	0.4		
CR-BC-48	04-Jun-97	71.45	0.74	0.69	2.4	0.9	0.8	0.0	0.6		
CR-BC-49	04-Jun-97	73.25	1.33	1.03	0.3	0.1	0.1	0.0	0.5		
CR-BC-50	04-Jun-97	74.50	0.25	0.23	58.5	7.6	0.5	0.0	0.5		
CR-BC-51	04-Jun-97	75.50	0.53	0.46	2.0	0.2	0.2	0.0	0.3		
CR-BC-52	04-Jun-97	76.50	0.36	0.35	15.7	0.3	0.1	0.0	0.5	73.4	<0.05
CR-BC-53	04-Jun-97	79.20	0.87	0.76	3.8	0.5	0.2	0.0	0.6		
CR-BC-54	04-Jun-97	80.35	1.77	1.33	2.6	0.2	0.2	0.0	0.5		
CR-BC-55	04-Jun-97	82.08	0.58	0.45	9.0	0.2	0.0	0.0	0.5	73.9	<0.05
CR-BC-56	04-Jun-97	83.00	0.70	0.57	4.8	0.3	0.2	0.0	0.7	75.7	0.07
CR-BC-57	04-Jun-97	0.00	0.10	0.10	98.2	66.9	24.6	3.7	2.6	66.2	0.76
CR-BC-58	04-Jun-97	84.31	0.35	0.34	19.1	0.5	0.2	0.0	0.0		
CR-BC-59	04-Jun-97	85.20	0.72	0.66	2.8	0.4	0.3	0.0	0.4	87.4	<0.05
CR-BC-60	04-Jun-97	85.45	0.65	0.62	4.5	0.7	0.6	0.0	0.7		
CR-BC-61	04-Jun-97	86.40	0.86	0.70	5.5	0.6	0.5	0.0	0.6	80.0	<0.05
CR-BC-62	04-Jun-97	88.00	0.72	0.69	1.7	0.5	0.4	0.0	0.5		
CR-BC-63	04-Jun-97	89.00	0.27	0.25	48.7	2.1	0.5	0.0	0.2		
CR-BC-64	04-Jun-97	90.00	0.36	0.35	15.0	0.6	0.3	0.0	0.0		
CR-BC-65	04-Jun-97	91.00	0.72	0.63	3.8	0.4	0.3	0.0	0.5		
CR-BC-66/67	04-Jun-97	92.00	0.71	0.66	3.1	0.4	0.3	0.0	0.6		
CR-BC-66/67	04-Jun-97	93.00	0.30	0.29	34.2	0.9	0.2	0.0	0.4		
CR-BC-68	04-Jun-97	93.50	0.42	0.39	6.7	0.3	0.1	0.0	0.4		
CR-BC-69	04-Jun-97	95.00	0.72	0.66	4.0	0.5	0.4	0.0	0.0		
CR-BC-70	04-Jun-97	96.00	0.51	0.42	16.1	0.4	0.0	0.0	0.6		
CR-BC-71	04-Jun-97	97.00	1.24	0.96	0.9	0.2	0.1	0.0	0.7		
CR-BC-72	04-Jun-97	98.00	0.86	1.70	0.2	0.1	0.0	0.0	0.5		
CR-BC-73	05-Jun-97	99.20	0.77	0.63	8.0	0.8	0.4	0.0	0.6	74.3	0.06
CR-BC-74	05-Jun-97	99.20	0.99	0.84	1.1	0.3	0.2	0.0	0.8	91.2	<0.05
CR-BC-75	05-Jun-97	99.20	3.07	0.83	3.6	0.8	0.5	0.0	0.7	75.2	0.12
CR-BC-75A	05-Jun-97	99.20	0.04	0.03	98.3	96.7	77.3	10.5	4.6		
CR-BC-76	05-Jun-97	100.20	0.08	0.03	87.7	79.3	68.2	12.3	7.1	53.0	2.26
CR-BC-77	05-Jun-97	100.45	0.58	0.51	4.5	0.3	0.1	0.0	0.5		
CR-BC-78	05-Jun-97	101.25	0.51	0.40	20.0	0.7	0.2	0.0	0.7		
CR-BC-79	05-Jun-97	102.25	0.68	0.41	24.3	0.5	0.1	0.0	0.5		
CR-BC-80	05-Jun-97	103.12	0.44	0.35	31.2	0.6	0.1	0.0	0.6	73.1	0.06
CR-BC-81	05-Jun-97	103.45	0.31	0.29	39.6	0.6	0.1	0.0	0.5		
CR-BC-83	05-Jun-97	103.45	0.33	0.32	28.1	0.4	0.1	0.0	0.8		
CR-BC-83	05-Jun-97	103.45	0.32	0.31	26.4	0.4	0.3	0.0	0.9		
CR-BC-84	05-Jun-97	104.10	0.34	0.32	30.6	0.6	0.1	0.0	0.6	74.9	0.08
CR-BC-85	05-Jun-97	104.30	0.35	0.33	26.0	0.3	0.0	0.0	0.6	76.4	0.07
CR-BC-86	05-Jun-97	105.25	1.04	0.82	1.2	0.1	0.1	0.0	0.5	84.1	0.07
CR-BC-87	05-Jun-97	105.40	1.30	1.11	0.4	0.1	0.0	0.0	0.5		
CR-BC-88	05-Jun-97	106.20	0.89	0.73	1.1	0.1	0.0	0.0	0.5	88.9	<0.05
CR-BC-89	05-Jun-97	106.20	0.59	0.51	2.9	0.3	0.3	0.0	0.6		

PERCENT FINES



COLUMBIA RIVER METALS

Site	RM	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc	AVS
					ppm						%
CR-BC-05	11.00	3.0	<0.8	11.0	7.0	4.0	<0.05	13.0	<0.6	40.0	0.7
CR-BC-07	12.45	3.0	<0.8	14.0	17.0	7.0	<0.05	17.0	<0.6	66.0	61
CR-BC-22	35.10	2.0	<0.8	7.0	7.0	3.0	<0.05	10.0	<0.6	46.0	<0.7
CR-BC-24	39.00	2.0	<0.8	6.0	6.0	2.0	<0.05	12.0	<0.6	38.0	<0.7
CR-BC-25	40.45	1.0	<0.8	6.0	6.0	2.0	<0.05	10.0	<0.6	36.0	<0.7
CR-BC-35	57.20	2.0	<0.8	4.0	8.0	2.0	<0.05	8.0	<0.6	34.0	<0.7
CR-BC-40	63.10	1.0	<0.8	3.0	8.0	1.0	<0.05	7.0	<0.6	28.0	<0.6
CR-BC-41	64.00	2.0	<0.8	4.0	6.0	2.0	<0.05	6.0	<0.6	32.0	<0.6
CR-BC-52	76.50	2.0	<0.8	6.0	5.0	3.0	<0.05	7.0	<0.6	43.0	<0.7
CR-BC-55	82.08	2.0	<0.8	5.0	6.0	3.0	<0.05	9.0	<0.6	40.0	<0.7
CR-BC-56	83.00	2.0	<0.8	5.0	6.0	3.0	<0.05	9.0	<0.6	38.0	<0.7
CR-BC-57	0.00	2.0	<0.8	21.0	21.0	8.0	<0.05	21.0	1.0	85.0	0.9
CR-BC-59	85.20	2.0	<0.8	4.0	5.0	2.0	<0.05	7.0	<0.6	28.0	<0.6
CR-BC-61	86.40	2.0	<0.8	4.0	4.0	2.0	<0.05	7.0	<0.6	32.0	<0.7
CR-BC-73	99.20	2.0	<0.8	6.0	9.0	2.0	<0.05	7.0	<0.6	38.0	<0.7
CR-BC-74	99.20	2.0	<0.8	5.0	7.0	2.0	<0.05	5.0	<0.6	32.0	<0.7
CR-BC-75	99.20	1.0	<0.8	4.0	7.0	2.0	<0.05	6.0	<0.6	28.0	<0.7
CR-BC-76	100.20	3.0	<0.8	24.0	33.0	10.0	0.1	22.0	<0.6	83.0	7.5
CR-BC-80	103.12	2.0	<0.8	6.0	6.0	4.0	<0.05	9.0	<0.6	57.0	<0.7
CR-BC-84	104.10	2.0	<0.8	7.0	9.0	5.0	<0.05	10.0	<0.6	60.0	<0.7
CR-BC-85	104.30	2.0	<0.8	6.0	7.0	5.0	<0.05	8.0	<0.6	54.0	<0.7
CR-BC-86	105.25	1.0	<0.8	4.0	7.0	2.0	<0.05	6.0	<0.6	33.0	<0.7
CR-BC-88	106.20	1.0	<0.8	3.0	5.0	2.0	<0.05	6.0	<0.6	31.0	<0.7
Minimum		1.0	ND	3.0	4.0	1.0	0.1	5.0	1.0	28.0	
Maximum		3.0	ND	24.0	33.0	10.0	0.1	22.0	1.0	85.0	
Mean		1.9	ND	7.2	8.8	3.4	0.1	9.7	1.0	43.6	
1994 SL		57.0	0.96	NA	81.0	66.0	0.21	140.0	1.20	160.0	
1997 SL		57.0	5.10	NA	390.0	450.0	0.41	140.0	6.10	410.0	

COLUMBIA RIVER PESTICIDES AND PCBs

Site	RM	alpha BHC	beta BHC	gamma BHC Lindane	delta BHC	Heptachlor	Aldrin	Heptachlor Epoxide	Endosulfan I	Dieldrin	DDT	DDE	DDD	Total DDT	Endrin	Endosulfan II	Endrin Aldehyde	Endosulfan Sulfate	Methoxychlor	Chlordane	Toxaphene	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
CR-BC-05	11.00	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-07	12.45	<2	<2	<2	<2	<2	<2	<2	<2	<2	3.0	0.9	0.5	4.4	<2	<2	<2	<2	<4	<10	<32	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-22	35.10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-24	39.00	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-25	40.45	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-35	57.20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-40	63.10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-41	64.00	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-52	76.50	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-55	82.08	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-56	83.00	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-57	83.34	<2	<2	<2	<2	<2	<2	<2	<2	<2	0.3	0.4	0.6	1.3	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-59	85.20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-61	86.40	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-73	99.20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-74	99.20	<2	<2	<2	<2	<2	0.2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-75	99.20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-76	100.20	<2	<2	<2	<2	<2	0.6	<2	<2	<2	<2	2.0	2.0	4.0	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	24.0	37.0	61.0
CR-BC-80	103.12	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-84	104.10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-85	104.30	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-86	105.25	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
CR-BC-88	106.20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<2	<2	<2	<2	<4	<10	<30	<10	<10	<10	<10	<10	<10	<10	ND
Minimum		ND	ND	ND	ND	ND	0.2	ND	ND	ND	0.3	0.4	0.5	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	24.0	37.0	61.0
Maximum		ND	ND	ND	ND	ND	0.6	ND	ND	ND	3.0	2.0	2.0	4.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	24.0	37.0	61.0
Mean		ND	ND	ND	ND	ND	0.4	ND	ND	ND	1.7	1.1	1.0	3.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	24.0	37.0	61.0
Screening Level				10.0		10.0	10.0			10.0				6.9						10.0									130

COLUMBIA RIVER PAHs

location	site	date	Napthalene	2-Methyl napthalene	Acenaph-thalene	Acenaph-thene	Dibenzo-furan	Fluorene	Phenan-threne	Anthracene	Total Low PAHs	Fluor-anthrene	Pyrene	Benzo-anthracene	Chrysene	Benzo(b,k) flouranthene	Benzo(a) pyrene	Ideno(1,2,3-cd) pyrene	Dibenz(a,h) anthracene	Benzo(g,h,i) perylene	Total High PAHs
Columbia River	CR-BC-05	02-Jun-97	2.0	5.0	<5	<5	<5	<5	1.0	<5	8.0	2.0	1.0	<5	0.8	1.0	0.7	0.7	0.9	<5	7.0
Columbia River	CR-BC-07	02-Jun-97	5.0	4.0	0.8	3.0	2.0	2.0	8.0	2.0	27.0	12.0	14.0	7.0	9.0	7.0	9.0	8.0	1.0	9.0	76.0
Columbia River	CR-BC-22	03-Jun-97	2.0	3.0	<5	<5	<5	<5	0.9	<5	6.0	<5	<5	0.7	<5	<5	<5	<5	<5	<5	1.0
Columbia River	CR-BC-24	03-Jun-97	1.0	2.0	<5	<5	<5	<5	<5	<5	3.0	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.0
Columbia River	CR-BC-25	03-Jun-97	<5	<5	0.3	0.6	0.7	1.0	2.0	1.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	2.0	16.0
Columbia River	CR-BC-35	03-Jun-97	<5	<5	<5	<5	<5	<5	<5	<5	0.0	0.7	<5	<5	0.7	<5	<5	<5	<5	0.8	3.0
Columbia River	CR-BC-40	03-Jun-97	2.0	3.0	0.5	0.7	0.8	1.0	1.0	0.7	10.0	0.9	0.7	1.0	1.0	1.8	0.7	0.7	<5	1.0	0.0
Columbia River	CR-BC-41	03-Jun-97	<5	<5	<5	<5	<5	<5	<5	<5	0.0	<5	<5	<5	<5	<5	<5	<5	<5	0.5	1.0
Columbia River	CR-BC-52	04-Jun-97	1.0	2.0	<5	<5	<5	<5	<5	<5	3.0	0.7	<5	<5	<5	<5	<5	<5	<5	0.9	0.0
Columbia River	CR-BC-55	04-Jun-97	<5	<5	<5	<5	<5	<5	<5	<5	0.0	<5	<5	<5	0.7	<5	<5	<5	<5	3.0	0.0
Columbia River	CR-BC-56	04-Jun-97	4.0	6.0	1.0	2.0	0.7	1.0	3.0	2.0	19.0	5.0	4.0	4.0	4.0	8.0	4.0	3.0	3.0	12.0	0.0
Columbia River	CR-BC-67	04-Jun-97	15.0	7.0	3.0	6.0	2.0	4.0	31.0	8.0	76.0	51.0	64.0	36.0	46.0	79.0	70.0	56.0	6.0	61.0	61.0
Columbia River	CR-BC-69	04-Jun-97	1.0	4.0	0.2	0.5	0.5	<5	0.9	<5	7.0	0.8	<5	<5	0.6	0.6	0.6	<5	<5	0.9	4.0
Columbia River	CR-BC-61	04-Jun-97	2.0	4.0	<5	<5	<5	<5	0.8	<5	7.0	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.0
Columbia River	CR-BC-73	05-Jun-97	0.8	0.6	<5	<5	<5	<5	<5	<5	1.0	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.0
Columbia River	CR-BC-74	05-Jun-97	<5	<5	<5	<5	<5	<5	<5	<5	0.0	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.0
Columbia River	CR-BC-75	05-Jun-97	1.0	2.0	<5	<5	<5	<5	<5	<5	3.0	<5	<5	<5	<5	<5	<5	<5	<5	1.0	1.0
Columbia River	CR-BC-76	05-Jun-97	20.0	10.0	3.0	6.0	6.0	9.0	49.0	9.0	112.0	87.0	77.0	38.0	50.0	67.0	37.0	20.0	4.0	27.0	407.0
Columbia River	CR-BC-80	05-Jun-97	2.0	2.0	<5	0.5	0.7	0.7	2.0	0.8	10.0	2.0	<5	<5	0.6	<5	<5	<5	<5	<5	3.0
Columbia River	CR-BC-84	05-Jun-97	2.0	3.0	<5	<5	<5	<5	0.9	<5	6.0	1.0	2.0	0.8	0.9	1.4	1.0	1.0	<5	1.0	9.0
Columbia River	CR-BC-85	05-Jun-97	1.0	0.7	<5	<5	0.5	0.6	1.0	0.7	5.0	2.0	<5	2.0	2.0	6.0	2.0	2.0	1.0	2.0	19.0
Columbia River	CR-BC-86	05-Jun-97	7.0	0.6	<5	<5	<5	<5	<5	<5	2.0	<5	<5	<5	<5	<5	<5	<5	<5	2.0	2.0
Columbia River	CR-BC-88	05-Jun-97	0.7	0.6	<5	<5	0.5	0.7	2.0	0.8	6.0	2.0	<5	2.0	2.0	5.0	2.0	2.0	1.0	5.0	21.0
	Minimum		0.7	0.6	0.2	0.5	0.5	0.6	0.8	0.7	0.0	0.7	0.7	0.7	0.6	0.6	0.6	0.7	0.9	0.5	0.0
	Maximum		20.0	10.0	3.0	6.0	6.0	9.0	49.0	9.0	112.0	87.0	77.0	38.0	50.0	79.0	70.0	56.0	6.0	61.0	407.0
	Mean		3.9	3.3	1.3	2.4	1.4	2.2	7.4	2.8	13.7	12.1	20.6	9.4	8.6	16.3	11.7	9.4	2.2	8.1	27.4

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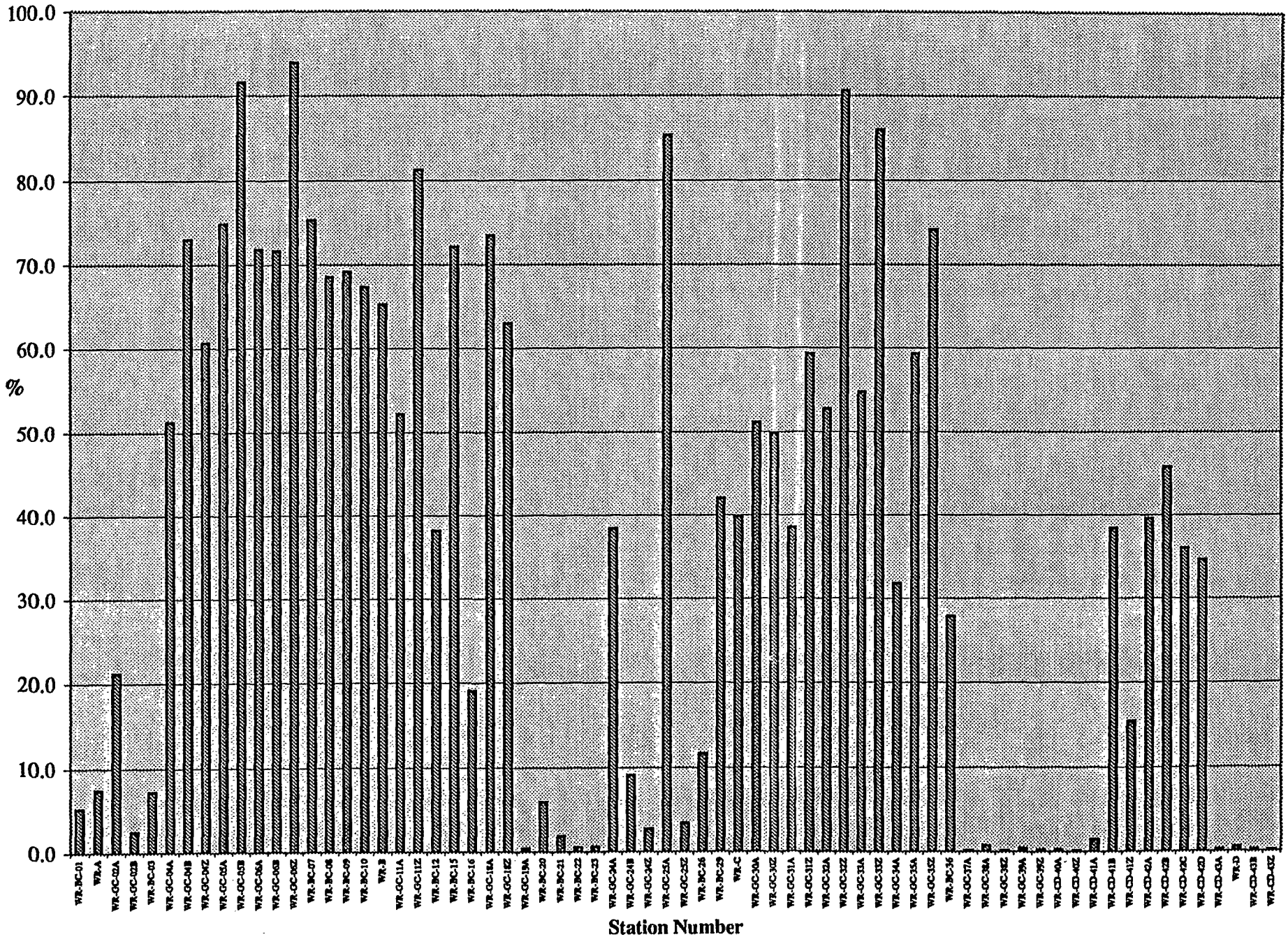
PHYSICAL

Location	Site	Date	RM	Mean mm	Median mm	Sand % finer	vfsand	Silt	Clay	Vol Solids %	Solids %	TOC %
Willamette River	WR-BC-01	24-Jul-97	0.10	0.47	0.30	41.7	13.1	5.2	0.0	0.8	75.1	0.13
Willamette River	WR-A	24-Jul-97	0.10	0.65	0.28	45.2	17.4	7.4	0.0	0.9	73.0	0.16
Willamette River	WR-GC-02A	24-Jul-97	0.10	0.16	0.15	81.8	39.7	21.2	1.8	1.4	69.1	0.59
Willamette River	WR-GC-02B	24-Jul-97	0.10	0.49	0.30	41.9	9.3	2.4	0.0	0.7	77.0	0.14
Willamette River	WR-BC-03	24-Jul-97	0.40	0.24	0.21	62.2	20.1	7.2	0.0	1.8	66.6	0.38
Willamette River	WR-GC-04A	24-Jul-97	0.80	0.08	0.06	91.0	79.2	51.2	3.8	3.0	63.7	0.99
Willamette River	WR-GC-04B	24-Jul-97	0.80	0.06	0.03	95.0	87.4	73.0	5.6	3.6	62.3	0.92
Willamette River	WR-GC-04Z	24-Jul-97	0.80	0.07	0.05	92.1	80.8	60.6	4.2	3.0		
Willamette River	WR-GC-05A	24-Jul-97	0.80	0.05	0.03	96.9	89.0	74.9	7.5	3.6	66.7	0.99
Willamette River	WR-GC-05B	24-Jul-97	0.80	0.03	0.02	98.1	95.6	91.6	8.9	3.6	68.6	0.88
Willamette River	WR-GC-06A	24-Jul-97	0.95	0.05	0.03	97.8	92.7	71.8	2.6	2.6	55.0	0.26
Willamette River	WR-GC-06B	24-Jul-97	0.95	0.05	0.03	99.4	94.1	71.6	7.2	2.5	53.4	0.06
Willamette River	WR-GC-06Z	24-Jul-97	0.95	0.02	0.02	99.3	98.9	93.9	3.1	2.5		
Willamette River	WR-BC-07	24-Jul-97	1.60	0.04	0.04	98.4	93.5	75.3	4.7	4.2	51.5	1.33
Willamette River	WR-BC-08	24-Jul-97	1.70	0.07	0.04	93.3	83.6	68.5	3.4	3.6	54.2	1.20
Willamette River	WR-BC-09	24-Jul-97	2.05	0.06	0.04	97.7	84.2	69.1	5.5	3.9	53.9	1.26
Willamette River	WR-BC-10	24-Jul-97	2.45	0.07	0.04	89.8	80.4	67.3	4.9	4.9	47.1	1.59
Willamette River	WR-B	24-Jul-97	2.45	0.13	0.04	89.6	79.6	65.2	5.7	5.0	48.9	1.84
Willamette River	WR-GC-11A	24-Jul-97	2.90	0.08	0.06	92.3	73.9	52.1	4.1	4.7	55.2	1.62
Willamette River	WR-GC-11Z	24-Jul-97	2.90	0.04	0.03	98.5	92.6	81.3	6.6	4.1		
Willamette River	WR-BC-12	24-Jul-97	3.40	0.19	0.13	65.6	48.6	38.2	5.7	3.5	70.1	0.37
Willamette River	WR-BC-15	24-Jul-97	3.80	0.07	0.04	92.0	80.2	72.1	6.9	5.3	46.2	1.78
Willamette River	WR-BC-16	24-Jul-97	4.10	0.27	0.30	33.4	20.9	19.1	2.1	1.4	57.9	0.54
Willamette River	WR-GC-18A	22-Jul-97	5.10	0.05	0.04	95.9	89.1	73.4	6.7	7.0	52.6	2.26
Willamette River	WR-GC-18Z	22-Jul-97	5.10	0.08	0.05	89.7	78.0	62.9	4.6	7.0		
Willamette River	WR-GC-19A	22-Jul-97	5.10	0.36	0.35	15.6	0.9	0.4	0.0	1.2	77.9	0.07
Willamette River	WR-BC-20	24-Jul-97	5.15	0.47	0.42	10.8	7.9	5.9	0.0	2.2	72.7	0.38
Willamette River	WR-BC-21	24-Jul-97	5.90	0.48	0.42	4.7	2.5	1.9	0.0	1.4	0.0	0.61
Willamette River	WR-BC-22	24-Jul-97	6.20	0.60	0.50	4.4	0.9	0.5	0.0	2.3	0.0	0.77
Willamette River	WR-BC-23	24-Jul-97	6.50	0.42	0.39	7.0	1.4	0.6	0.0	1.1	0.0	0.52
Willamette River	WR-GC-24A	22-Jul-97	6.70	1.24	0.09	84.5	61.8	38.4	3.7	4.2	60.9	1.91
Willamette River	WR-GC-24B	22-Jul-97	6.70	9.20	0.30	46.0	23.8	9.1	1.4	1.4	81.4	1.85
Willamette River	WR-GC-24Z	22-Jul-97	6.70	10.01	1.57	9.5	4.7	2.7	0.0	0.9		
Willamette River	WR-GC-25A	24-Jul-97	6.70	0.03	0.03	94.7	92.9	85.3	7.9	6.3	54.8	2.08
Willamette River	WR-GC-25Z	24-Jul-97	6.70	0.36	0.35	13.7	5.4	3.4	0.0	1.5		
Willamette River	WR-BC-26	24-Jul-97	6.90	0.30	0.32	28.2	18.6	11.6	0.0	2.5	0.0	0.18
Willamette River	WR-BC-29	24-Jul-97	7.50	0.17	0.09	67.3	57.0	42.0	2.4	3.9	0.0	1.18
Willamette River	WR-C	24-Jul-97	7.50	0.16	0.09	69.9	59.5	39.9	2.9	4.1	0.0	1.32
Willamette River	WR-GC-30A	22-Jul-97	8.50	0.07	0.06	95.6	80.8	51.1	6.3	4.7	57.3	1.80
Willamette River	WR-GC-30Z	22-Jul-97	8.50	0.09	0.06	94.2	70.3	49.8	7.5	5.8		
Willamette River	WR-GC-31A	22-Jul-97	8.90	0.10	0.09	95.7	66.5	38.5	5.5	4.9	61.2	1.68
Willamette River	WR-GC-31Z	22-Jul-97	8.90	0.06	0.05	96.0	85.9	59.3	7.8	5.3		
Willamette River	WR-GC-32A	22-Jul-97	10.00	0.08	0.05	93.4	76.8	52.7	7.2	5.1	60.5	1.66
Willamette River	WR-GC-32Z	24-Jul-97	10.00	0.03	0.03	98.2	96.5	90.6	11.4	3.1		
Willamette River	WR-GC-33A	22-Jul-97	10.10	0.08	0.06	94.3	77.6	54.7	4.5	5.0	59.7	1.64
Willamette River	WR-GC-33Z	22-Jul-97	10.10	0.04	0.04	99.4	98.5	85.9	5.5	3.5		
Willamette River	WR-GC-34A	23-Jul-97	10.00	0.21	0.15	64.4	46.4	31.8	4.1	4.7	61.9	1.96
Willamette River	WR-GC-35A	23-Jul-97	10.10	0.11	0.05	85.1	70.3	59.3	7.8	6.9	55.8	2.33
Willamette River	WR-GC-35Z	23-Jul-97	10.10	0.05	0.04	95.9	90.1	74.1	7.3	8.6		
Willamette River	WR-BC-36	24-Jul-97	10.30	0.21	0.19	59.4	38.1	27.9	4.0	3.8	0.0	1.43
Willamette River	WR-GC-37A	23-Jul-97	11.10	0.59	0.53	3.1	0.3	0.1	0.0	0.9	81.3	0.07
Willamette River	WR-GC-38A	23-Jul-97	11.20	0.59	0.55	4.2	1.1	0.7	0.0	1.2	71.2	1.04
Willamette River	WR-GC-38Z	23-Jul-97	11.20	0.76	0.58	2.8	0.3	0.1	0.0	0.9		
Willamette River	WR-GC-39A	23-Jul-97	11.65	1.07	0.48	6.3	0.7	0.4	0.0	1.3	78.1	0.77
Willamette River	WR-GC-39Z	23-Jul-97	11.65	0.59	0.57	1.9	0.3	0.2	0.0	0.8		
Willamette River	WR-CD-40A	23-Jul-97	11.30	0.72	0.62	2.6	0.4	0.2	0.0	1.1	82.0	0.30
Willamette River	WR-CD-40Z	23-Jul-97	11.30	1.71	0.74	1.6	0.2	0.1	0.0	1.0		
Willamette River	WR-CD-41A	23-Jul-97	11.35	0.35	0.34	15.3	3.3	1.4	0.0	1.4	73.2	0.44
Willamette River	WR-CD-41B	23-Jul-97	11.35	0.18	0.15	66.6	45.5	38.4	3.6	5.2	60.2	2.74
Willamette River	WR-CD-41Z	23-Jul-97	11.35	1.01	0.25	50.6	24.5	15.4	2.2	7.1		
Willamette River	WR-CD-42A	23-Jul-97	11.50	0.12	0.10	92.0	59.0	39.6	2.6	4.7	59.5	1.51
Willamette River	WR-CD-42B	23-Jul-97	11.50	0.11	0.08	89.3	58.4	45.7	5.9	4.5	92.8	1.44
Willamette River	WR-CD-42C	23-Jul-97	11.50	0.15	0.14	78.6	45.9	36.0	4.5	5.5	62.6	1.98
Willamette River	WR-CD-42D	23-Jul-97	11.50	0.18	0.16	68.5	42.9	34.6	3.9	5.5	63.8	2.09
Willamette River	WR-CD-43A	23-Jul-97	11.55	0.48	0.39	11.3	0.7	0.2	0.0	1.5	86.5	0.38
Willamette River	WR-D	23-Jul-97	11.55	0.48	0.39	13.0	0.9	0.5	0.0	1.3	89.2	1.21
Willamette River	WR-CD-43B	23-Jul-97	11.55	3.71	0.63	5.3	0.3	0.2	0.0	1.2	89.7	0.10
Willamette River	WR-CD-43Z	23-Jul-97	11.55	4.45	1.12	4.7	0.3	0.1	0.0	1.1		

PERCENT FINES



METALS

Site	RM	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc	TBT	AVS
					ppm						ppb	%
WR-BC-01	0.10	1.0	0.19	10.5	8.0	5.0	0.03	9.0	0.04	51.0	<0.05	<0.7
WR-A	0.10	1.2	0.21	11.9	8.8	5.3	0.02	9.4	0.05	52.6	<0.05	<0.7
WR-GC-02A	0.10	2.4	0.50	15.9	13.2	10.1	0.06	12.8	0.08	92.1		19.0
WR-GC-02B	0.10	1.1	0.10	12.2	8.9	3.4	0.04	9.2	0.04	34.5		0.8
WR-BC-03	0.40	2.7	0.33	17.8	16.3	10.5	0.03	16.7	0.11	89.5	<0.05	<0.8
WR-GC-04A	0.80	5.8	1.36	26.8	24.0	27.0	0.13	18.1	0.18	166.0		53.0
WR-GC-04B	0.80	5.6	1.62	24.3	26.4	23.7	0.12	17.8	0.15	138.0		30.0
WR-GC-05A	0.80	3.2	0.23	25.2	24.6	9.1	0.07	19.8	0.14	61.2		4.8
WR-GC-05B	0.80	0.6	0.16	24.9	24.5	7.1	0.03	19.3	0.16	53.6		4.8
WR-GC-06A	0.95	1.3	0.13	11.4	14.5	3.7	0.03	9.3	0.08	30.4		0.8
WR-GC-06B	0.95	1.3	0.03	6.6	9.4	1.2	0.01	4.4	0.03	10.8		1.9
WR-BC-07	1.60	0.6	0.93	27.6	30.4	19.6	0.08	19.7	0.21	139.0	<0.05	65.0
WR-BC-08	1.70	2.5	0.65	28.9	28.2	15.9	0.06	20.9	0.16	115.0	<0.05	14.8
WR-BC-09	2.05	3.5	0.54	28.4	27.2	14.8	0.06	19.7	0.16	101.0	<0.05	2.9
WR-BC-10	2.45	4.0	0.71	33.0	36.7	20.7	0.09	22.5	0.28	137.0	0.10	47.0
WR-B	2.45	3.5	0.67	26.8	33.0	19.7	0.08	19.7	0.25	128.0	0.10	47.0
WR-GC-11A	2.90	2.5	0.43	28.1	31.6	22.0	0.09	21.7	0.25	120.0		10.2
WR-BC-12	3.40	2.6	0.22	20.4	20.8	11.6	0.07	17.4	0.10	79.1	<0.05	4.6
WR-BC-15	3.80	2.8	0.41	33.2	39.0	21.2	0.08	23.7	0.31	131.0	0.14	17.5
WR-BC-16	4.10	3.5	0.16	21.3	20.9	9.2	0.17	19.7	0.10	76.5	<0.05	2.2
WR-GC-18A	5.10	4.5	0.27	32.5	36.7	25.3	0.08	23.5	0.27	112.0		17.9
WR-GC-19A	5.10	1.4	0.05	15.1	13.5	2.8	0.03	19.2	0.06	41.6		<0.7
WR-BC-20	5.15	2.1	0.09	16.7	15.2	9.0	0.11	14.0	0.07	54.9	<0.05	0.9
WR-BC-21	5.90	2.7	0.06	17.0	16.4	4.5	0.02	16.0	0.06	53.6	0.25	<0.7
WR-BC-22	6.20	3.3	0.05	14.5	12.2	4.7	0.01	14.8	0.06	45.2		3.6
WR-BC-23	6.50	1.4	0.05	15.8	13.1	3.9	0.03	14.7	0.06	49.3	0.42	<0.7
WR-GC-24A	6.70	2.1	0.20	20.4	25.3	14.8	0.17	22.9	0.21	85.5		34.0
WR-GC-24B	6.70	2.4	0.09	12.5	15.7	3.6	0.02	20.6	0.06	39.6		<0.7
WR-GC-25A	6.70	3.7	0.33	30.7	36.3	27.7	0.18	22.2	0.35	150.0		19.0
WR-BC-26	6.90	2.1	0.08	17.7	16.4	5.9	0.03	16.1	0.08	51.5	0.01	0.8
WR-BC-29	7.50	3.9	0.17	25.0	26.9	16.8	0.08	20.8	0.18	110.0	0.02	11.4
WR-C	7.50	2.7	0.17	27.9	27.6	17.5	0.06	21.2	0.19	107.0	0.02	1.5
WR-GC-30A	8.50	2.8	0.22	32.1	32.3	22.8	0.07	23.4	0.28	131.0		23.0
WR-GC-31A	8.90	0.6	0.18	26.9	26.8	26.0	0.06	21.7	0.21	80.6		11.8
WR-GC-32A	10.00	3.3	0.19	28.7	31.5	22.9	0.07	22.6	0.24	99.2		13.0
WR-GC-33A	10.10	<0.5	0.29	30.4	33.0	38.7	0.09	22.8	0.33	161.0		46.0
WR-GC-34A	10.00	2.0	0.23	29.4	35.9	17.7	0.19	19.8	0.29	108.0		17.0
WR-GC-35A	10.10	<0.5	0.33	34.5	35.9	25.7	0.18	21.2	0.38	181.0		37.0
WR-BC-36	10.30	2.1	0.30	26.2	27.7	32.2	0.09	20.0	0.27	171.0	<0.05	22.0
WR-GC-37A	11.10	<0.5	0.05	13.9	11.0	3.5	0.01	10.4	0.03	37.5		<2.0
WR-GC-38A	11.20	<0.5	0.17	22.8	21.3	9.1	0.10	14.5	0.14	74.5		0.6
WR-GC-39A	11.65	2.3	0.09	17.3	15.4	5.7	0.04	12.7	0.07	190.0		0.8
WR-CD-40A	11.30	0.5	0.04	15.1	11.9	2.2	0.01	11.0	0.03	29.4		<0.7
WR-CD-41A	11.35	<0.5	0.11	22.2	17.4	26.1	0.03	17.1	0.12	80.6		2.9
WR-CD-41B	11.35	<0.5	0.06	32.7	36.4	18.5	0.09	21.0	0.34	103.0		17.9
WR-CD-42A	11.50	<0.5	0.27	35.4	30.4	26.9	0.08	23.5	0.41	102.0		11.9
WR-CD-42B	11.50	<0.5	0.19	19.0	20.9	19.9	0.08	14.2	0.25	131.0		26.0
WR-CD-42C	11.50	0.7	0.30	29.2	30.4	26.6	0.87	19.6	0.41	179.0		42.0
WR-CD-42D	11.50	<0.5	0.31	32.3	30.8	26.0	0.34	21.3	0.35	160.0		24.0
WR-CD-43A	11.55	19.7	2.12	17.2	70.1	489.0	0.03	13.8	0.12	102.0		2.9
WR-D	11.55	<0.5	0.11	19.6	18.0	64.3	0.03	14.3	0.06	55.6		42.0
WR-CD-43B	11.55	<0.5	0.07	14.4	14.4	15.0	0.10	11.9	0.05	45.9		0.9
Minimum		0.5	0.03	6.6	8.0	1.2	0.01	4.4	0.0	10.8	0.01	0.6
Maximum		19.7	2.12	35.4	70.1	489.0	0.87	23.7	0.4	190.0	0.42	65.0
Mean		2.9	0.32	22.7	24.1	25.3	0.09	17.6	0.2	94.8	0.13	17.6
Screening Levels 1994		57.0	0.96	NA	81.0	66.0	0.21	140.0	1.20	160.0	0.15	
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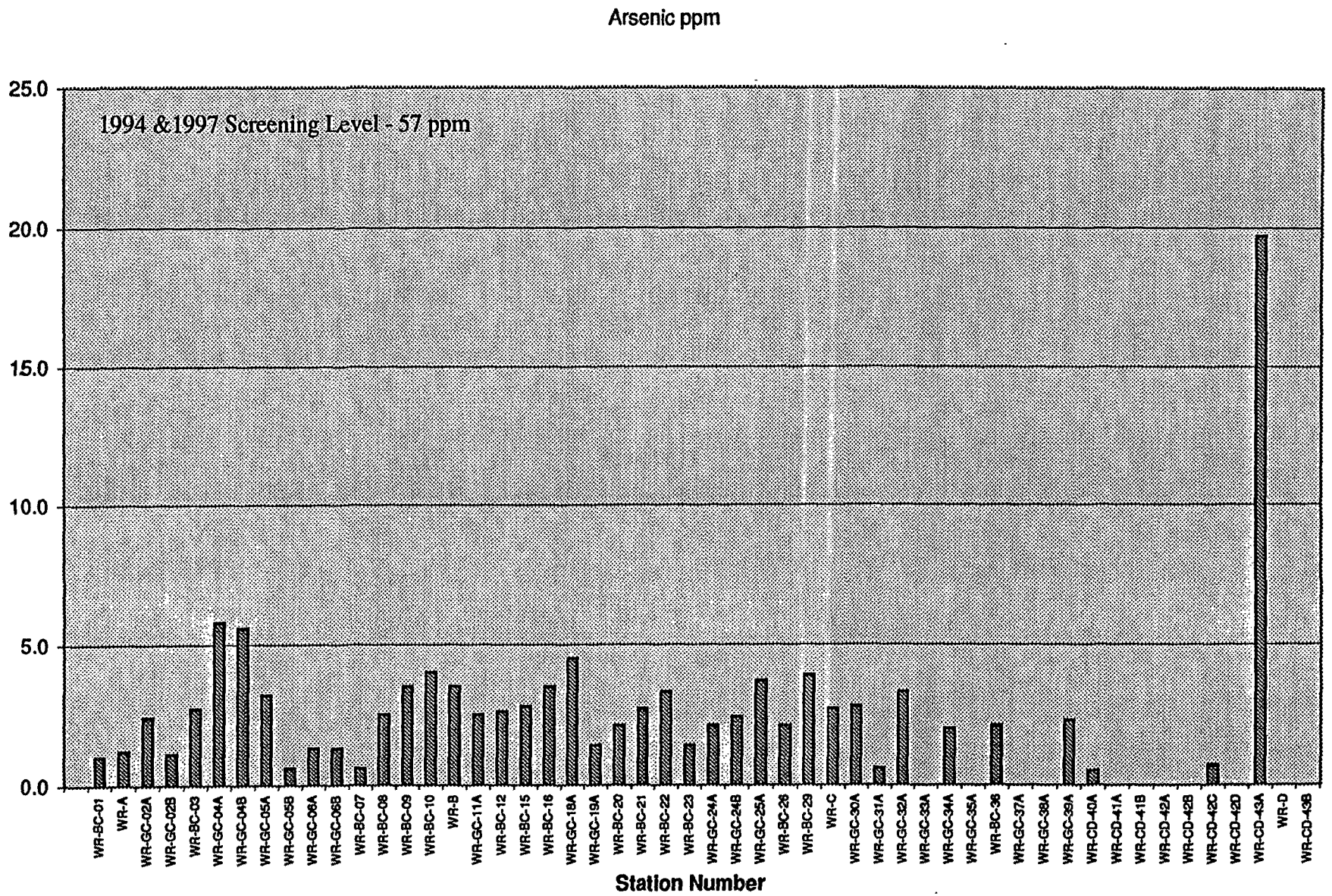
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WR-GC-02B
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WR-GC-04A
WR-GC-04B
WR-GC-05A
WR-GC-05B
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WR-GC-25A
WR-BC-26
WR-BC-29
WR-C
WR-GC-30A
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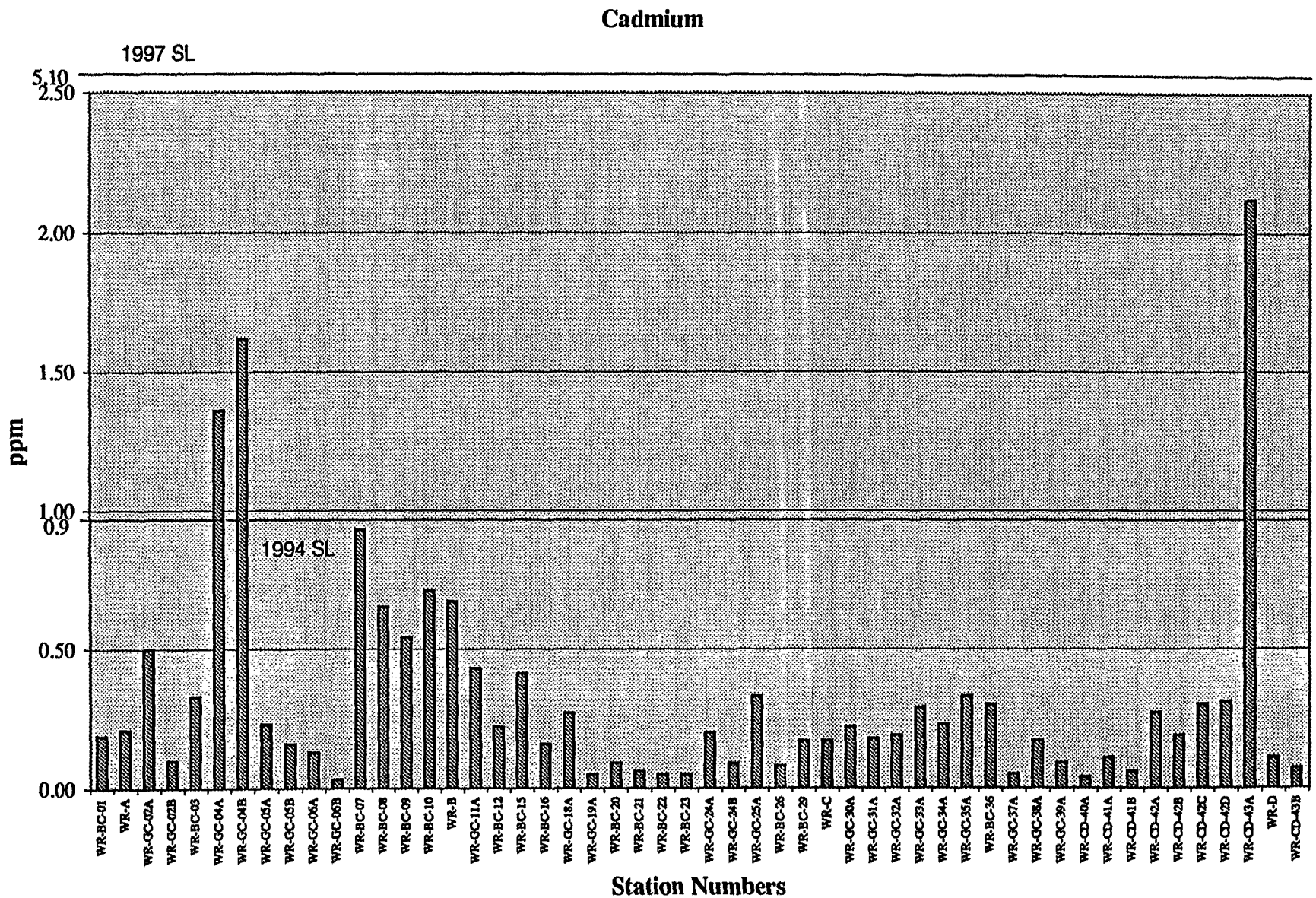
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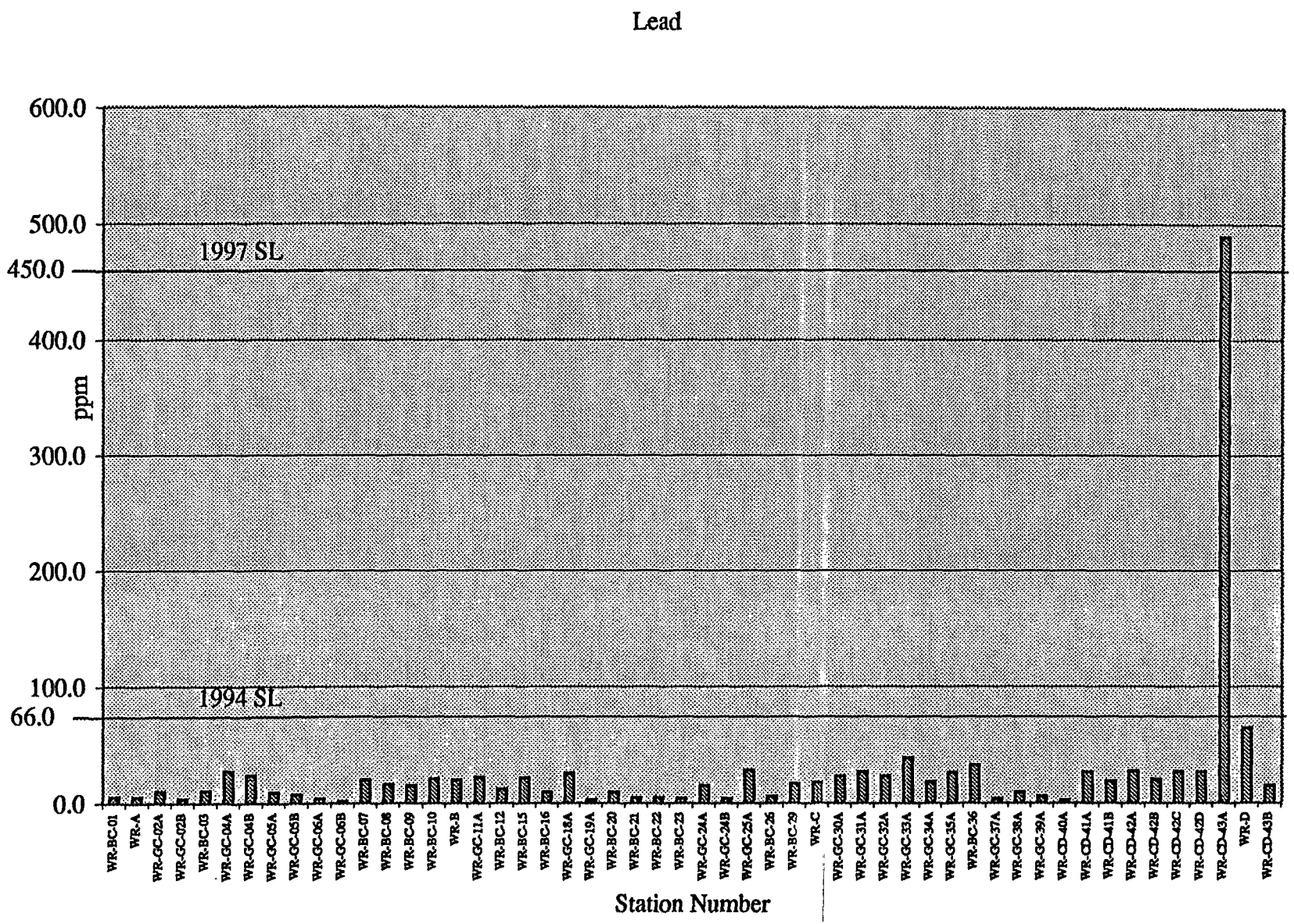
WR-CD-42D
WR-CD-43A
WR-D
WR-CD-43B
Station Numbers

2028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ppm
1997 SL
1994 SL
WR-BC-01
WR-A
WR-GC-02A
WR-GC-02B
WR-BC-03
WR-GC-04A
WR-GC-04B
WR-GC-05A
WR-GC-05B
WR-GC-06A
WR-GC-06B
WR-BC-07
WR-BC-08
WR-BC-09
WR-BC-10
WR-B
WR-GC-11A
WR-BC-12
WR-BC-15
WR-BC-16
WR-GC-18A
WR-GC-19A
WR-BC-20
WR-BC-21
WR-BC-22
WR-BC-23
WR-GC-24A
WR-GC-24B
WR-GC-25A
WR-BC-26
WR-BC-29
WR-C
WR-GC-30A
WR-GC-31A
WR-GC-32A
WR-GC-33A
WR-GC-34A
WR-GC-35A
WR-BC-36
WR-GC-37A
WR-GC-38A
WR-GC-39A
WR-CD-40A
WR-CD-41A
WR-CD-41B
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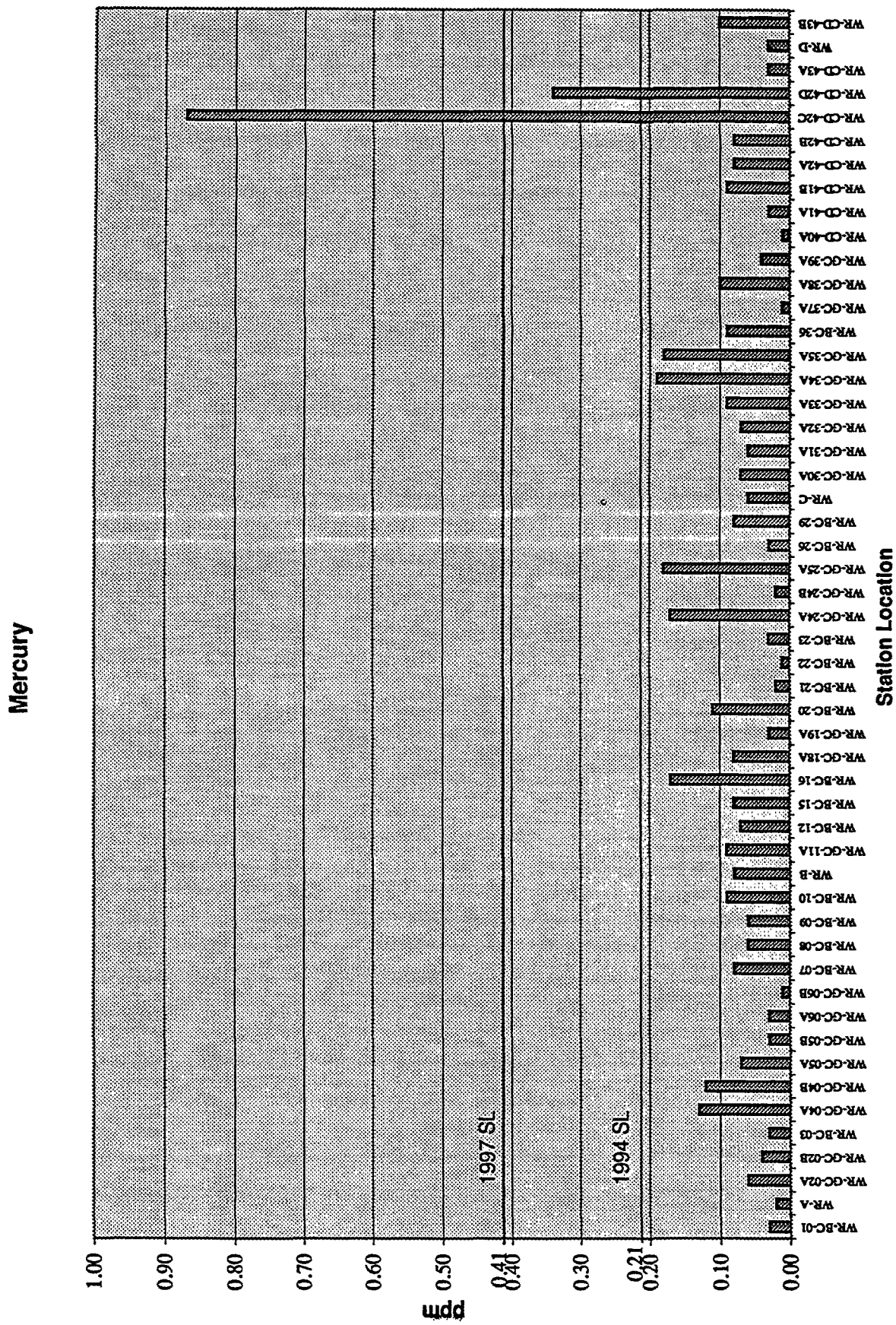
WR-CD-42B
WR-CD-42C
WR-CD-42D
WR-CD-43A
WR-D
WR-CD-43B
Station Number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0.70
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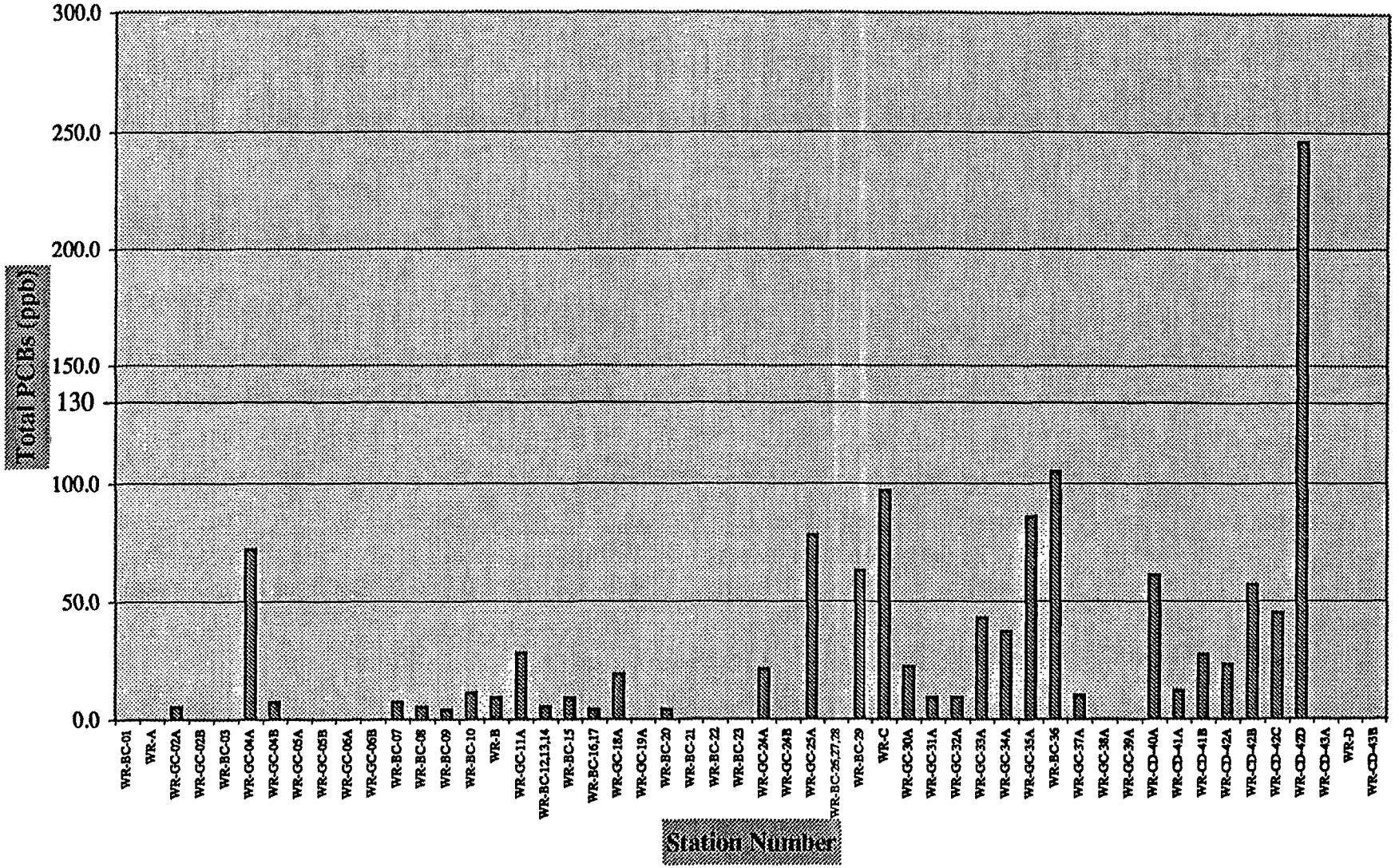
0.10
0.00
1997 SL
1994 SL
Station Location
WR-BC-01
WR-A
WR-GC-02A
WR-GC-02B
WR-BC-03
WR-GC-04A
WR-GC-04B
WR-GC-05A
WR-GC-05B
WR-GC-06A
WR-GC-06B
WR-BC-07
WR-BC-08
WR-BC-09
WR-BC-10
WR-B
WR-GC-11A
WR-BC-12
WR-BC-15
WR-BC-16
WR-GC-18A
WR-GC-19A
WR-BC-20
WR-BC-21
WR-BC-22
WR-BC-23
WR-GC-24A
WR-GC-24B
WR-GC-25A
WR-BC-26
WR-BC-29
WR-C
WR-GC-30A
WR-GC-31A
WR-GC-32A
WR-GC-33A
WR-GC-34A
WR-GC-35A
WR-BC-36
WR-GC-37A
WR-GC-38A
WR-GC-39A
WR-CD-40A
WR-CD-41A
WR-CD-41B
WR-CD-42A
WR-CD-42B
WR-CD-42C
WR-CD-42D
WR-CD-43A
WR-D
WR-CD-43B

WILLAMETTE RIVER PESTICIDES AND PCBs

Site	RM	alpha-BHC	beta-BHC	gamma-BHC Lindane	delta-BHC	Heptachlor	Aldrin	Heptachlor Epoxide	Endosulfan I	Dieldrin	DDT	DDE	DDD	Total DDT	Endrin	Endosulfan II	Endrin Aldehyde	Endosulfan Sulfate	Methoxychlor	Chlordane	Toxaphene	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBS
WR-BC-01	0.10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-A	0.10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.2	0.2	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-GC-02A	0.10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.7	1.0	1.7	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	5.0	5.0
WR-GC-02B	0.10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-BC-03	0.40	<2.0	<2.0	<2.0	<2.0	<2.0	0.2	<5.0	<5.0	<5.0	<2.0	0.4	0.7	1.1	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-GC-04A	0.80	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	7.0	5.0	12.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	29.0	<10.0	43.0	<10.0	72.0
WR-GC-04B	0.80	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	4.0	7.0	11.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	7.0	7.0
WR-GC-05A	0.80	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-GC-05B	0.80	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-GC-06A	0.95	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-GC-06B	0.95	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-BC-07	1.60	<2.0	<2.0	<2.0	<2.0	<2.0	0.4	<2.0	<2.0	<2.0	<2.0	2.0	1.0	3.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	7.0	7.0
WR-BC-08	1.70	<2.0	0.4	<2.0	<2.0	<2.0	0.4	<2.0	<2.0	<2.0	<2.0	2.0	1.0	3.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	5.0	5.0
WR-BC-09	2.05	<2.0	<2.0	<2.0	<2.0	<2.0	0.4	<2.0	<2.0	<2.0	0.3	1.0	1.0	2.3	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	4.0	4.0
WR-BC-10	2.45	<2.0	<2.0	0.3	<2.0	<2.0	0.4	<2.0	<2.0	<2.0	0.3	2.0	2.0	4.3	<2.0	<2.0	0.3	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	11.0	11.0
WR-B	2.45	<2.0	<2.0	<2.0	<2.0	<2.0	0.3	<2.0	<2.0	<2.0	<2.0	2.0	2.0	4.0	<2.0	<2.0	0.4	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	9.0	9.0
WR-GC-11A	2.90	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	2.0	4.0	<2.0	1.0	0.5	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	7.0	<10.0	<10.0	21.0	28.0
WR-BC-12,13,14	3.40	<2.0	<2.0	<2.0	<2.0	<2.0	0.3	<2.0	<2.0	<2.0	0.2	0.7	2.0	2.9	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	5.0	5.0
WR-BC-15	3.80	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	1.0	1.0	1.0	3.0	<2.0	<2.0	0.5	<5.0	<4.0	<10.0	<60.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	9.0	9.0
WR-BC-16,17	4.10	<2.0	<2.0	0.2	<2.0	<2.0	0.3	<2.0	<2.0	<2.0	1.0	1.0	1.0	3.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	4.0	4.0
WR-GC-18A	5.10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.8	2.0	2.0	4.8	<2.0	<2.0	<2.0	<2.0	1.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	19.0	19.0
WR-GC-19A	5.10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-BC-20	5.15	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	0.7	2.0	4.7	<2.0	<2.0	<2.0	0.7	1.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	4.0	4.0
WR-BC-21	5.90	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	14.0	<2.0	3.3	17.3	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-BC-22	6.20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	1.7	<2.0	<2.0	1.7	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-BC-23	6.50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	1.7	<2.0	<2.0	1.7	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-GC-24A	6.70	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	94.0	4.0	100.0	198.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<40.0	<10.0	<10.0	<10.0	<10.0	<10.0	<30.0	21.0	21.0
WR-GC-24B	6.70	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	0.2	2.2	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<40.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-GC-25A	6.70	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.0	4.0	7.0	0.9	2.0	1.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	26.0	<10.0	<10.0	52.0	78.0
WR-BC-26,27,28	6.90	<2.0	<2.0	<2.0	<2.0	<2.0	0.2	<2.0	<2.0	<2.0	1.9	0.7	1.3	3.9	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-BC-29	7.50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.4	2.1	3.0	2.4	7.5	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	6.0	<10.0	27.0	30.0	63.0
WR-C	7.50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.4	2.2	2.2	7.8	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	5.0	<10.0	22.0	70.0	97.0
WR-GC-30A	8.50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.8	1.0	1.0	2.8	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<40.0	<10.0	<10.0	<10.0	<10.0	<10.0	<2.00	22.0	22.0
WR-GC-31A	8.90	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.5	1.0	0.8	2.3	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	9.0	9.0
WR-GC-32A	10.00	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	4.0	1.0	0.7	5.7	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	9.0	9.0
WR-GC-33A	10.10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.3	2.0	1.0	3.3	<2.0	<2.0	<2.0	<2.0	1.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<20.0	<30.0	43.0	43.0
WR-GC-34A	10.00	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	2.0	4.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	14.0	23.0	37.0
WR-GC-35A	10.10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.5	0.4	<2.0	4.0	4.0	8.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	44.0	42.0	86.0
WR-BC-36	10.30	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.9	2.5	1.4	4.8	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	12.0	<10.0	44.0	49.0	105.0
WR-GC-37A	11.10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.2	<2.0	0.4	0.6	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	4.0	6.0	10.0
WR-GC-38A	11.20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	1.0	<2.0	<2.0	<2.0	<2.0	0.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-GC-39A	11.65	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-CD-40A	11.30	<2.0	<2.0	<2.0	<2.0	<2.0	1.0	<2.0	<2.0	13.0	<2.0	4.0	19.0	23.0	0.8	2.0	<2.0	<2.0	1.0	47.0	<60.0	<10.0	<10.0	<10.0	<10.0	<10.0	46.0	15.0	61.0
WR-CD-41A	11.35	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.5	0.4	0.9	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	6.0	6.0	12.0
WR-CD-41B	11.35	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	1.0	1.0	<2.0	2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	11.0	16.0	27.0
WR-CD-42A	11.50	<2.0	<2.0	<2.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	1.0	0.8	1.8	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	11.0	12.0	23.0
WR-CD-42B	11.50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	0.6	0.5	2.0	3.1	<2.0	<2.0	<2.0	0.5	<4.0	<10.0	<35.0	<10.0	<10.0	<10.0	<10.0	<10.0	26.0	31.0	57.0
WR-CD-42C	11.50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	0.8	2.8	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	24.0	21.0	45.0
WR-CD-42D	11.50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	3.0	5.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	90.0	156.0	246.0
WR-CD-43A	11.55	<2.0	2.0	0.2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	1.0	3.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-D	11.55	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.3	0.3	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
WR-CD-43B	11.55	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<30.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	0.0
Minimum		ND	0.4	0.2	ND	ND	0.2	ND	0.5	0.4	0.2	0.4	0.2	0.0	0.8	1.0	0.3	0.5	1.0	47.0	ND	ND	ND	ND	5.0	ND	4.0	4.0	0.0
Maximum		ND	2.0	0.3	ND	ND	1.0	ND	1.0	13.0	94.0	7.0	100.0	198.0	0.9	2.0	1.0	0.7	1.0	47.0	ND	ND	ND	ND	29.0	ND	90.0	156.0	246.0
Mean		ND	1.2	0.2	ND	ND	0.4	ND	0.8	4.0	5.7	1.9	4.7	7.4	0.9	1.7	0.5	0.6	1.0	47.0	ND	ND	ND	ND	14.2	ND	29.4	23.2	23.8
SL				10.0		10.0	10.0			10.0				6.9						10.0									130

031

Total PCBs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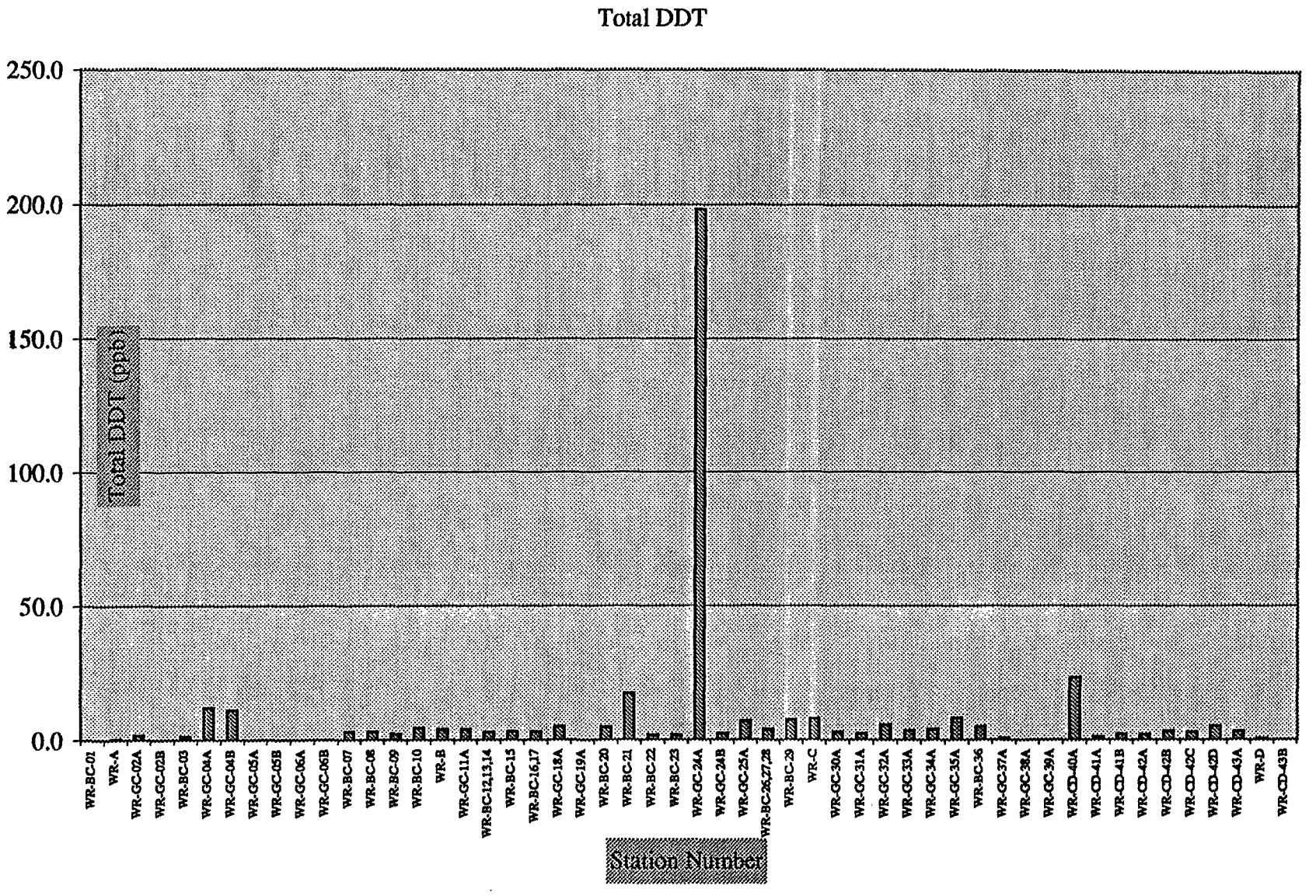
WR-GC-02A
WR-GC-02B
WR-BC-03
WR-GC-04A
WR-GC-04B
WR-GC-05A
WR-GC-05B
WR-GC-06A
WR-GC-06B
WR-BC-07
WR-BC-08
WR-BC-09
WR-BC-10
WR-B
WR-GC-11A
WR-BC-12,13,14
WR-BC-15
WR-BC-16,17
WR-GC-18A
WR-GC-19A
WR-BC-20
WR-BC-21
WR-BC-22
WR-BC-23
WR-GC-24A
WR-GC-24B
WR-GC-25A
WR-BC-26,27,28
WR-BC-29
WR-C
WR-GC-30A
WR-GC-31A
WR-GC-32A
WR-GC-33A
WR-GC-34A
WR-GC-35A
WR-BC-36
WR-GC-37A
WR-GC-38A
WR-GC-39A
WR-CD-40A
WR-CD-41A
WR-CD-41B
WR-CD-42A
WR-CD-42B
WR-CD-42C
WR-CD-42D
WR-CD-43A
WR-D
WR-CD-43B
Station Number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100.0
50.0
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WR-GC-02A
WR-GC-02B
WR-BC-03
WR-GC-04A
WR-GC-04B
WR-GC-05A
WR-GC-05B
WR-GC-06A
WR-GC-06B
WR-BC-07
WR-BC-08
WR-BC-09
WR-BC-10
WR-B
WR-GC-11A
WR-BC-12,13,14
WR-BC-15
WR-BC-16,17
WR-GC-18A
WR-GC-19A
WR-BC-20
WR-BC-21
WR-BC-22
WR-BC-23
WR-GC-24A
WR-GC-24B
WR-GC-25A
WR-BC-26,27,28
WR-BC-29
WR-C
WR-GC-30A
WR-GC-31A
WR-GC-32A
WR-GC-33A
WR-GC-34A
WR-GC-35A
WR-BC-36
WR-GC-37A
WR-GC-38A
WR-GC-39A
WR-CD-40A
WR-CD-41A
WR-CD-41B
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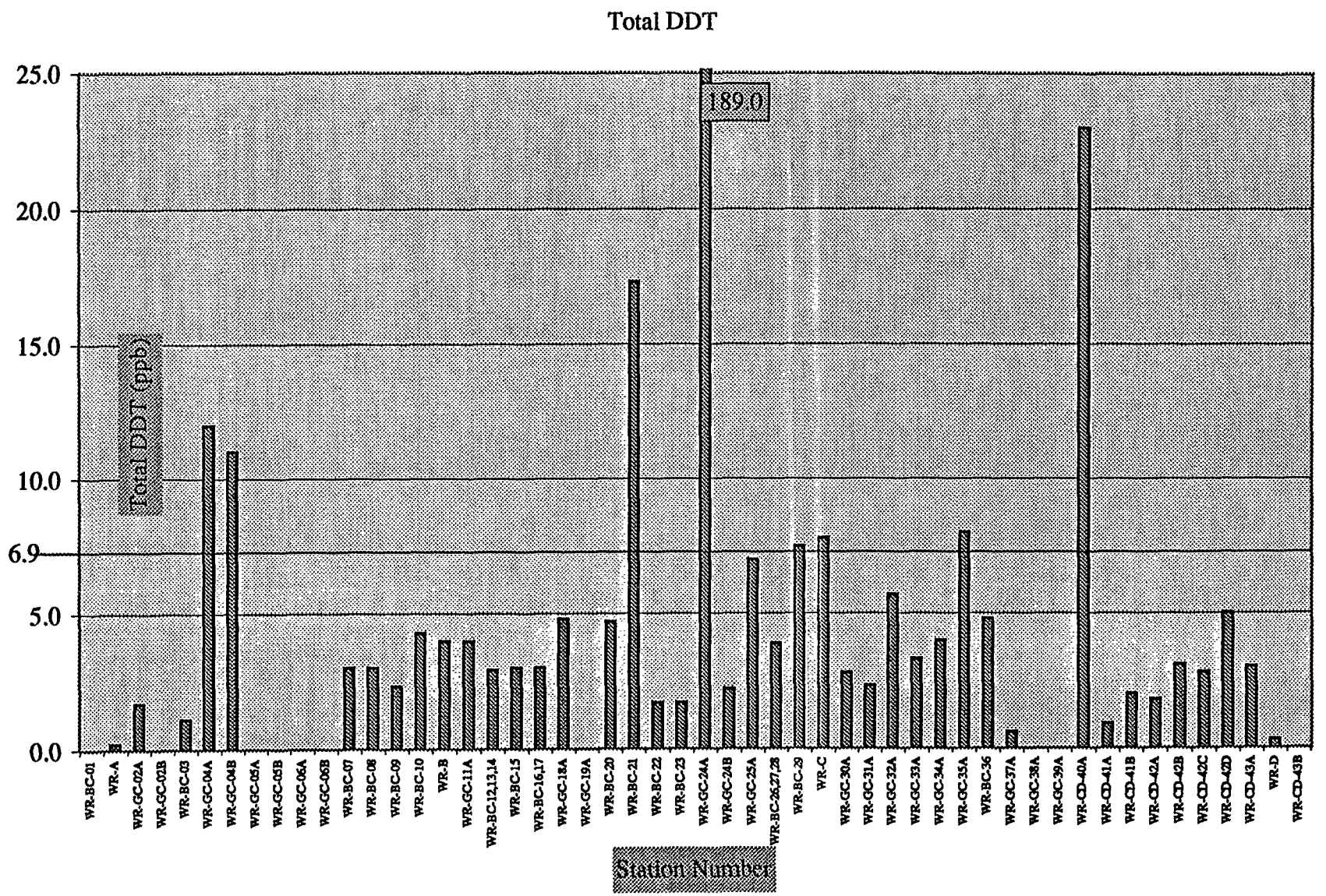
WR-CD-42C
WR-CD-42D
WR-CD-43A
WR-D
WR-CD-43B
Station Number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WR-GC-02A
WR-GC-02B
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WR-GC-04A
WR-GC-04B
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WR-B
WR-GC-11A
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WR-BC-15
WR-BC-16,17
WR-GC-18A
WR-GC-19A
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WR-GC-24B
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WR-BC-26,27,28
WR-BC-29
WR-C
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WR-GC-31A
WR-GC-32A
WR-GC-33A
WR-GC-34A
WR-GC-35A
WR-BC-36
WR-GC-37A
WR-GC-38A
WR-GC-39A
WR-CD-40A
WR-CD-41A
WR-CD-41B
WR-CD-42A
WR-CD-42B
WR-CD-42C
WR-CD-42D
WR-CD-43A
WR-D
WR-CD-43B
Station Number

Willamette River PAHs

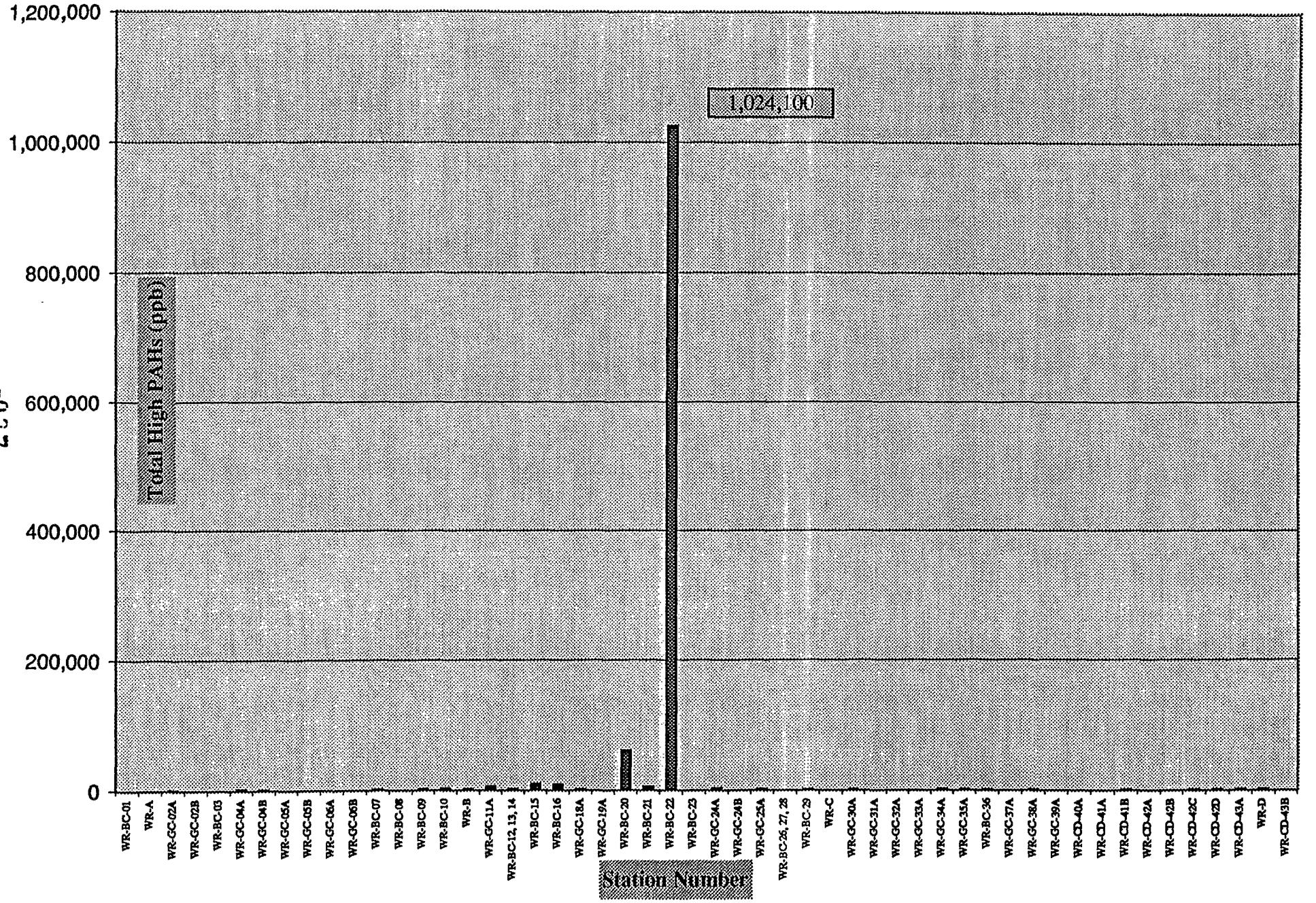
Site	RM	Naphthalene	2-Methyl naphthalene	Ace naphthylene	Ace naphthene	Fluorene	Phenanthrene	Anthracene	Total Low PAHs	Fluor anthrene	Pyrene	Benzo anthracene	Chrysene	Benzo(b,k) fluoranthene	Benzo(a) pyrene	Ideno(1,2,3-cd) pyrene	Dibenz(a,h) anthracene	Benzo(g,h,i) perylene	Total High PAHs
WR-BC-01	0.10	1.0	1.0	2.0	1.0	0.7	5.0	1.0	11.7	10.0	9.0	4.0	5.0	14.0	9.0	8.0	3.0	9.0	71.0
WR-A	0.10	1.0	2.0	1.0	0.9	1.0	4.0	1.0	10.9	4.0	5.0	3.0	3.0	13.0	11.0	12.0	3.0	12.0	66.0
WR-GC-02A	0.10	4.0	4.0	5.0	3.0	3.0	20.0	6.0	45.0	71.0	96.0	44.0	52.0	122.0	103.0	76.0	13.0	77.0	654.0
WR-GC-02B	0.10	1.0	2.0	0.7	0.9	1.0	4.0	1.0	10.6	4.0	5.0	2.0	2.0	6.0	5.0	6.0	2.0	6.0	38.0
WR-BC-03	0.40	2.0	3.0	0.5	<5.0	0.9	5.0	1.0	12.4	7.0	8.0	4.0	5.0	15.0	9.0	11.0	5.0	12.0	76.0
WR-GC-04A	0.80	31.0	27.0	11.0	16.0	19.0	96.0	27.0	227.0	158.0	198.0	86.0	112.0	160.0	123.0	108.0	19.0	115.0	1,079.0
WR-GC-04B	0.80	24.0	12.0	4.0	7.0	10.0	65.0	18.0	140.0	83.0	101.0	32.0	43.0	44.0	40.0	36.0	6.0	39.0	424.0
WR-GC-05A	0.80	3.0	2.0	1.0	1.0	2.0	10.0	2.0	21.0	10.0	12.0	3.0	5.0	7.0	4.0	5.0	1.0	5.0	52.0
WR-GC-05B	0.80	0.6	2.0	0.3	<5.0	0.8	3.0	<5.0	6.7	1.0	2.0	1.0	1.0	3.0	1.0	2.0	1.0	2.0	14.0
WR-GC-06A	0.95	1.0	2.0	0.6	0.7	0.7	3.0	0.6	8.6	3.0	5.0	2.0	2.0	4.0	2.0	3.0	0.9	3.0	25.0
WR-GC-06B	0.95	2.0	2.0	1.0	1.0	2.0	2.0	3.0	13.0	0.7	0.9	<5.0	0.7	<5.0	0.9	1.0	0.8	1.0	6.0
WR-BC-07	1.60	8.0	6.0	5.0	6.0	6.0	38.0	11.0	80.0	73.0	67.0	42.0	49.0	163.0	109.0	97.0	22.0	91.0	713.0
WR-BC-08	1.70	2.0	3.0	3.0	2.0	3.0	14.0	6.0	33.0	23.0	26.0	14.0	17.0	50.0	36.0	33.0	8.0	33.0	240.0
WR-BC-09	2.05	23.0	13.0	10.0	9.0	9.0	66.0	17.0	147.0	83.0	111.0	58.0	67.0	212.0	176.0	143.0	26.0	142.0	1,018.0
WR-BC-10	2.45	23.0	22.0	25.0	14.0	16.0	120.0	36.0	256.0	208.0	265.0	158.0	180.0	539.0	459.0	383.0	66.0	385.0	2,643.0
WR-B	2.45	19.0	21.0	14.0	11.0	14.0	105.0	29.0	213.0	150.0	172.0	90.0	105.0	324.0	251.0	211.0	39.0	210.0	1,552.0
WR-GC-11A	2.90	221.0	130.0	62.0	122.0	105.0	684.0	160.0	1,484.0	673.0	789.0	373.0	452.0	1,061.0	530.0	802.0	142.0	832.0	5,654.0
WR-BC-12, 13, 14	3.40	35.0	22.0	13.0	18.0	15.0	136.0	31.0	270.0	131.0	178.0	69.0	93.0	228.0	192.0	158.0	23.0	159.0	1,231.0
WR-BC-15	3.80	98.0	50.0	107.0	112.0	77.0	495.0	161.0	1,100.0	1,100.0	1,300.0	709.0	778.0	1,962.0	1,100.0	880.0	207.0	860.0	8,896.0
WR-BC-16	4.10	22.0	12.0	95.0	30.0	29.0	460.0	135.0	783.0	1,300.0	1,600.0	740.0	930.0	1,100.0	990.0	660.0	173.0	660.0	8,153.0
WR-GC-18A	5.10	230.0	170.0	10.0	148.0	133.0	331.0	61.0	1,083.0	217.0	215.0	74.0	90.0	121.0	81.0	55.0	11.0	56.0	920.0
WR-GC-19A	5.10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0.0	0.7	0.9	<5.0	<5.0	<5.0	0.5	<5.0	<5.0	0.7	3.0
WR-BC-20	5.15	280.0	135.0	406.0	1,700.0	940.0	8,200.0	4,400.0	16,061.0	14,000.0	15,000.0	4,200.0	5,400.0	6,600.0	6,200.0	4,500.0	690.0	4,500.0	61,090.0
WR-BC-21	5.90	7.0	2.0	14.0	145.0	61.0	1,900.0	189.0	2,318.0	2,000.0	2,200.0	97.0	109.0	113.0	103.0	74.0	10.0	78.0	4,784.0
WR-BC-22	6.20	5,300.0	1,700.0	8,500.0	79,000.0	44,000.0	180,000.0	77,000.0	395,500.0	250,000.0	260,000.0	67,000.0	86,000.0	103,000.0	99,000.0	74,000.0	9,100.0	76,000.0	1,024,100.0
WR-BC-23	6.50	0.5	1.0	<5.0	<5.0	<5.0	1.0	<5.0	2.5	0.8	0.8	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0.6	2.0
WR-GC-24A	6.70	129.0	82.0	27.0	104.0	77.0	540.0	111.0	1,070.0	480.0	669.0	166.0	210.0	259.0	218.0	179.0	21.0	190.0	2,392.0
WR-GC-24B	6.70	0.6	0.6	0.2	<5.0.0	<5.0.0	<5.0.0	<5.0.0	1.4	<5.0.0	<5.0.0	<5.0.0	<5.0.0	<5.0.0	0.6	0.8	<5.0.0	0.8	2.0
WR-GC-25A	6.70	64.0	44.0	25.0	129.0	102.0	356.0	64.0	784.0	324.0	313.0	92.0	105.0	133.0	162.0	125.0	22.0	131.0	1,407.0
WR-BC-26, 27, 28	6.90	1.0	1.0	0.7	<5.0.0	0.5	4.0	0.8	8.0	6.0	6.0	<5.0.0	3.0	6.0	3.0	2.0	0.7	3.0	30.0
WR-BC-29	7.50	22.0	69.0	4.0	8.0	9.0	50.0	13.0	175.0	73.0	73.0	44.0	49.0	63.0	41.0	25.0	7.0	23.0	398.0
WR-C	7.50	11.0	38.0	6.0	10.0	9.0	47.0	13.0	134.0	62.0	56.0	28.0	35.0	55.0	37.0	28.0	5.0	27.0	333.0
WR-GC-30A	8.50	19.0	39.0	7.0	8.0	11.0	68.0	17.0	169.0	96.0	87.0	46.0	53.0	68.0	43.0	35.0	8.0	34.0	470.0
WR-GC-31A	8.90	16.0	8.0	5.0	5.0	7.0	44.0	9.0	94.0	57.0	53.0	21.0	28.0	34.0	22.0	17.0	4.0	17.0	253.0
WR-GC-32A	10.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0.0	0.7	0.9	<5.0	<5.0	<5.0	0.5	<5.0	<5.0	0.7	2.8
WR-GC-33A	10.10	24.0	42.0	7.0	9.0	14.0	73.0	15.0	184.0	69.0	81.0	28.0	42.0	40.0	25.0	18.0	5.0	21.0	329.0
WR-GC-34A	10.00	55.0	24.0	66.0	21.0	13.0	124.0	42.0	345.0	217.0	237.0	157.0	137.0	196.0	170.0	96.0	17.0	87.0	1,314.0
WR-GC-35A	10.10	32.0	25.0	6.0	10.0	10.0	82.0	19.0	184.0	110.0	104.0	49.0	54.0	72.0	42.0	30.0	7.0	29.0	497.0
WR-BC-36	10.30	41.0	18.0	6.0	16.0	15.0	81.0	21.0	198.0	93.0	93.0	33.0	40.0	49.0	33.0	27.0	7.0	30.0	405.0
WR-GC-37A	11.10	0.5	<5.0	<5.0	<5.0	<5.0	0.9	<5.0	1.4	2.0	2.0	0.7	1.0	<5.0	0.7	<5.0	<5.0	0.7	6.0
WR-GC-38A	11.20	9.0	3.0	8.0	19.0	8.0	88.0	23.0	158.0	124.0	136.0	37.0	38.0	63.0	62.0	49.0	4.0	59.0	572.0
WR-GC-39A	11.65	3.0	1.0	4.0	10.0	3.0	42.0	12.0	75.0	41.0	48.0	15.0	16.0	20.0	20.0	14.0	3.0	16.0	193.0
WR-CD-40A	11.30	0.4	0.6	<5.0	<5.0	<5.0	1.0	<5.0	2.0	2.0	1.0	0.7	0.7	<5.0	0.6	<5.0	<5.0	0.7	6.0
WR-CD-41A	11.35	5.0	3.0	4.0	5.0	4.0	27.0	12.0	60.0	40.0	40.0	15.0	15.0	17.0	15.0	10.0	2.0	9.0	163.0
WR-CD-41B	11.35	26.0	15.0	14.0	59.0	41.0	226.0	52.0	433.0	193.0	160.0	44.0	45.0	56.0	44.0	37.0	6.0	44.0	629.0
WR-CD-42A	11.50	26.0	11.0	9.0	5.0	6.0	45.0	10.0	112.0	51.0	50.0	13.0	21.0	25.0	14.0	12.0	2.0	14.0	202.0
WR-CD-42B	11.50	11.0	11.0	4.0	6.0	9.0	51.0	13.0	105.0	61.0	62.0	23.0	29.0	35.0	23.0	17.0	5.0	18.0	273.0
WR-CD-42C	11.50	23.0	24.0	6.0	11.0	11.0	74.0	20.0	169.0	112.0	114.0	45.0	51.0	66.0	42.0	29.0	7.0	31.0	497.0
WR-CD-42D	11.50	44.0	22.0	7.0	14.0	15.0	90.0	19.0	211.0	101.0	93.0	35.0	39.0	50.0	34.0	23.0	5.0	26.0	406.0
WR-CD-43A	11.55	25.0	5.0	4.0	10.0	6.0	35.0	13.0	98.0	172.0	149.0	50.0	62.0	62.0	29.0	22.0	5.0	21.0	572.0
WR-D	11.55	212.0	20.0	32.0	93.0	50.0	208.0	56.0	671.0	310.0	450.0	135.0	149.0	183.0	168.0	116.0	15.0	121.0	1,647.0
WR-CD-43B	11.55	4.0	2.0	3.0	4.0	2.0	10.0	5.0	30.0	25.0	38.0	15.0	19.0	25.0	19.0	16.0	2.0	17.0	176.0
Minimum		0.4	0.6	0.2	0.7	0.5	0.9	0.6	0.0	0.7	0.8	0.7	0.7	3.0	0.5	0.8	0.7	0.6	2.0
Maximum		5,300.0	1,700.0	8,500.0	79,000.0	44,000.0	180,000.0	77,000.0	395,500.0	250,000.0	260,000.0	67,000.0	86,000.0	103,000.0	99,000.0	74,000.0	9,100.0	76,000.0	1,024,100.0
Mean		142.9	58.2	203.1	1,904.8	997.2	3,982.3	1,841.3	8,179.0	5,355.5	5,597.7	1,628.2	1,994.6	2,609.7	2,172.6	1,770.0	233.3	1,639.6	21,859.2
Screening Levels 1994		210.0	67.0	64.0	63.0	64.0	320.0	130.0	610.0	630.0	430.0	450.0	670.0	800.0	680.0	69.0	120.0	540.0	1,800.0
Screening Levels 1997		2,100.0	670.0	560.0	500.0	540.0	1,500.0	960.0	5,200.0	1,700.0	2,600.0	1,300.0	1,400.0	3,200.0	1,600.0	600.0	230.0	670.0	12,000.0

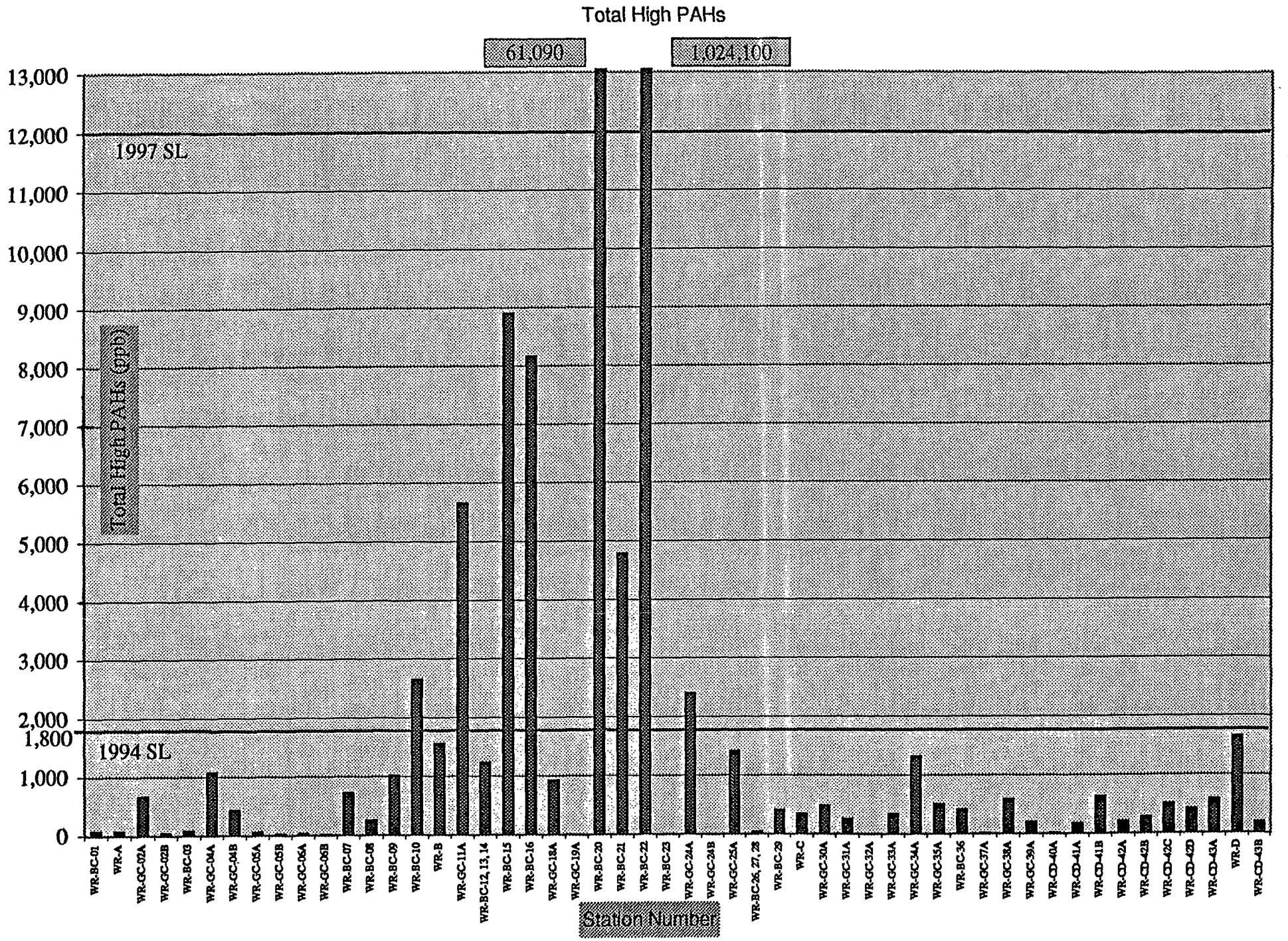
WILLAMETTE RIVER PAHs WHICH EXCEED SLs

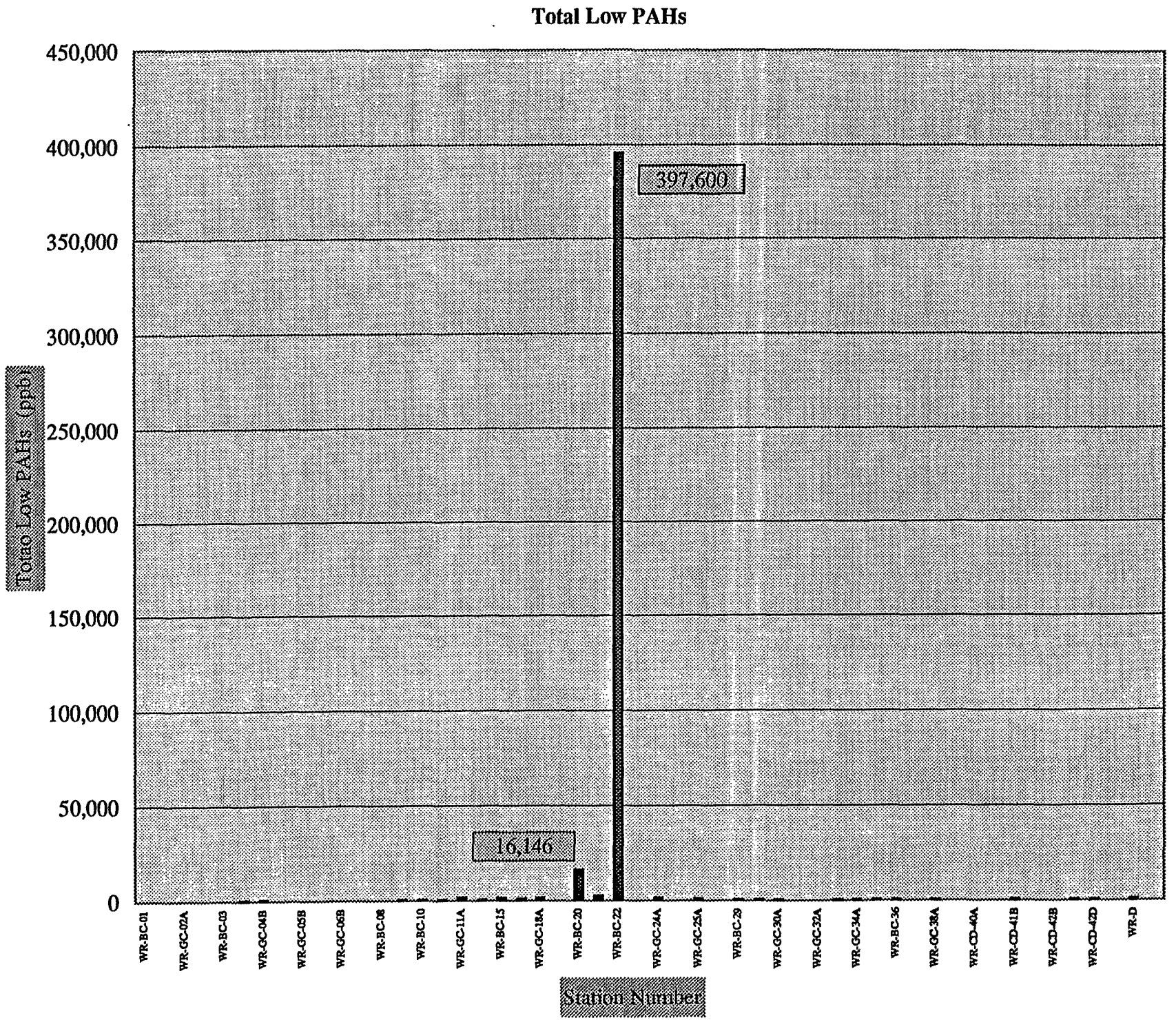
Station Number	RM	Naphthalene	2-Methyl naphthalene	Ace naphthylene	Ace naphthene	Fluorene	Phenanthrene	Anthracene	Total Low PAHs	Fluor anthrene	Pyrene	Benzo anthracene	Chrysene	Benzo(b,k) fluoranthene	Benzo(a) pyrene	Ideno(1,2,3-cd) pyrene	Dibenz(a,h) anthracene	Benzo(g,h,i) perylene	Total High PAHs
WR-BC-01	0.10																		
WR-A	0.10																		
WR-GC-02A	0.10															76.0			
WR-GC-02B	0.10																		
WR-BC-03	0.40																		
WR-GC-04A	0.80															108.0			
WR-GC-04B	0.80																		
WR-GC-05A	0.80																		
WR-GC-05B	0.80																		
WR-GC-06A	0.95																		
WR-GC-06B	0.95																		
WR-BC-07	1.60															97.0			
WR-BC-08	1.70																		
WR-BC-09	2.05															143.0			
WR-BC-10	2.45															383.0			2,643.0
WR-B	2.45															211.0			
WR-GC-11A	2.90	221.0	130.0		122.0	105.0	684.0	160.0	1,517.0	673.0	789.0	373.0		1,061.0	530.0	802.0		832.0	5,654.0
WR-BC-12, 13, 14	3.40															158.0			
WR-BC-15	3.80			107.0	112.0	77.0	495.0	161.0	1,135.0	1,100.0	1,300.0	709.0	778.0	1,962.0	1,100.0	880.0		860.0	8,896.0
WR-BC-16	4.10			95.0			460.0	135.0	787.0	1,300.0	1,600.0	740.0	930.0	1,100.0	990.0	660.0		660.0	8,153.0
WR-GC-18A	5.10	230.0	170.0		148.0	133.0	331.0		1,168.0										
WR-GC-19A	5.10																		
WR-BC-20	5.15	280.0	135.0	406.0	1,700.0	940.0	8,200.0	4,400.0	16,146.0	14,000.0	15,000.0	4,200.0	5,400.0	6,600.0	6,200.0	4,500.0	690.0	4,500.0	61,090.0
WR-BC-21	5.90				145.0		1,900.0	189.0	2,327.0	2,000.0	2,200.0					74.0			4,784.0
WR-BC-22	6.20	5,300.0	1,700.0	8,500.0	79,000.0	44,000.0	180,000.0	77,000.0	397,600.0	250,000.0	260,000.0	67,000.0	86,000.0	103,000.0	99,000.0	74,000.0	9,100.0	76,000.0	1,024,100.0
WR-BC-23	6.50																		
WR-GC-24A	6.70		82.0		104.0	77.0	540.0		1,087.0		669.0	166.0				179.0			2,392.0
WR-GC-24B	6.70																		
WR-GC-25A	6.70				129.0	102.0	356.0		843.0							125.0			
WR-BC-26, 27, 28	6.90																		
WR-BC-29	7.50		69.0																
WR-C	7.50																		
WR-GC-30A	8.50																		
WR-GC-31A	8.90																		
WR-GC-32A	10.00																		
WR-GC-33A	10.10																		
WR-GC-34A	10.00			66.0								157.0				96.0			
WR-GC-35A	10.10																		
WR-BC-36	10.30																		
WR-GC-37A	11.10																		
WR-GC-38A	11.20																		
WR-GC-39A	11.65																		
WR-CD-40A	11.30																		
WR-CD-41A	11.35																		
WR-CD-41B	11.35																		
WR-CD-42A	11.50																		
WR-CD-42B	11.50																		
WR-CD-42C	11.50																		
WR-CD-42D	11.50																		
WR-CD-43A	11.55																		
WR-D	11.55	212.0			93.0				684.0		450.0	135.0				116.0			
WR-CD-43B	11.55																		
MINIMUM		212.0	69.0	66.0	93.0	77.0	331.0	135.0	684.0	673.0	450.0	135.0	778.0	1,061.0	530.0	74.0	690.0	660.0	2,392.0
MAXIMUM		5,300.0	1,700.0	8,500.0	79,000.0	44,000.0	180,000.0	77,000.0	397,600.0	250,000.0	260,000.0	67,000.0	86,000.0	103,000.0	99,000.0	74,000.0	9,100.0	76,000.0	1,024,100.0
AVERAGE		1,248.6	381.0	1,834.8	9,061.4	6,490.6	21,440.7	13,674.2	42,329.4	44,845.5	35,251.0	9,185.0	23,277.0	22,744.6	21,564.0	4,859.3	4,895.0	16,570.4	139,714.0
Screening Levels 1994		210.0	67.0	64.0	63.0	64.0	320.0	130.0	610.0	630.0	430.0	450.0	670.0	800.0	680.0	69.0	120.0	540.0	1,800.0
Screening Levels 1997		2,100.0	670.0	560.0	500.0	540.0	1,500.0	960.0	5,200.0	1,700.0	2,600.0	1,300.0	1,400.0	3,200.0	1,600.0	600.0	230.0	670.0	12,000.0

036
37

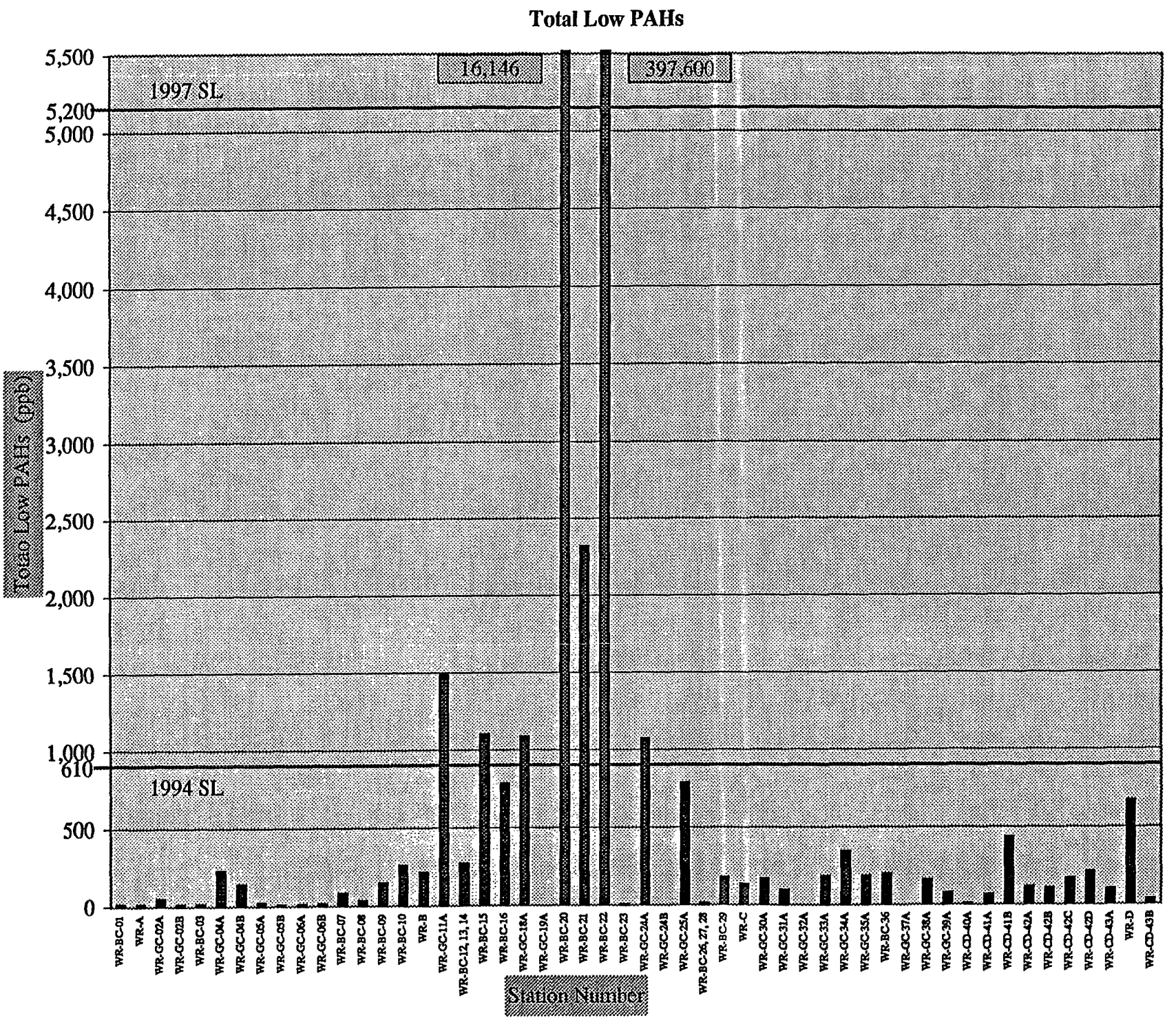
Total High PAHs




Total High PAHs
61,090
1,024,100
13,000
12,000
11,000
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,800
1,000
0
1997 SL
1994 SL
Total High PAHs (ppb)
WR-BC-01
WR-A
WR-GC-02A
WR-GC-02B
WR-BC-03
WR-GC-04A
WR-GC-04B
WR-GC-05A
WR-GC-05B
WR-GC-06A
WR-GC-06B
WR-BC-07
WR-BC-08
WR-BC-09
WR-BC-10
WR-B
WR-GC-11A
WR-BC-12, 13, 14
WR-BC-15
WR-BC-16
WR-GC-18A
WR-GC-19A
WR-BC-20
WR-BC-21
WR-BC-22
WR-BC-23
WR-GC-24A
WR-GC-24B
WR-GC-25A
WR-BC-26, 27, 28
WR-BC-29
WR-C
WR-GC-30A
WR-GC-31A
WR-GC-32A
WR-GC-33A
WR-GC-34A
WR-GC-35A
WR-BC-36
WR-GC-37A
WR-GC-38A
WR-GC-39A
WR-CD-40A
WR-CD-41A
WR-CD-41B
WR-CD-42A
WR-CD-42B
WR-CD-42C
WR-CD-42D
WR-CD-43A
WR-D
WR-CD-43B
Station Number

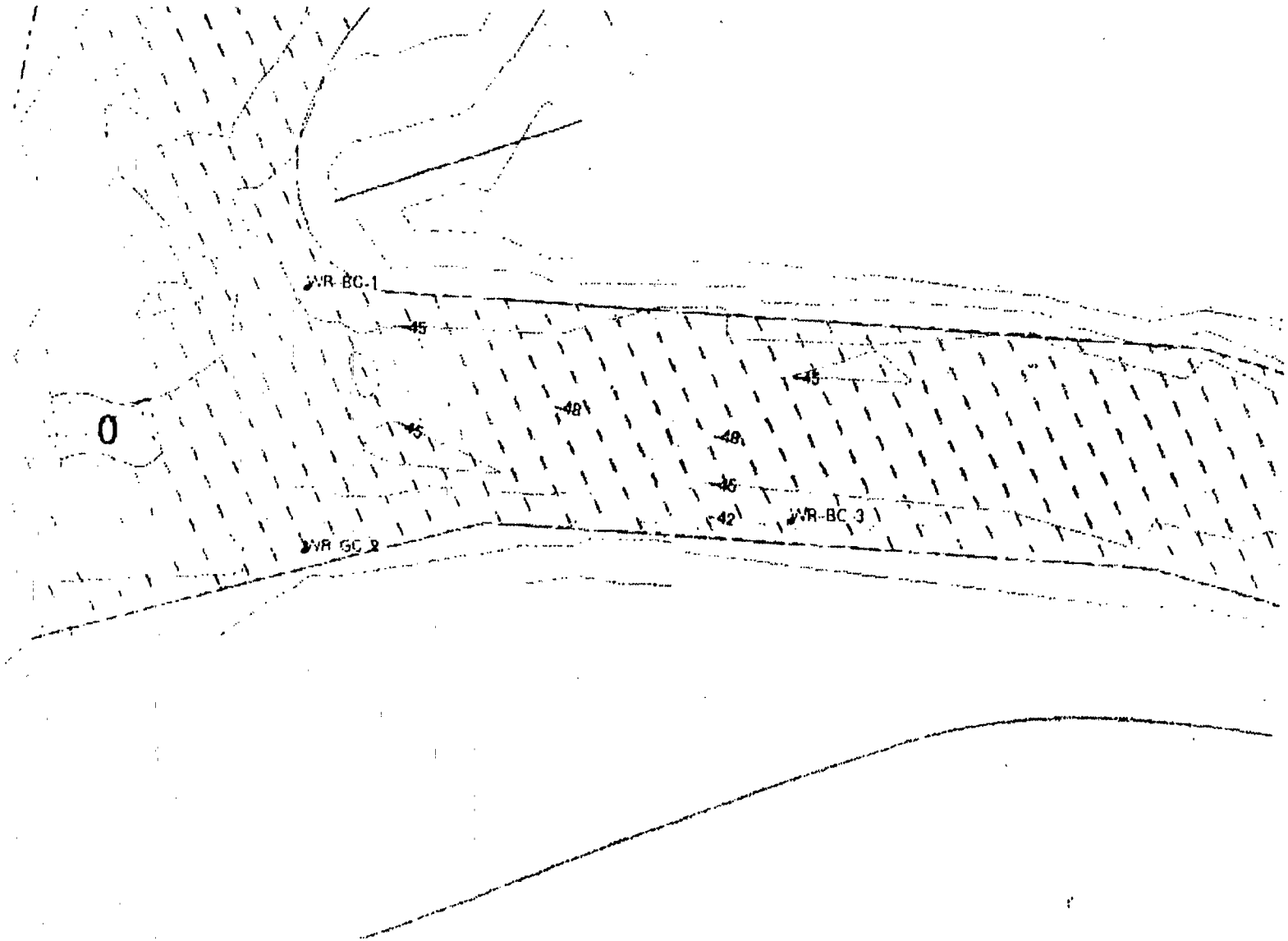

Total Low PAHs
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
Totao Low PAHs (ppb)
397,600
16,146
WR-BC-01
WR-GC-02A
WR-BC-03
WR-GC-04B
WR-GC-05B
WR-GC-06B
WR-BC-08
WR-BC-10
WR-GC-11A
WR-BC-15
WR-GC-18A
WR-BC-20
WR-BC-22
WR-GC-24A
WR-GC-25A
WR-BC-29
WR-GC-30A
WR-GC-32A
WR-GC-34A
WR-BC-36
WR-GC-38A
WR-CD-40A
WR-CD-41B
WR-CD-42B
WR-CD-42D
WR-D
Station Number

2039

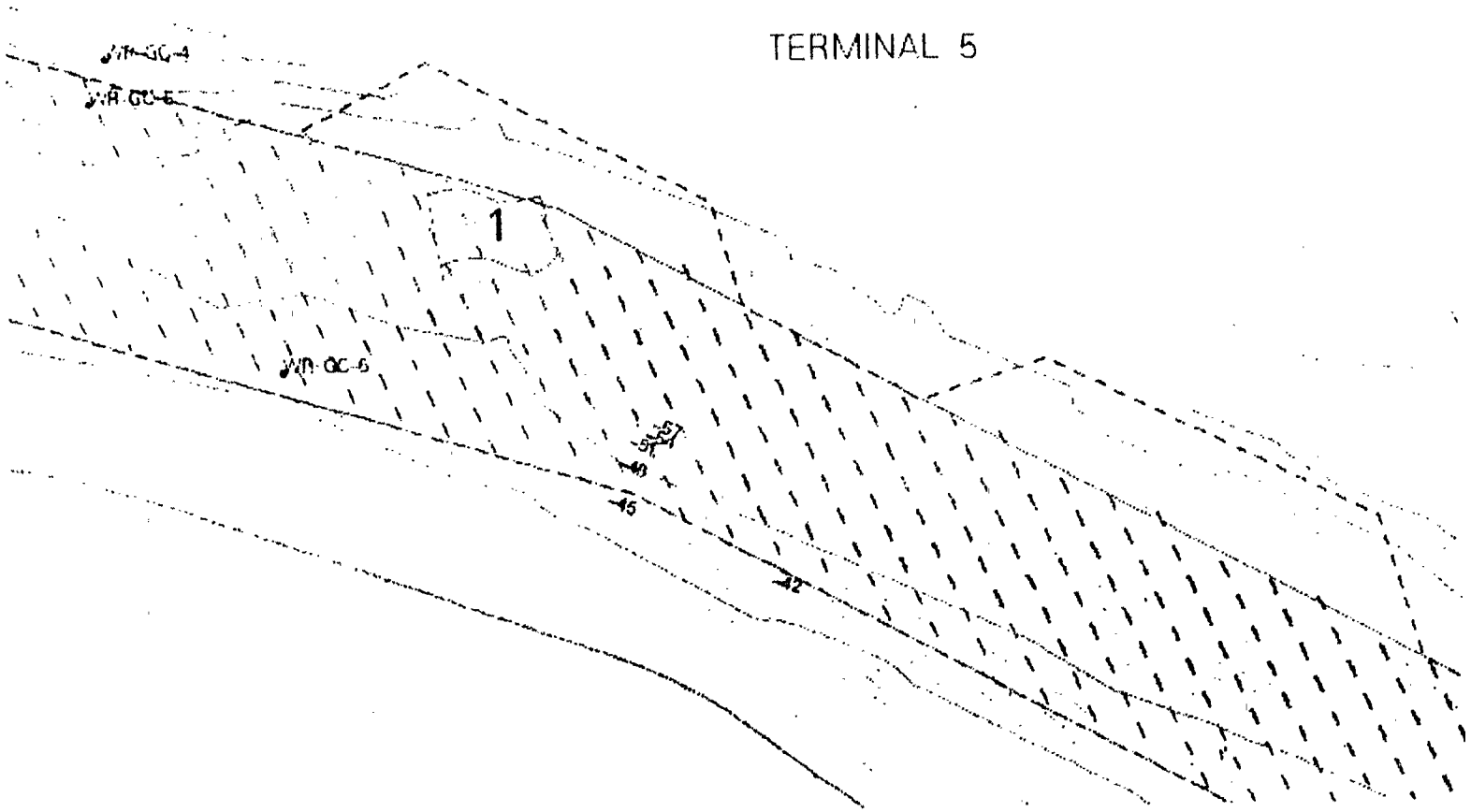

Total Low PAHs
Total Low PAHs (ppb)
5,500
5,200
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
610
500
0
1997 SL
1994 SL
16,146
397,600
WR-BC-01
WR-A
WR-GC-02A
WR-GC-02B
WR-BC-03
WR-GC-04A
WR-GC-04B
WR-GC-05A
WR-GC-05B
WR-GC-06A
WR-GC-06B
WR-BC-07
WR-BC-08
WR-BC-09
WR-BC-10
WR-B
WR-GC-11A
WR-BC-12, 13, 14
WR-BC-15
WR-BC-16
WR-GC-18A
WR-GC-19A
WR-BC-20
WR-BC-21
WR-BC-22
WR-BC-23
WR-GC-24A
WR-GC-24B
WR-GC-25A
WR-BC-26, 27, 28
WR-BC-29
WR-C
WR-GC-30A
WR-GC-31A
WR-GC-32A
WR-GC-33A
WR-GC-34A
WR-GC-35A
WR-BC-36
WR-GC-37A
WR-GC-38A
WR-GC-39A
WR-CD-40A
WR-CD-41A
WR-CD-41B
WR-CD-42A
WR-CD-42B
WR-CD-42C
WR-CD-42D
WR-CD-43A
WR-D
WR-CD-43B
Station Number

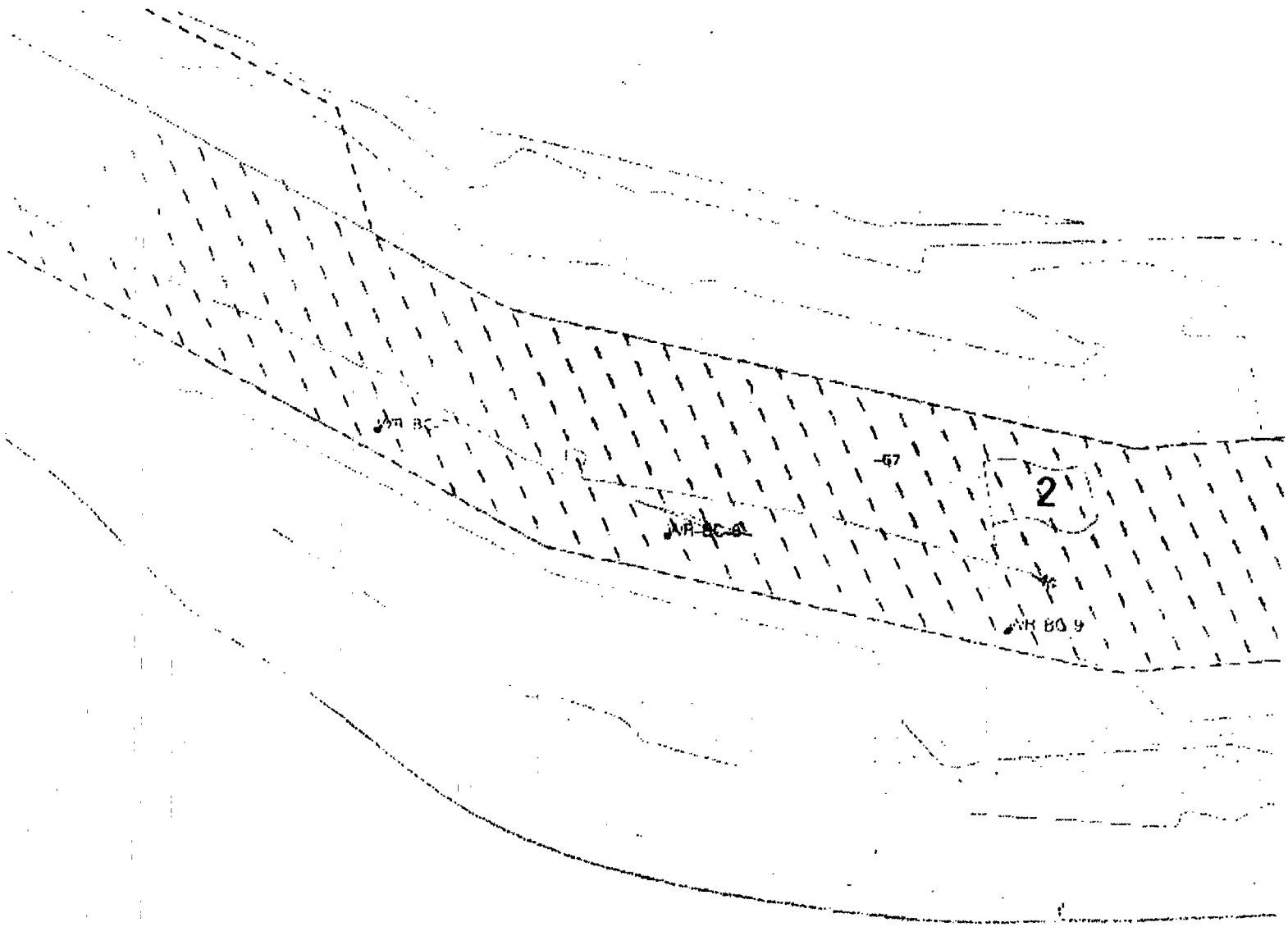
Willamette River Excellencies of Screening Levels

Site	RM	METALS				PESTICIDES		TOTAL PCBs	PAHS	TBT	SL Exceedances
		Cd	Pb	Hg	Zn	DIEL-DREN	TOTAL DDT				1994 or 1997
WR-BC-01	0.10										
WR-A	0.10										
WR-GC-02A	0.10								■		1X
WR-GC-02B	0.10										
WR-BC-03	0.40										
WR-GC-04A	0.80		■		■		■		■		3X1X
WR-GC-04B	0.80		■				■				1X1X
WR-GC-05A	0.80										
WR-GC-05B	0.80										
WR-GC-06A	0.95										
WR-GC-06B	0.95										
WR-BC-07	1.60								■		1X
WR-BC-08	1.70										
WR-BC-09	2.05								■		1X
WR-BC-10	2.45								■		1X
WR-B	2.45								■		1X
WR-GC-11A	2.90								■		1X
WR-BC-12, 13, 14	3.40								■		1X
WR-BC-15	3.80								■		1X
WR-BC-16	4.10								■		1X
WR-GC-18A	5.10										
WR-GC-19A	5.10										
WR-BC-20	5.15								■		1X
WR-BC-21	5.90						■		■	■	1X2X
WR-BC-22	6.20								■		1X
WR-BC-23	6.50									■	1X
WR-GC-24A	6.70						■		■		1X1X
WR-GC-24B	6.70										
WR-GC-25A	6.70						■		■		1X1X
WR-BC-26, 27, 28	6.90										
WR-BC-29	7.50						■				1X
WR-C	7.50						■				1X
WR-GC-30A	8.50										
WR-GC-31A	8.90										
WR-GC-32A	10.00										
WR-GC-33A	10.10				■						1X
WR-GC-34A	10.00								■		1X
WR-GC-35A	10.10				■		■				1X1X
WR-BC-36	10.30				■						1X
WR-GC-37A	11.10										
WR-GC-38A	11.20										
WR-GC-39A	11.65				■						1X
WR-CD-40A	11.30					■	■				2X
WR-CD-41A	11.35										
WR-CD-41B	11.35										
WR-CD-42A	11.50										
WR-CD-42B	11.50										
WR-CD-42C	11.50			■	■			■			1X1X
WR-CD-42D	11.50			■	■						2X
WR-CD-43A	11.55	■	■								1X1X
WR-D	11.55								■		1X
WR-CD-43B	11.55										


VR-BC-1
45
45
48
45
48
46
42
VR-BC-3
VR-BC-2
0

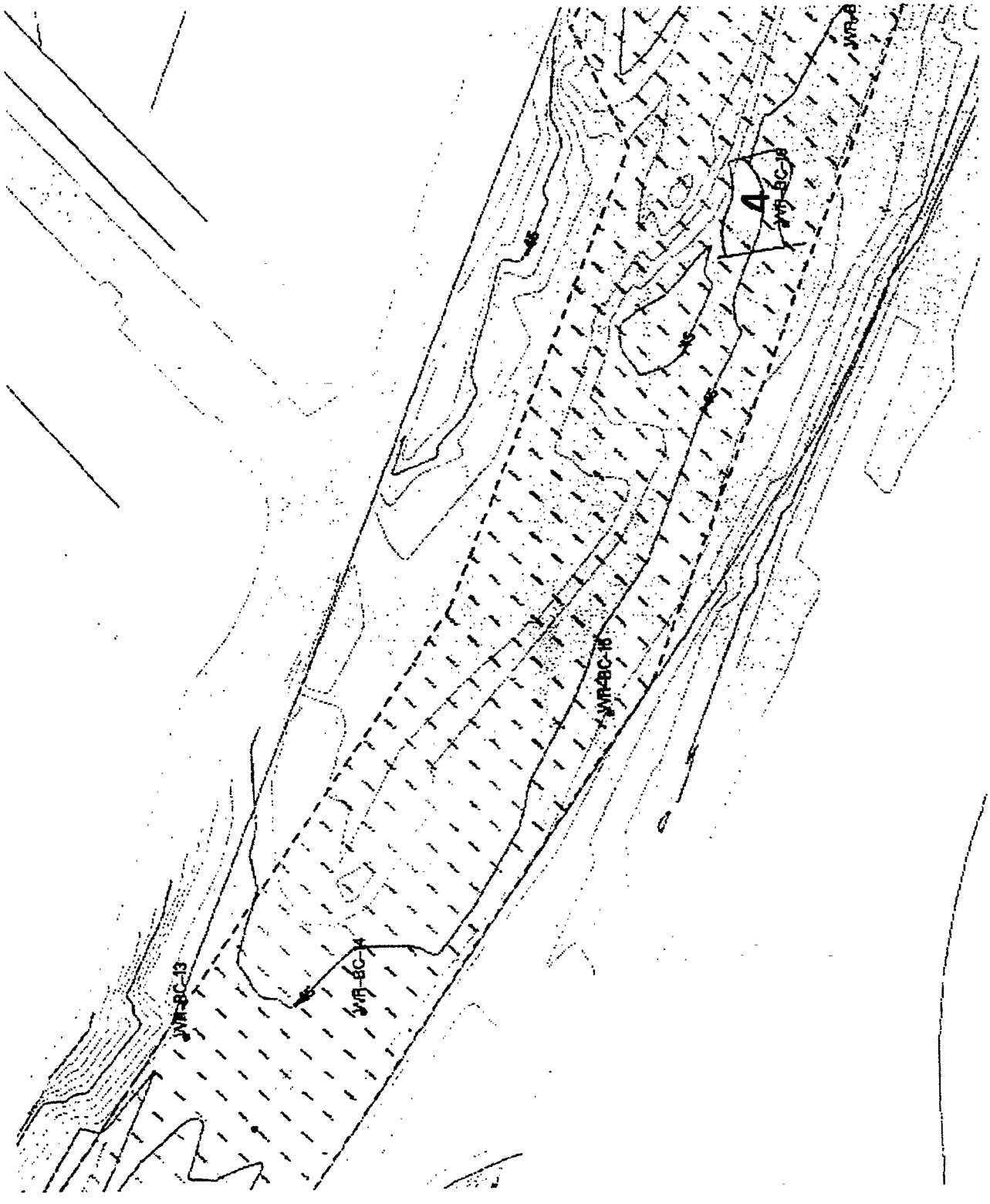
TERMINAL 5

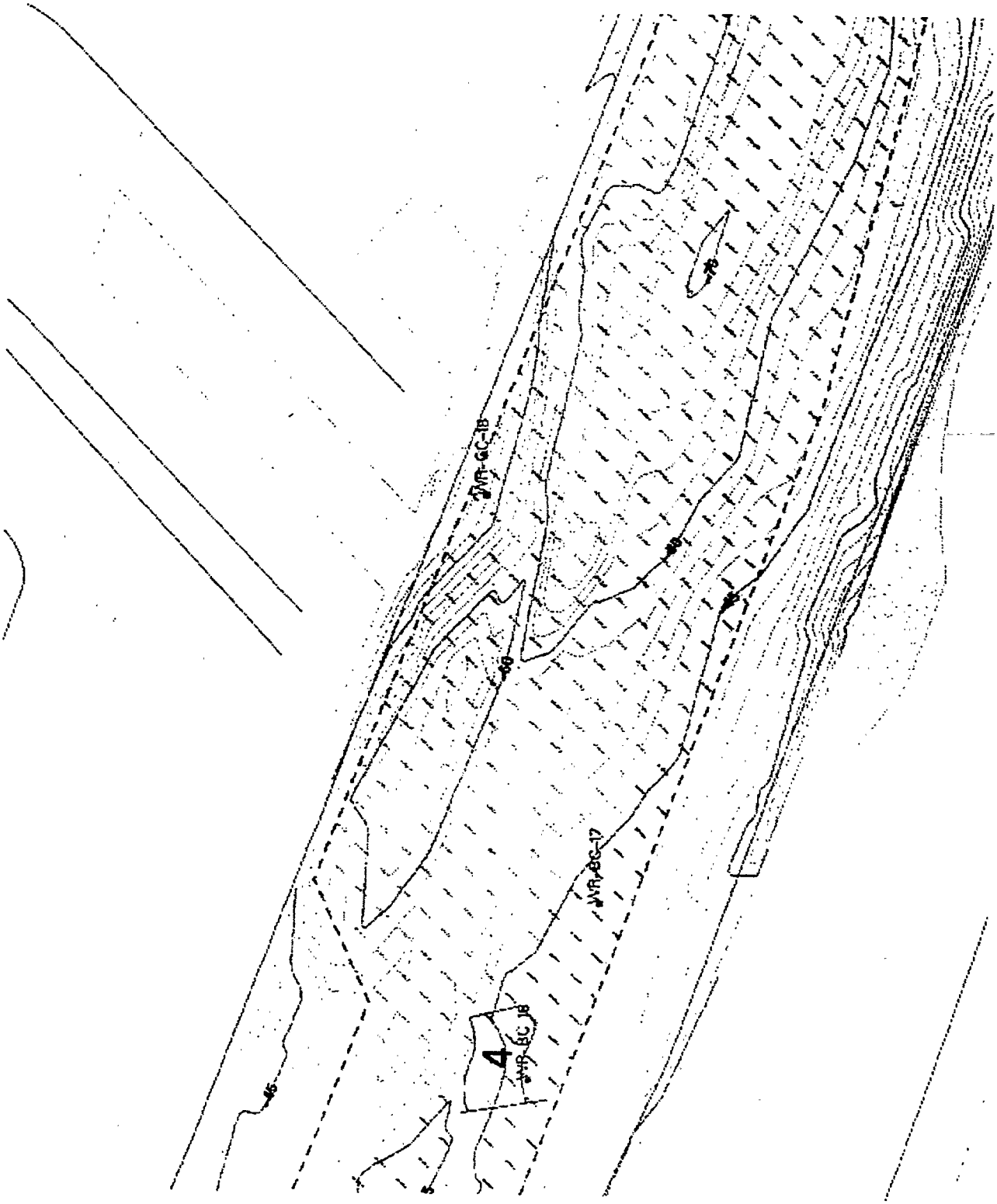


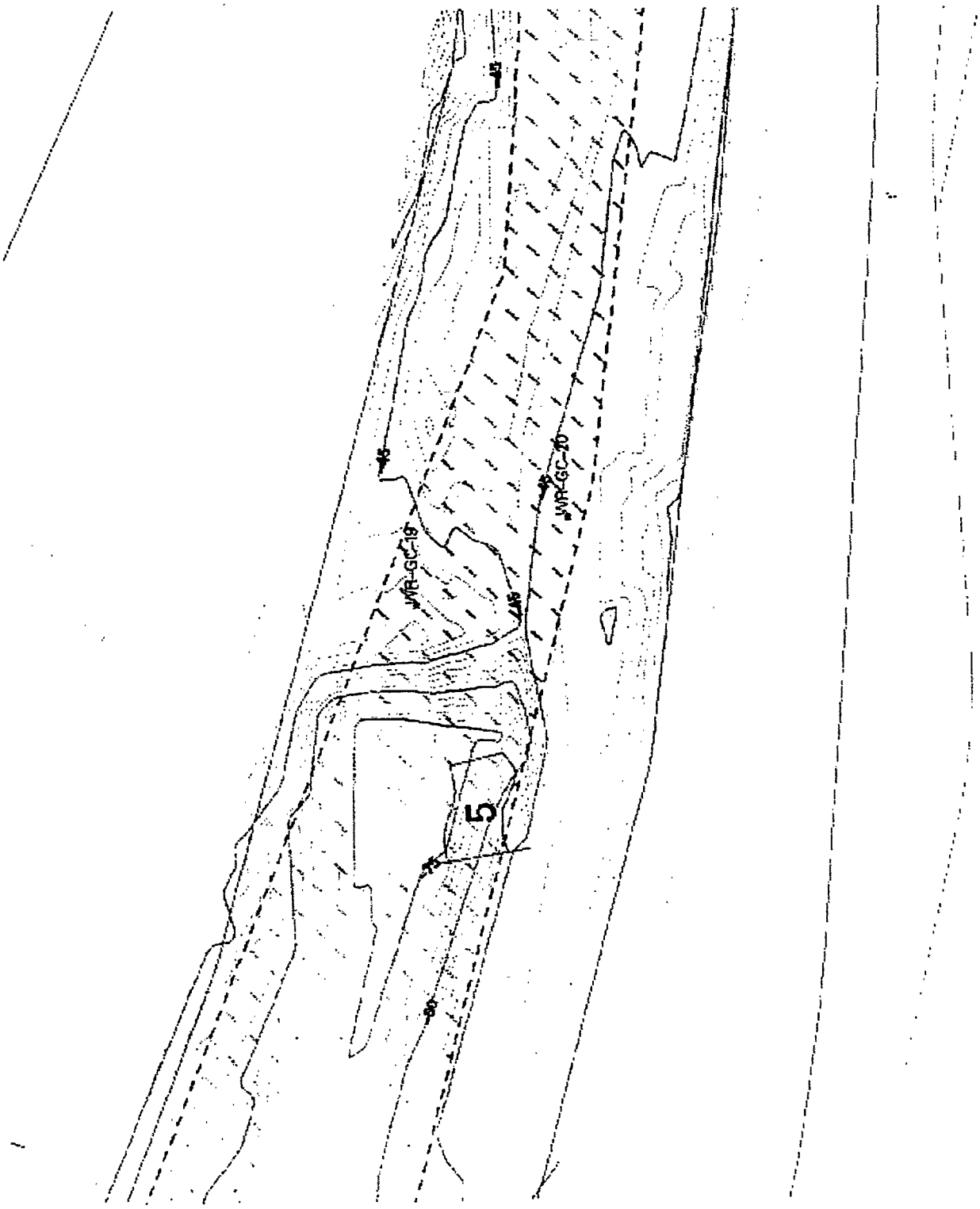

2

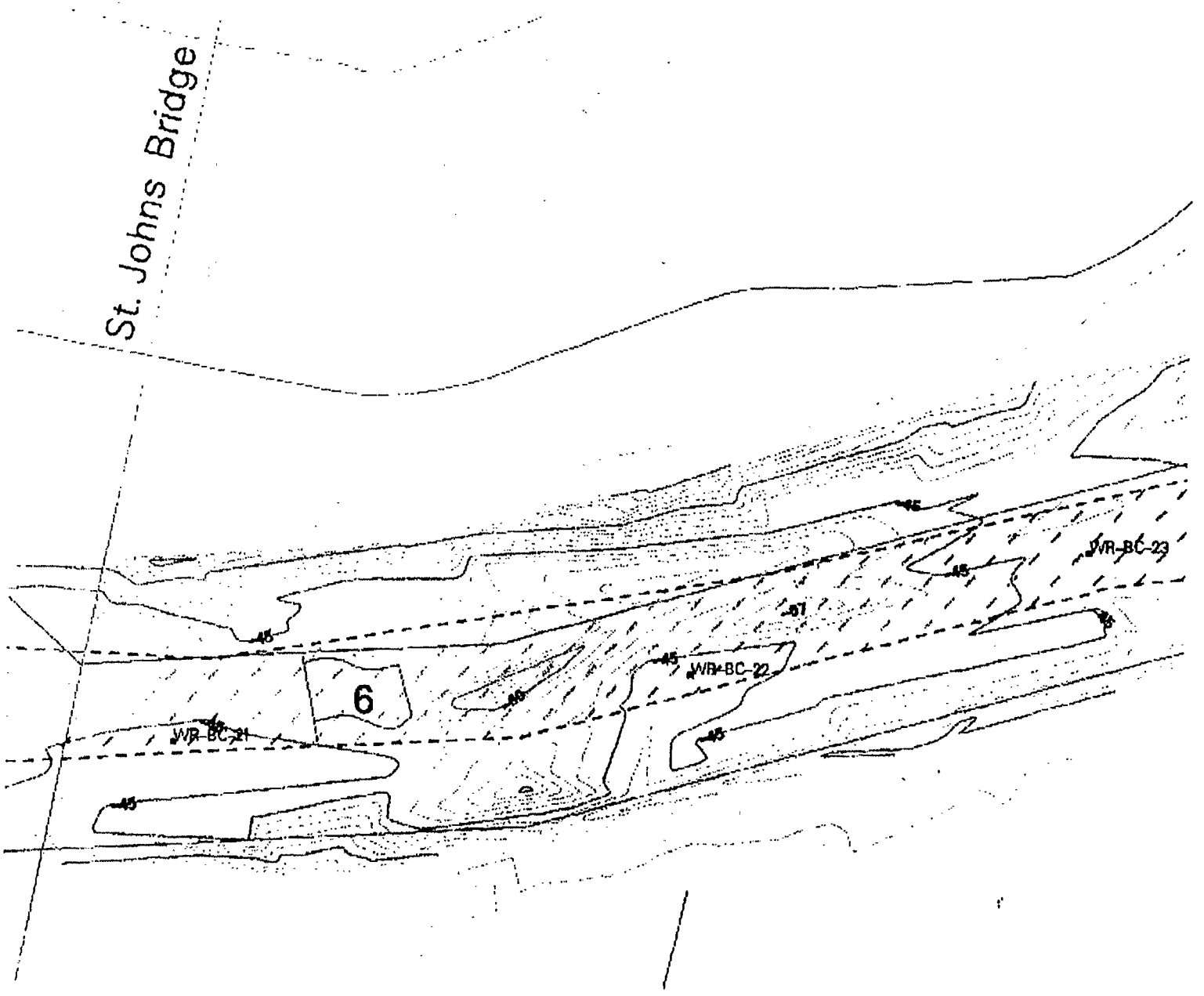
JWR-BC-12
JWR-BC-11
3

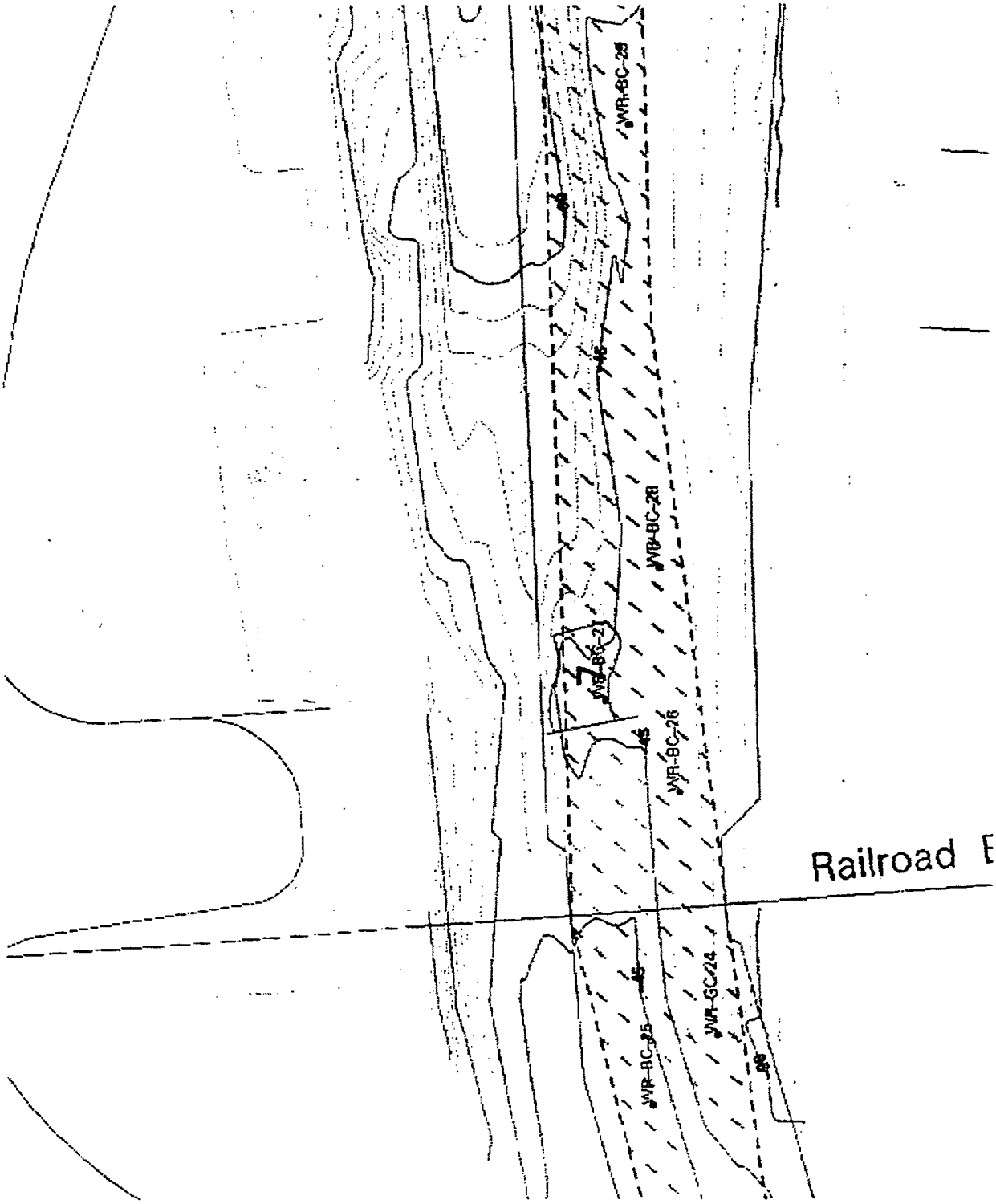
WR-BC-14
WR-BC-13
WR-BC-12
WR-BC-11
3

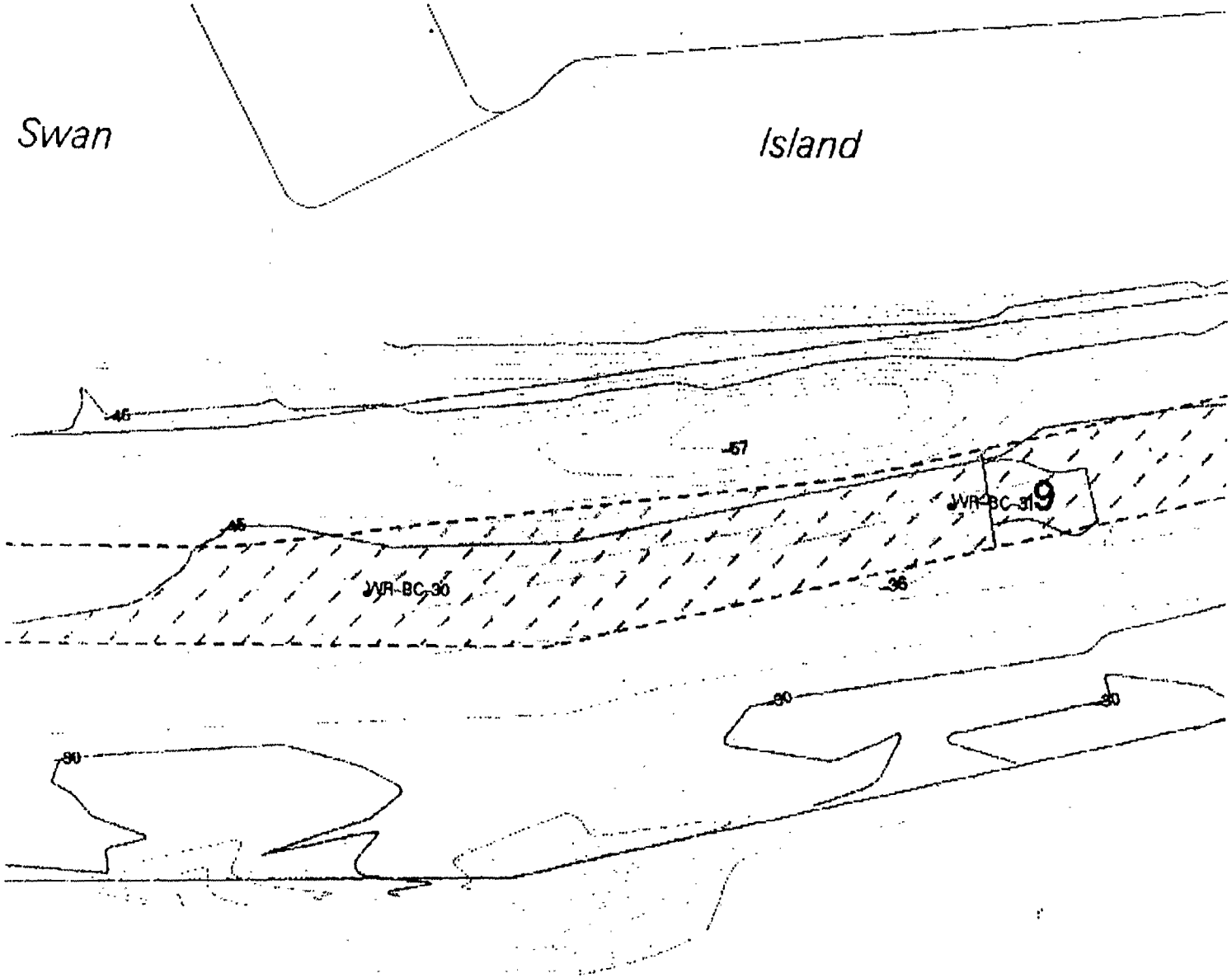

WR-BC-13
WR-BC-14
WR-BC-15
WR-BC-16
WR-BC-18
4

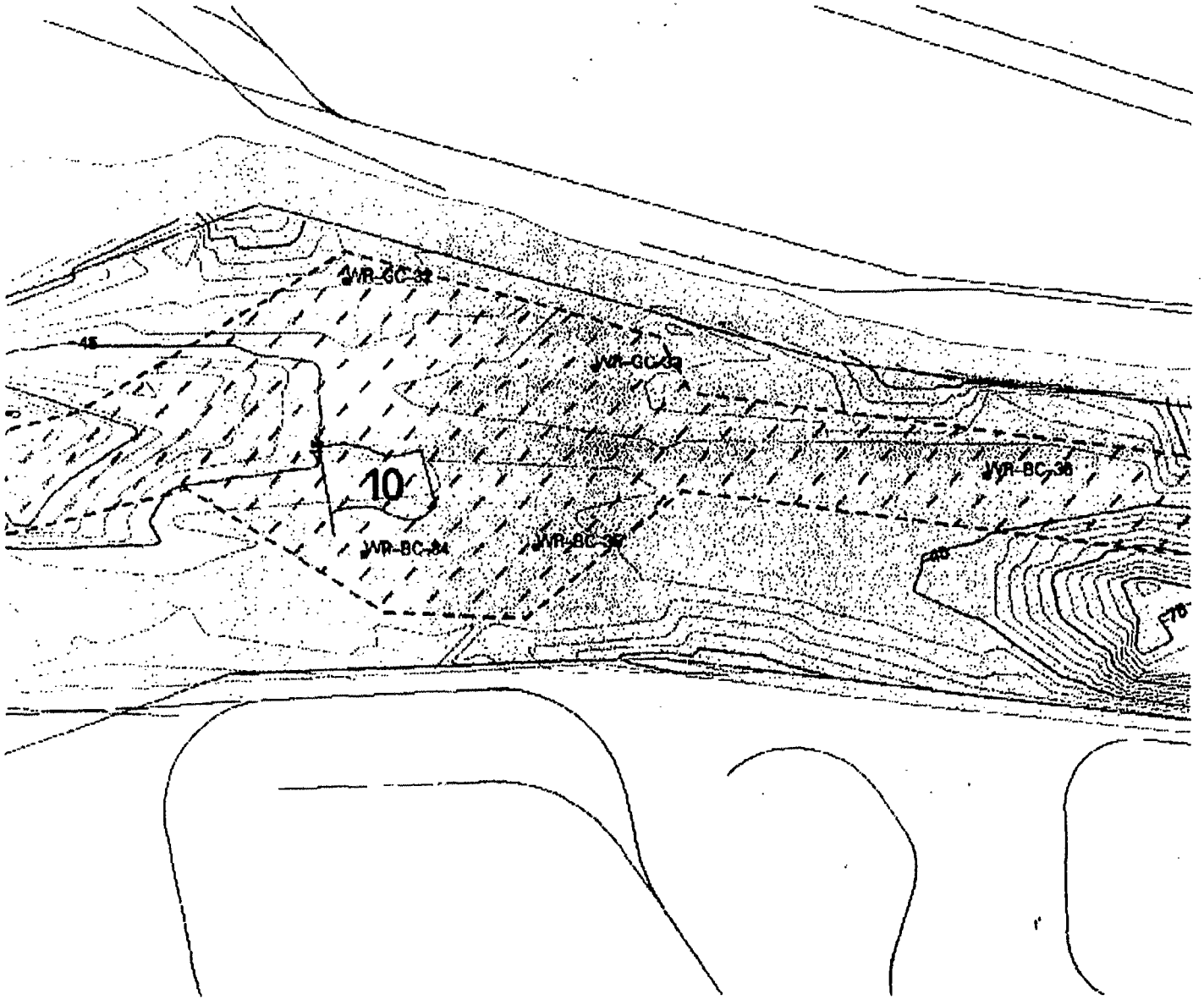

MW-GC-18
MW-BC-17
MW-BC-18
4

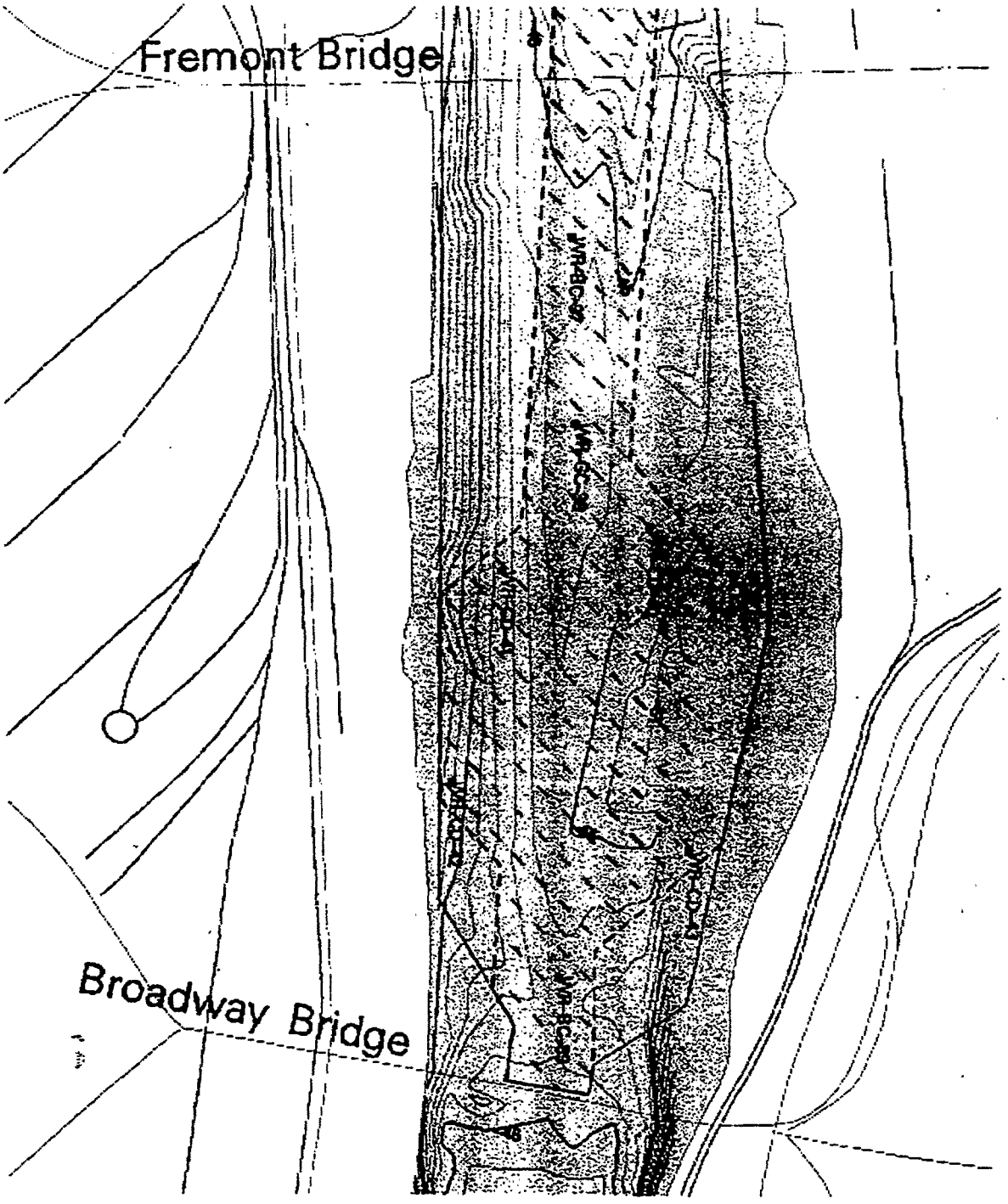

WR-GC-19
WR-GC-20
5


St. Johns Bridge
6
WR-BC-21
WR-BC-22
WR-BC-23
45
45
45
45
45
45
45
45


WR-BC-29
WR-BC-28
WR-BC-27
WR-BC-26
WR-BC-25
WR-GC-24
Railroad


Swan
Island
45
57
45
JVR-BC-30
JVR-BC-31
9
36
90
90
90


WR-GC-32
WR-GC-33
WR-BC-36
WR-BC-34
WR-BC-35
10
45
45
75


Fremont Bridge
Broadway Bridge