



United States Department of the Interior

U.S. GEOLOGICAL SURVEY

FLORIDA-CARIBBEAN SCIENCE CENTER

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Gainesville, FL 32653

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Mr. Richard Bryant
National Park Service
Timucuan Ecological and Historic Preserve
13165 Mt. Pleasant Road
Jacksonville, FL 32225

25 September 2002

Dear Richard,

Please find enclosed a copy of the data and analysis files for the project "A Comparative Evaluation of Physical and Biological Habitat Parameters at the mouths of open and closed tidal creeks in the Timucuan Preserve" (TIMU-N-028), components, 2) Heavy metals and organics (PAH) analysis of sediments and 4) Bioaccumulation of metals and organics in oysters that includes:

- 1) First draft report 1999 (hardcopy only)
- 2) PAH and heavy metals data for oysters (hard copy and Excel files on CD)
- 3) PAH and heavy metals data for sediments (hard copy and Excel files on CD)

Sandra has done substantial work and it is disappointing that we could not complete the analysis and provide discussion and recommendations. Perhaps you can work directly with Sandra to obtain a synthesis of these results.

With regards,

George D. Dennis III, Ph.D.
Fishery Biologist
george_dennis@usgs.gov

CONTAMINANTS IN SEDIMENT TIMUCUAN PRESERVE

Several years ago, the NPS asked the USGS-BRD to examine the amount of contaminants in the sediment adjacent to Heckscher Drive. This was a portion of a research project to make recommendations about re-opening the creeks that had been blocked by the construction of Heckscher Drive. Hannah Mills Creek was completely blocked and Cedar Point Creek had a single small (36 inch) culvert connecting it with the St. Johns River. Prior to the roadway construction in the 1920's, both creeks were open to the St. Johns River.

One consideration of reestablishing a connection for these two creeks was the re-mobilization of sediment that had built up in the ends (former mouths) of these now closed creeks. This abundant sediment would have received decades of run-off from the roadway and may have large quantities of heavy metals and polynuclear aromatic hydrocarbons (PAHs) in the mud. The heavy metals and PAHs could have come from fuel residue (especially lead, an additive to gasoline prior the 1980s) and transportation of various industrial products transported along Heckscher Drive. In addition, there are several industrial sources of heavy metals and PAHs (as a bi-product or waste product) in the immediate area of the Preserve.

One of the goals of the USGS-BRD research was to determine if sediments and oysters adjacent to Heckscher Drive had larger quantities of contaminants than those sediments and oysters further away from the roadway. Also, did sediment and oyster samples taken closer to the industrial sites (shipyards, power plants, etc.) contain higher levels of metals and PAH than samples taken at more distant locations?

Sandra Fox, a graduate student of Dr. Clay Montague at the University of Florida and a contractor to the USGS, collected sediment from 12 locations and oysters from 17 sites. The sediment samples were collected during three seasons (spring, summer, fall) and the oysters were collected during the summer of 1998. The sediment sampling sites were concentrated within the area of Sisters Creek, Clapboard Creek, White Shell Bay and in the two closed creeks at varying distances from Heckscher Drive. The oyster sampling sites were the same sites as the sediment sites and also included sites in and near the Nassau River, Browns Creek, Fitzpatrick Creek and the Ft. George River. The oyster and sediment samples were tested for both PAHs and heavy metals at the City of Jacksonville Environmental Laboratory (Roger Bascomb, director) and at the University of Florida, Department of Environmental Engineering Sciences laboratory (Dr. Tim Townsend, director).

The results of the testing did not show that being adjacent to Heckscher Drive caused the sediment or oysters to have consistently higher levels of heavy metals or PAHs, although there was some evidence suggesting that levels of PAHs within the sediment were slightly higher immediately adjacent to the road in one of the two creeks (Hannah Mills

Creek). However, even though the site adjacent to the road in Hannah Mills Creek had higher PAHs than the other two sites in Hannah Mills, this site was not as contaminated as four other sites in the study. In Cedar Point Creek, the site furthest from the road had much higher PAHs than the two sites closest to the road, suggesting that the culvert under Heckscher Drive at Cedar Point Creek might be functioning to deliver contaminants further north into the creek. The highest values for PAHs in sediment were in the site located southeast of Sisters Creek (called "Sisters Dead-end") from an area adjacent to a spoil site east of the Atlantic Dry-dock operation. In general, it appears that the sites located in creeks that retained direct connection to the St. Johns River had higher PAH values than the sites in the creeks that were closed off by the causeways. The values for sediment contamination by heavy metals were much more difficult to interpret - no strong trends were apparent from the data.

The highest PAH concentration in oyster tissue, by a very large margin, came from the north end of Pumpkin Hill Creek but some nearby sites on the Nassau River were below detection level. Although there were no strong trends in the oyster heavy metal data, there were three sites that were consistently higher than most of the other sites for eight of the ten metals: Pumpkin Hill Creek, "Marker 67" (in the Intracoastal Water Way) and the site at the confluence between the Nassau River and the Intracoastal Water Way. Of particular concern, and perhaps warranting additional study, were the values for arsenic at these sites, which were an order of magnitude higher compared to the other fourteen sites.

Given the data from this study, the simple conclusion is that the blockage of Cedar Point Creek and Hannah Mills Creek by the causeways for Heckscher Drive did not create a large source of contaminated sediments that should be of concern to the National Park Service. (A concurrent study by another graduate student at the University of Florida quantified the amount of sediment collected and suggested that the source of these sediments was likely to have been local, from marsh bank collapse, rather than from the St. Johns River.) While construction of new bridges or culverts to "re-open" these two creeks may mobilize large quantities of sediment, these sediments are not a concentrated source of contaminants.

Additional research projects by the University of Florida have indicated that there may be additional factors to consider that may suggest that it is in the National Park Service's (the ecosystem's) best interest to keep these two creeks blocked by Heckscher Drive rather than reopening them to the St. Johns River. One study demonstrated that the areas adjacent to Heckscher Drive were not as heavily impacted by loss of marsh area in the last 50 years due to sea level rise as marsh area that is adjacent to creeks that are open to the St. Johns River suggesting that the causeways have acted to protect the marshes and have provided an ample source of sediments in the closed-off creek mouths. This information will be further explored in subsequent research.

summary prepared on October 15, 2002 by R. Bryant from information provided by Sandra Fox and USGS

Comments and suggested changes (in blue) completed and sent to R. Bryant on January 10, 2003 by S. Fox

Sandra Fox
135 13th St.
St. Augustine, FL 32080

Dr. Clay Montague
P.O. Box 116450
Department of Environmental Engineering Sciences
University of Florida,
Gainesville, FL 32611-6540

September 17, 2000

Re: Contract: 451051712 *USGS Comp Evaluation of Physical and Biological Habitat Parameters at the Mouths of Open and Closed Tidal Creeks.*

Dear Dr. Montague,

Enclosed are 2 copies (1 set for you, 2nd set for George Dennis) of the following:

- 1) excel file printouts (updated) – listing all data reports (raw data as provided by GC/MS and ICPOES) (hardcopy and on cd)
- 2) one GC/MS data report – missing from original package to Clay Montague (March, 2002) (hard copy and on cd, in excel file)
- 3) Draft report submitted to K. Sulak (1999) (Hardcopy only, digital version not available)
- 4) Tables, etc (hard copy and on cd):
 - a. Oyster size
 - b. PAHs in Oysters
 - c. Heavy metals in Oysters
 - d. Total PAHs in Sediment – Average by site
 - e. Total PAHs in Sediment – by site number (order)
 - f. Total PAHs in Sediment – in order of ug/kg
 - g. Total PAHs in Sediment – by side name (with statlets groups)
 - h. Heavy metals in Sediment – “raw” data
 - i. Heavy metals in Sediment – aluminum normalized
 - j. Sediment – heavy metals – aluminum regression
 - k. Raw data (excel worksheets) GC/MS (PAHs, PCBs) reports (*cd only*)
 - l. Raw data (excel worksheet) ICPOES (heavy metals) reports (*cd only*)
 - m. Selected references

- 5) Images (hardcopy and as jpgs on cd)
 - a. Oyster sampling sites – by number
 - b. Oyster sampling sites – by name
 - c. Oyster size
 - d. PAHs in oysters
 - e. Sediment sampling sites – by number
 - f. Sediment sampling sites – by name
 - g. PAHs in Sediment (average of all samples per site)

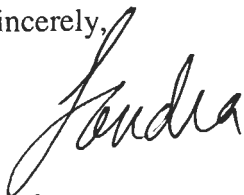
- 6) CD of 1, 2, 4 and 5 above.

With the box of data reports and cd with data files that I delivered to you on May 9, 2002, and the cd with "statlets" reports I sent this summer, I hope that we will now have met George's request of 3/13/2002 - "Provide copies of the raw data in paper and digital form, data analyses to date in digital form, and copy of rough draft of report."

I have sent a copy of this letter in advance to Dianne so that she can submit the invoice to USGS by the deadline.

Thanks for your help and guidance in preparing an easily decipherable "package" to USGS.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sandra".

Sandra

**Heavy Metals
in Sediment**

A: Open vs closed vs culvert
A': Creek
B: Position
C: Season

"RAW"
mg/kg

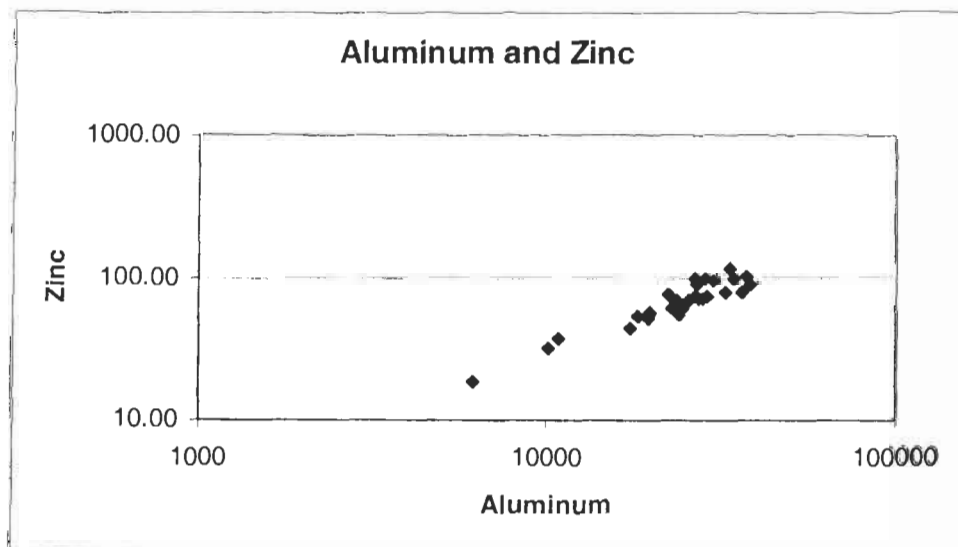
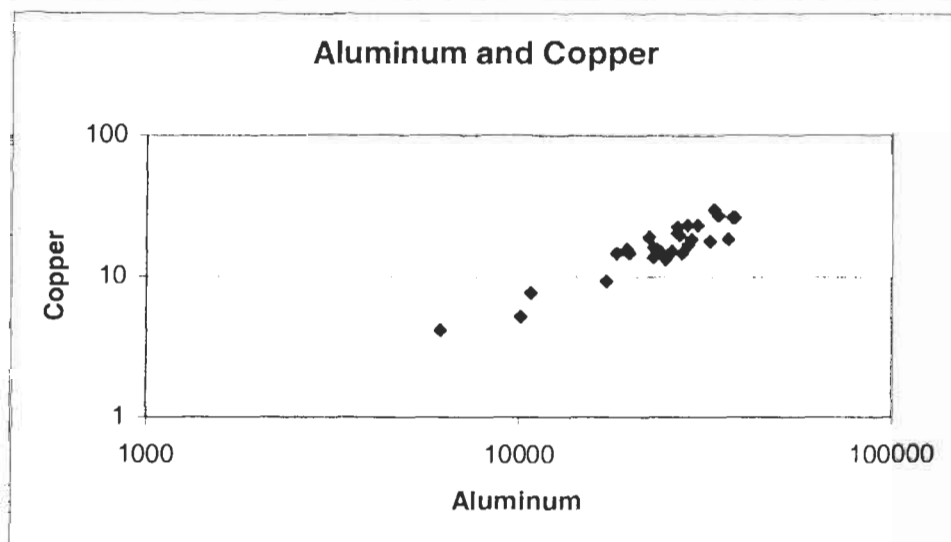
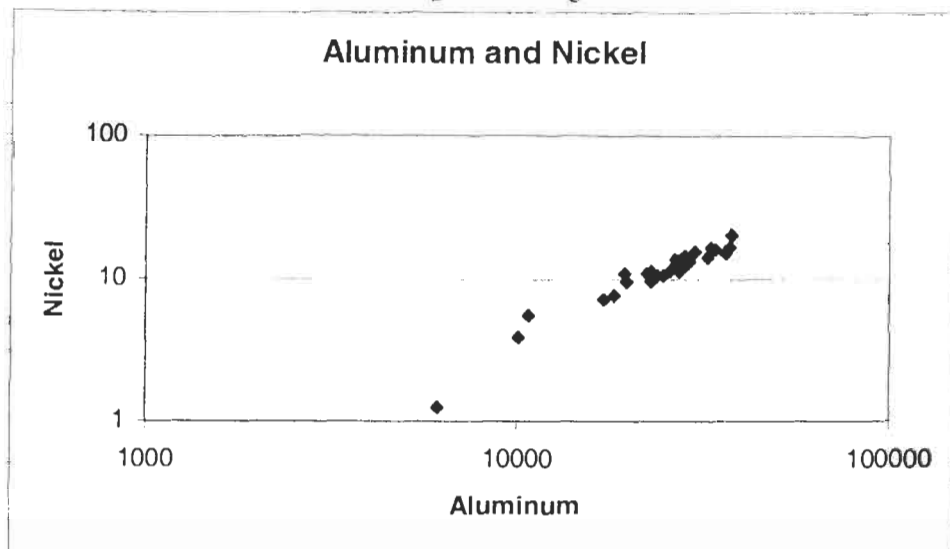
site no.	sample	A	A'	B	C	Al	Ni	Cu	Zn	As	Cd	Cr	Pb	Ba	Fe
1	19 LCPBD CRK 072198	3	4	6	1	28411.97	14.99	23.37	101.50	364.04	4.99	46.79	89.60	23.59	25584.16
1	20 LCPBD CRK 112198	3	4	6	2	30171.31	15.71	23.09	98.05	390.20	5.38	47.44	90.50	26.47	26307.64
2	25 CLBR 1 072098	3	4	5	1	22930.56	11.30	16.11	72.53	297.40	4.24	35.97	67.50	20.95	19454.64
2	26 CLBR 1 112198	3	4	5	2	19658.73	10.95	15.88	52.78	252.28	3.80	32.57	55.58	17.84	18945.46
3	27 CLBR 2 072098	3	4	6	1	34455.32	16.49	27.26	99.14	422.89	5.43	51.55	96.54	29.34	26881.88
3	28 CLBR 2 112198	3	4	6	2	27130.30	12.54	19.84	89.95	340.16	4.62	40.39	76.81	22.41	23278.56
4	10 CPC 0 072298	2	2	1	1	25796.09	11.53	15.15	69.41	321.79	3.84	38.23	71.51	20.31	20793.16
4	11 CPC 0 112198	2	2	1	2	28346.72	12.69	16.69	72.65	354.15	4.31	43.16	81.98	23.27	22163.97
5	12 CPC 50 072298	2	2	2	1	32776.96	14.19	18.04	79.91	408.20	4.78	48.03	85.08	25.04	25014.77
5	13 CPC 50 112198	2	2	2	2	38190.81	20.30	26.24	90.27	485.81	6.88	60.25	111.81	32.29	28373.70
6	14 CPC 100 072298	2	2	3	1	36669.63	15.28	18.65	80.18	455.68	5.25	51.23	91.21	30.61	26252.22
6	15 CPC 100 112198	2	2	3	2	17303.55	7.29	9.28	44.57	219.63	2.77	25.77	43.49	15.48	13638.05
4-6	8 CPC COMP 1	2	2	8	1	23179.60	9.62	13.74	62.32	288.86	3.50	33.38	59.81	19.36	18387.51
4-6	9 CPC COMP 2	2	2	8	1	24067.77	10.50	15.11	56.68	301.85	3.95	34.10	63.51	20.72	17896.03
7	2 HM 0 072398	1	1	1	1	27294.85	11.32	14.73	72.33	343.18	3.91	38.40	73.70	22.76	21888.04
7	3 HM 0 121198	1	1	1	2	19896.29	9.76	14.63	57.16	255.62	3.78	36.18	57.61	17.35	18731.20
8	4 HM 50 072298	1	1	2	1	10170.64	3.91	5.19	32.56	131.76	1.80	17.32	29.83	9.97	9725.16
8	5 HM 50 121198	1	1	2	2	10865.28	5.51	7.81	37.20	142.53	2.13	19.05	37.16	11.62	9604.67
9	6 HM 100 072398	1	1	3	1	18299.14	7.71	14.73	53.52	233.26	3.12	26.69	48.14	17.02	14848.53
9	7 HM 100 121198	1	1	3	2	6138.98	1.27	4.13	18.30	77.00	0.98	8.37	12.29	6.86	4878.37
7-9	1 HM COMP	1	1	8	1	24782.50	10.60	13.39	60.69	311.05	4.15	35.61	64.92	22.40	19097.25
10	16 SJR 1 072198	3	3	7	1	26881.19	12.57	20.61	75.30	342.74	4.73	45.85	86.55	25.59	20627.06
10	17 SJR 2 072198	3	3	7	1	23524.73	10.57	15.56	70.03	297.98	4.14	36.85	67.37	21.10	19296.38
10	18 SJR 121198	3	3	7	2	29127.47	13.30	18.56	75.17	373.55	4.79	45.29	79.45	27.72	22468.18
11	23 SISTERS DE 072198	3	5	6	1	33436.27	16.65	30.38	116.35	424.42	5.62	58.32	97.24	27.56	27752.27
11	24 SISTERS DE 112298	3	5	6	2	37374.88	16.57	26.48	104.15	471.29	5.30	57.88	102.55	31.80	27176.58
12	21 SISTERS MOUTH 072198	3	5	4	1	26662.43	13.73	22.77	101.22	346.39	5.01	43.87	81.83	23.69	23508.38
12	22 SISTERS MOUTH 112298	3	5	4	2	22533.05	11.11	18.97	76.68	291.94	4.06	40.96	77.00	21.75	19258.00

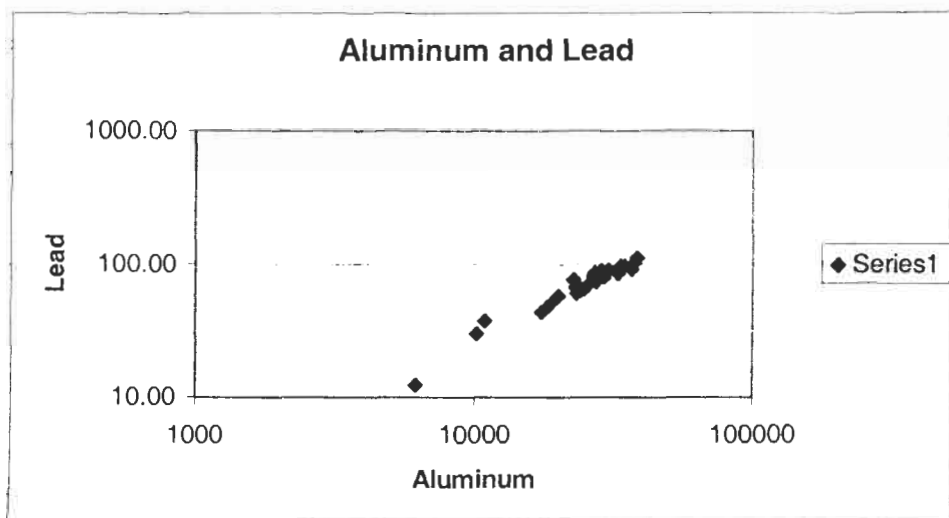
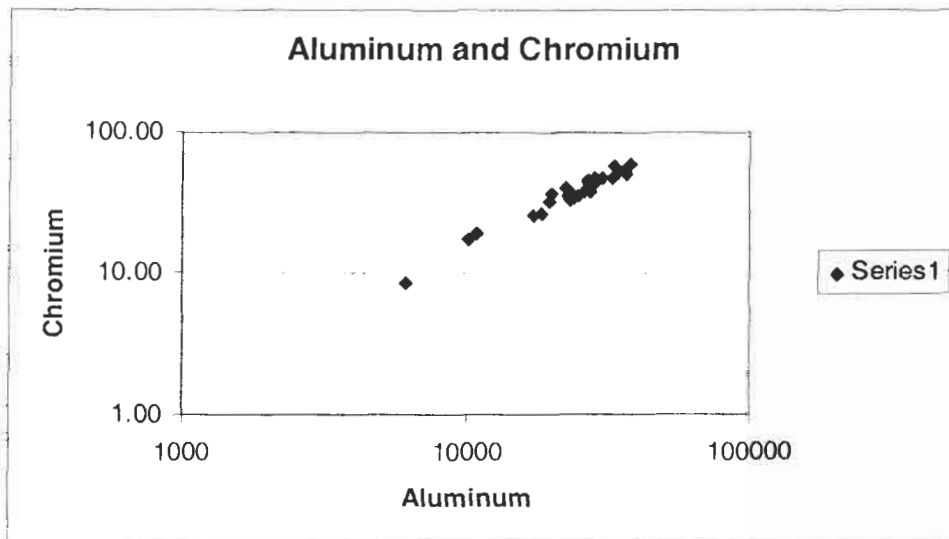
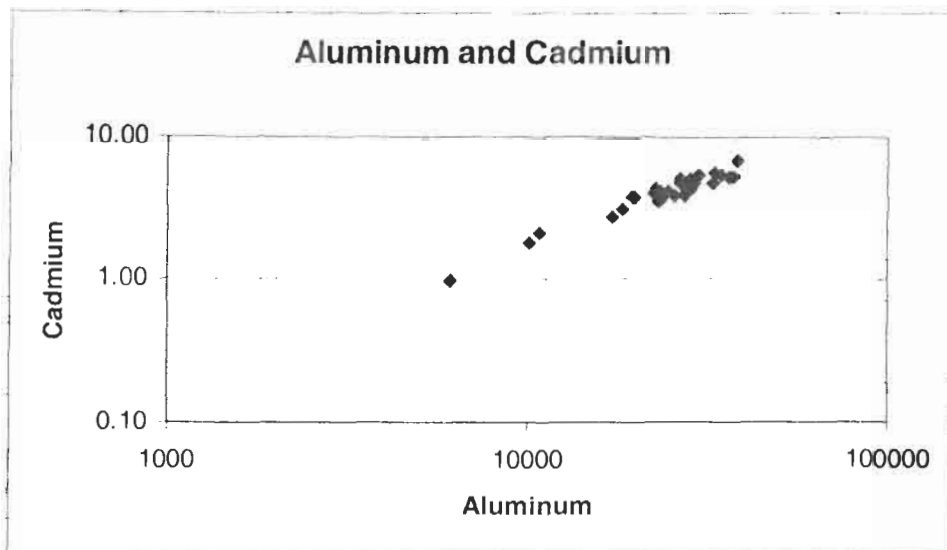
Heavy Metals in Sediment

Aluminum
normalized

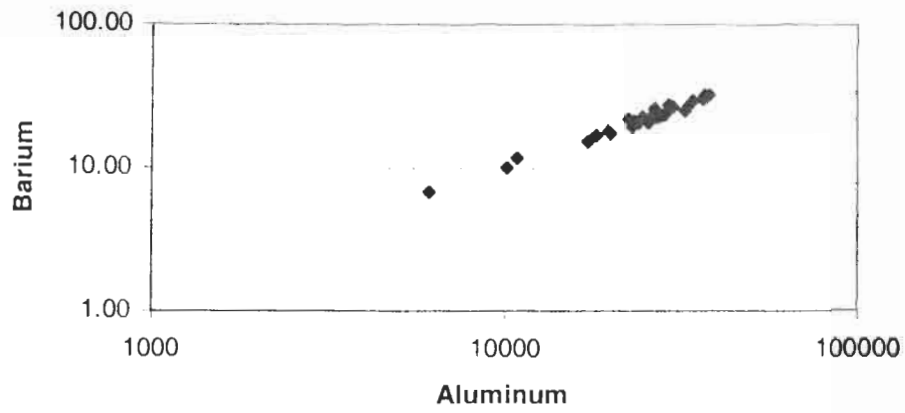
site no.	sample	Ni	Cu	Zn	Cd	Cr	Pb	Ba	Fe
1	LCPBD CRK 072198	0.000528	0.000822	1.558313	0.000176	0.001647	0.003153	0.00083	0.900471
1	LCPBD CRK 112198	0.000521	0.000765	1.469838	0.000178	0.001572	0.002999	0.000877	0.871942
2	CLBR 1 072098	0.000493	0.000702	1.424785	0.000185	0.001569	0.002944	0.000914	0.848416
2	CLBR 1 112198	0.000557	0.000808	1.451128	0.000193	0.001657	0.002827	0.000907	0.963718
3	CLBR 2 112198	0.000462	0.000731	1.581962	0.00017	0.001489	0.002831	0.000826	0.858028
3	CLBR 2 072098	0.000478	0.000791	1.653828	0.000158	0.001496	0.002802	0.000851	0.780195
4	HM 0 121198	0.00049	0.000735	1.499344	0.00019	0.001819	0.002896	0.000872	0.941441
4	CPC 0 072298	0.000447	0.000587	1.314123	0.000149	0.001482	0.002772	0.000787	0.806059
4	CPC 0 112198	0.000448	0.000589	1.314914	0.000152	0.001522	0.002892	0.000821	0.781888
5	CPC 50 072298	0.000433	0.00055	1.270552	0.000146	0.001465	0.002596	0.000764	0.763182
5	CPC 50 112198	0.000531	0.000687	1.292742	0.00018	0.001578	0.002928	0.000845	0.742946
6	CPC 100 112198	0.000421	0.000536	1.273931	0.00016	0.001489	0.002513	0.000895	0.788165
6	CPC 100 072298	0.000417	0.000509	1.220221	0.000143	0.001397	0.002487	0.000835	0.715912
4-6	CPC COMP 1	0.000415	0.000593	1.427878	0.000151	0.00144	0.00258	0.000835	0.793262
4-6	CPC COMP 2	0.000436	0.000628	1.438756	0.000164	0.001417	0.002639	0.000861	0.743568
7	HM 0 072398	0.000415	0.000539	1.301075	0.000143	0.001407	0.0027	0.000834	0.801911
8	HM 50 072298	0.000385	0.00051	1.326255	0.000177	0.001703	0.002933	0.00098	0.956199
8	HM 50 121198	0.000507	0.000719	1.419003	0.000196	0.001753	0.00342	0.001069	0.883978
9	HM 100 072398	0.000421	0.000805	1.910132	0.000171	0.001458	0.002631	0.00093	0.811433
9	HM 100 121198	0.000207	0.000673	3.244444	0.00016	0.001364	0.002003	0.001118	0.794655
7-9	HM COMP	0.000428	0.00054	1.262388	0.000168	0.001437	0.00262	0.000904	0.770594
10	SJR 2 072198	0.000449	0.000661	1.472362	0.000176	0.001566	0.002864	0.000897	0.82026
10	SJR 1 072198	0.000468	0.000767	1.639108	0.000176	0.001706	0.00322	0.000952	0.767342
10	SJR 121198	0.000457	0.000637	1.395284	0.000164	0.001555	0.002728	0.000952	0.771374
11	SISTERS DE 072198	0.000498	0.000909	1.824561	0.000168	0.001744	0.002908	0.000824	0.830005
11	SISTERS DE 112298	0.000443	0.000708	1.597721	0.000142	0.001549	0.002744	0.000851	0.727135
12	SISTERS MOUTH 072198	0.000515	0.000854	1.658565	0.000188	0.001645	0.003069	0.000889	0.881704
12	SISTERS MOUTH 112298	0.000493	0.000842	1.70683	0.00018	0.001818	0.003417	0.000965	0.854656

SEDIMENT METALS: Aluminum – regression – log 10

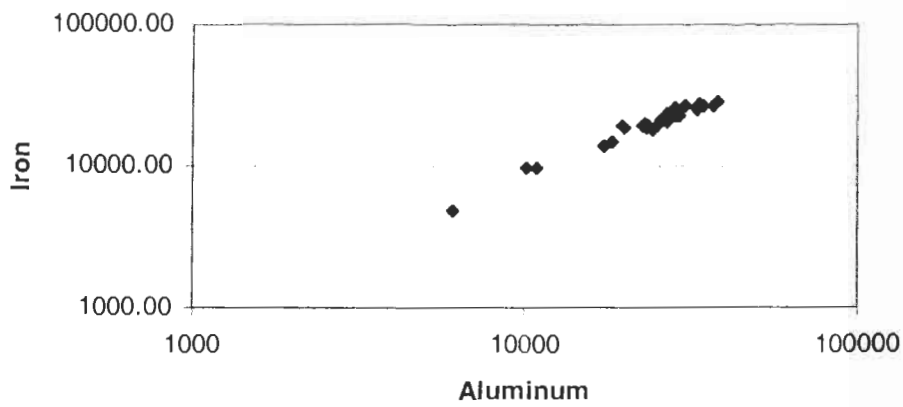




Aluminum and Barium



Aluminum and Iron



REPORTS_Metals

University of Florida Department of Environmental Engineering Sciences Environmental Chemistry Laboratory
 Dr. Timothy Townsend, Director

Matrix	Site	season	field dup	Report	Sample ID
na	na	na		AutoSampler Report	
na	na	na		Method Detection Limits	
na	na	na		Standardization Report	STD1-Blank
na	na	na		Standardization Report	MIN5
na	na	na		Standardization Report	MET5
na	na	na		Analysis Report	2.5 PPM METALS
na	na	na		Analysis Report	100 PPM METALS
na	blank	na		Analysis Report	BLANK
na	blank	na		Analysis Report	BLANK 052698
na	blank	na		Analysis Report	BLANK MATRIX
Sediment	matrix spike	na		Analysis Report	MATRIX SPIKE
Oyster	matrix spike	na		Analysis Report	NASSAU/ICW SPIKE 1
Oyster	matrix spike	na		Analysis Report	NASSAU/ICW SPIKE 2
Oyster	Pumpkin Hill Creek	summer		Analysis Report	PUMPKIN HILL CK OYS
Oyster	Nassau / ICWW	summer		Analysis Report	NASSAU/ICW OYS
Oyster	Marker 67 / ICWW	summer		Analysis Report	MARKER 67 OYS
na	na	na		Standardization Report	STD1-Blank
na	na	na		Standardization Report	MIN5
na	na	na		Standardization Report	MET5
na	na	na		Analysis Report	2.5 PPM METALS
na	na	na		Analysis Report	100 PPM METALS
Oyster	Edward Creek	summer		Analysis Report	EDWARDS CRK OYS
Oyster	Simpson Creek / Ft. George River	summer		Analysis Report	SIMPSON CRK/FGR OYS
Oyster	Browns Creek	summer		Analysis Report	BROWNS CRK OYS
Oyster	Lofton Creek	summer		Analysis Report	LOFTON CRK OYS
Oyster	Garden Creek	summer		Analysis Report	GARDEN CRK OYS
Oyster	Fitzpatrick Creek	summer		Analysis Report	FITZPATRICK CRK OYS
Oyster	Nassau / Deese Creek	summer		Analysis Report	NASSAU/DEESE CRK OYS
Oyster	Alligator Creek	summer		Analysis Report	ALLIGATOR CRK OYS
Oyster	Skeet (ICWW)	summer		Analysis Report	SISTERS SKEET OYS
Oyster	Clapboard Creek	summer		Analysis Report	CLAPBOARD CK OYS
na	na	na		Standardization Report	STD1-Blank

Matrix	Site	season	field dup	Report	Sample ID
na	na	na		Standardization Report	MIN5
na	na	na		Standardization Report	METS
na	na	na		Analysis Report	2.5 PPM METALS
na	na	na		Analysis Report	100 PPM METALS
Oyster	Sisters Creek "Mouth"	summer		Analysis Report	SISTERS CRK MOUTH OY
Oyster	St. Johns River	summer		Analysis Report	SJR OYS
Oyster	Cedar Point Creek	summer		Analysis Report	CDAR PT CRK OYS
Oyster	Hannah Mills Creek	summer	1	Analysis Report	HANNAH MILLS CRK OYS
Oyster	Hannah Mills Creek	summer	2	Analysis Report	HANNAH MILL OYS DUP
Sediment	Hannah Mills Creek Composite	summer		Analysis Report	HM COMP
Sediment	Hannah Mills Creek 0	summer		Analysis Report	HM 0 072398
Sediment	Hannah Mills Creek 0	fall		Analysis Report	HM 0 121198
Sediment	Hannah Mills Creek 50	summer		Analysis Report	HM 50 072298
Sediment	Hannah Mills Creek 50	fall		Analysis Report	HM 50 121198
na	na	na		Standardization Report	STD1-Blank
na	na	na		Standardization Report	MIN5
na	na	na		Standardization Report	METS
na	na	na		Analysis Report	2.5 PPM METALS
na	na	na		Analysis Report	100 PPM METALS
Sediment	Hannah Mills Creek 100	summer		Analysis Report	HM 100 072398
Sediment	Hannah Mills Creek 100	fall		Analysis Report	HM 100 121198
Sediment	Cedar Point Creek Composite	summer	1	Analysis Report	CPC COMP 1
Sediment	Cedar Point Creek Composite	summer	2	Analysis Report	CPC COMP 2
Sediment	Cedar Point Creek 0	summer		Analysis Report	CPC 0 072298
Sediment	Cedar Point Creek 0	fall		Analysis Report	CPC 0 112198
Sediment	Cedar Point Creek 50	summer		Analysis Report	CPC 50 072298
Sediment	Cedar Point Creek 50	fall		Analysis Report	CPC 50 112198
Sediment	Cedar Point Creek 100	summer		Analysis Report	CPC 100 072298
Sediment	Cedar Point Creek 100	fall		Analysis Report	CPC 100 112198
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na	na	na		Standardization Report	METS
na	na	na		Analysis Report	2.5 PPM METALS
na	na	na		Analysis Report	100 PPM METALS
Sediment	Hannah Mills Creek 100	summer		Analysis Report	HM 100 072398
Sediment	Hannah Mills Creek 100	fall		Analysis Report	HM 100 121198
Sediment	Cedar Point Creek Composite	summer	1	Analysis Report	CPC COMP 1
Sediment	Cedar Point Creek Composite	summer	2	Analysis Report	CPC COMP 2
Sediment	Cedar Point Creek 0	summer		Analysis Report	CPC 0 072298
Sediment	Cedar Point Creek 0	fall		Analysis Report	CPC 0 112198
Sediment	Cedar Point Creek 50	summer		Analysis Report	CPC 50 072298
Sediment	Cedar Point Creek 50	fall		Analysis Report	CPC 50 112198
Sediment	Cedar Point Creek 100	summer		Analysis Report	CPC 100 072298
Sediment	Cedar Point Creek 100	fall		Analysis Report	CPC 100 112198
na	na	na		Standardization Report	STD1-Blank
na	na	na		Standardization Report	MIN5
na	na	na		Standardization Report	METS
na	na	na		Analysis Report	2.5 PPM METALS
na	na	na		Analysis Report	100 PPM METALS
Sediment	St. Johns River 1	summer	1	Analysis Report	SJR 1 072198
Sediment	St. Johns River 2	summer	2	Analysis Report	SJR 2 072198

Matrix	Site	season	field dup	Report	Sample ID
Sediment	St. Johns River	fall		Analysis Report	SJR 121198
Sediment	Little Clapboard Creek	summer		Analysis Report	LCPBD CRK 072198
Sediment	Little Clapboard Creek	fall		Analysis Report	LCPBD CRK 112198
Sediment	Sisters Creek "Mouth"	summer		Analysis Report	SISTERS MOUTH 072198
Sediment	Sisters Creek "Mouth"	fall		Analysis Report	SISTERS MOUTH 112298
Sediment	Sisters Creek "Dead end"	summer		Analysis Report	SISTERS DE 072198
Sediment	Sisters Creek "Dead end"	fall		Analysis Report	SISTERS DE 112298
Sediment	Clapboard Creek 1	summer		Analysis Report	CLBR 1 072098
na	na	na		Standardization Report	STD1-Blank
na	na	na		Standardization Report	MINS
na	na	na		Standardization Report	METS
na	na	na		Analysis Report	2.5 PPM METALS
na	na	na		Analysis Report	100 PPM METALS
Sediment	Clapboard Creek 1	fall		Analysis Report	CLBR 1 112198
Sediment	Clapboard Creek 2	summer		Analysis Report	CLBR 2 072098
Sediment	Clapboard Creek 2	fall		Analysis Report	CLBR 2 112198

82 reports

Oyster size

($n > 60$, each site)

site n.	site name	size cm2
1	Browns Creek Oysters	4.75
2	Fitzpatrick Creek Oysters	8.56
3	Clapboard Creek Oysters	5.85
4	Cedar Point Creek Oysters	14.82
5	Hannah Mills Creek Oysters	14.61
6	Saint Johns River Oysters	4.92
7	Sisters Creek - Mouth Oysters	8.50
8	Sister Creek / Skeet ICWW Oysters	13.42
9	Garden Creek Oysters	12.42
10	Simpson Creek Oysters	14.91
11	Marker 67 (Sawpit Creek) ICWW Oysters	12.60
12	Nassau River - ICWW Oysters	9.95
13	Alligator Creek Oysters	9.60
14	Pumpkin Hill Creek Oysters	3.56
15	Edwards Creek Oysters	8.74
16	Lofton Creek Oysters	5.21
17	Deese Creek Oysters	6.92

Heavy metals in Oysters

			mg/kg									
site group			Al	Ni	Cu	Zn	As	Cd	Cr	Pb	Ba	Fe
1	1	BROWNS CRK OYS	32.32	0.25	19.41	289.84	2.27	11.15	3.28	9.38	0.52	51.42
2	1	FITZPATRICK CRK OYS	16.93	0.15	21.98	658.34	1.77	2.57	2.65	8.08	0.56	49.74
3	1	CLAPBOARD CRK OYS	72.84	0.31	18.68	435.47	2.72	16.73	2.41	8.01	0.48	80.23
4	1	CEDAR PT CRK OYS	28.94	0.00001	5.32	321.19	1.37	9.01	2.51	8.13	0.34	74.24
5	2	HANNAH MILLS CRK OYS	40.34	0.00001	11.97	561.33	1.40	7.19	0.95	4.21	0.19	81.18
5	2	HANNAH MILLS CRK OYS DUP	37.75	0.02	7.13	565.03	1.90	6.68	1.65	7.76	0.31	79.26
6	1	SJR OYS	17.60	0.65	25.42	447.53	3.88	3.93	5.33	12.39	0.74	34.26
7	2	SISTERS CRK MOUTH OYS	43.33	0.00001	29.89	587.98	2.39	7.37	1.49	7.10	0.31	73.17
8	2	SISTERS SKEET OYS	42.47	0.45	16.00	535.89	3.85	7.93	0.96	0.00001	0.17	75.87
9	2	GARDEN CRK OYS	37.59	0.09	7.26	320.59	3.44	11.73	0.08	0.00001	0.06	50.77
10	2	SIMPSON CRK/FGR OYS	21.16	0.00001	4.43	170.78	3.15	12.39	0.00001	0.00001	0.00001	55.41
11	3	MARKER 67 OYS	86.46	10.04	21.41	374.62	22.98	23.08	16.58	35.83	3.29	51.26
12	3	NASSAU/ICW OYS	84.27	8.47	16.92	223.49	21.27	37.71	15.09	32.05	2.82	27.55
13	4	ALLIGATOR CRK OYS	32.25	0.00001	4.76	288.53	1.85	11.18	1.36	5.86	0.45	52.04
14	3	PUMPKIN HILL CK OYS	92.14	10.22	20.24	306.54	23.05	30.06	15.00	29.02	2.97	57.35
15	4	EDWARDS CRK OYS	26.20	0.30	6.59	296.01	2.35	8.85	0.49	0.00001	0.07	48.11
16	4	LOFTON CRK OYS	26.85	0.00001	6.23	342.23	1.82	7.85	1.62	5.03	0.38	37.99
17	4	NASSAU/DEESE CRK OYS	21.70	0.00001	7.47	390.33	0.66	5.56	0.00001	0.00001	0.02	35.99
max			92.14	10.22	29.89	658.34	23.05	37.71	16.58	35.83	3.29	81.18

**Polynuclear Aromatic Hydrocarbons
in Oysters**

site n.	site name	PAHs ug/kg
1	Browns Creek Oysters	BDL
2	Fitzpatrick Creek Oysters	164.78
3	Clapboard Creek Oysters	188.10
4	Cedar Point Creek Oysters	23.24
5	Hannah Mills Creek Oysters	444.00
6	Saint Johns River Oysters	32.33
7	Sisters Creek - Mouth Oysters	142.73
8	Sister Creek / Skeet ICWW Oysters	BDL
9	Garden Creek Oysters	BDL
10	Simpson Creek Oysters	BDL
11	Marker 67 (Sawpit Creek) ICWW Oysters	BDL
12	Nassau River - ICWW Oysters	98.33
13	Alligator Creek Oysters	BDL
14	Pumpkin Hill Creek Oysters	953.57
15	Edwards Creek Oysters	BDL
16	Lofton Creek Oysters	BDL
17	Deese Creek Oysters	BDL

BDL Below detection limit

TOTAL PAHs in SEDIMENT
AVERAGE BY SITE NUMBER

name	site	total PAHs ug/kg
Little Clapboard Creek	1	102.54
Clapboard Creek - Pelotes	2	43.88
Clapboard Creek - Dead End	3	148.79
Cedar Point "0"	4	30.29
Cedar Point "50"	5	72.69
Cedar Point "100"	6	179.18
Hannah Mills "0"	7	94.84
Hannah Mills "50"	8	BDL
Hannah Mills "100"	9	BDL
St. Johns River	10	107.17
Sisters Creek "mouth"	11	247.95
Sisters Creek "dead end"	12	24.56

BDL = Below detection limit

TOTAL PAHs in SEDIMENT
BY SITE NUMBER

name	site	total PAHs ug/kg
Little Clapboard Creek 05/98	1	BDL
Little Clapboard Creek 07/98	1	84.72
Little Clapboard Creek 11/98	1	222.90
Clapboard Creek 1 (Palotes) 05/98	2	40.57
Clapboard Creek 1 (Palotes) 07/98	2	BDL
Clapboard Creek 1 (Palotes) 11/98	2	91.09
Clapboard Creek 2 (Dead End) 05/98	3	114.29
Clapboard Creek 2 (Dead End) 07/98	3	173.33
Clapboard Creek 2 (Dead End) 11/98	3	158.75
Cedar Point Creek Comp 1	4-6	BDL
Cedar Point Creek Comp 2	4-6	86.36
Cedar Point Creek 0 07/98	4	60.57
Cedar Point Creek 0 11/98	4	BDL
Cedar Point Creek 50 05/98	5	218.06
Cedar Point Creek 50 07/98	5	BDL
Cedar Point Creek 50 11/98	5	BDL
Cedar Point Creek 100 07/98	6	232.90
Cedar Point Creek 100 11/98	6	125.45
Hannah Mills Comp	7-9	BDL
Hannah Mills Creek 0 07/98	7	141.39
Hannah Mills Creek 0 07/98 (duplicate)	7	55.94
Hannah Mills Creek 0 11/98	7	87.19
Hannah Mills Creek 50 05/98	8	226.50
Hannah Mills Creek 50 07/98	8	BDL
Hannah Mills Creek 50 11/98	8	BDL
Hannah Mills Creek 100 05/98	9	BDL
Hannah Mills Creek 100 07/98	9	BDL
Hannah Mills Creek 100 11/98	9	BDL
Saint Johns River 1 05/98	10	53.19
Saint Johns River #2 05/98	10	102.68
Saint Johns River 11/98	10	165.63
Sister Creek - Mouth 05/98	11	374.44
Sisters Creek - Mouth 05/98 (duplicate)	11	201.40
Sister Creek - Mouth 07/98	11	55.38
Sisters Creek - Mouth 11/98	11	360.59
Sister Creek - Dead End 05/98	12	73.67
Sisters Creek - Dead End 07/98	12	BDL
Sisters Creek - Dead End 011/98	12	BDL

BDL = Below detection limit

RESPONSE CURVES_PAH&PCB

City of Jacksonville Environmental Laboratory

Roger Bascomb, Director

	CMP		REF	CORR.COEF.
RESPONSE	PAH	3,3',4,4',5,5' -HEXACHLOROBIPHENYL	PHENANTHRENE-D10 (INT STD)	0.997
RESPONSE	PAH	3,3',4,4',5-PENTACHLOROBIPHENYL	PHENANTHRENE-D10 (INT STD)	0.998
RESPONSE	PAH	2,2',3,4,4',5'-HEXACHLOROBIPHENYL	PHENANTHRENE-D10 (INT STD)	0.995
RESPONSE	PAH	2,2',4,4',5,5'-HEXACHLOROBIPHENYL	PHENANTHRENE-D10 (INT STD)	0.998
RESPONSE	PAH	2,3',4,4',5-PENTACHLOROBIPHENYL	PHENANTHRENE-D10 (INT STD)	0.999
RESPONSE	PAH	2,3',4-TRICHLOROBIPHENYL	PHENANTHRENE-D10 (INT STD)	0.998
RESPONSE	PAH	CHRYSENE	CHRYSENE-D12 (INT.STD)	0.998
RESPONSE	PAH	BENZO(A)ANTHRACENE	CHRYSENE-D12 (INT.STD)	0.999
RESPONSE	PAH	BENZO(G,H,I)PERYLENE	PERYLENE-D12 (INT.STD)	0.997
RESPONSE	PAH	DIBENZ(A,H)ANTHRACENE	PERYLENE-D12 (INT.STD)	0.998
RESPONSE	PAH	INDENO(1,2,3-C,D)PYRENE	PERYLENE-D12 (INT.STD)	0.993
RESPONSE	PAH	BENZO(E)PYRENE	PERYLENE-D12 (INT.STD)	0.999
RESPONSE	PAH	BENZO(A)PYRENE	PERYLENE-D12 (INT.STD)	0.999
RESPONSE	PAH	BENZO(B)FLUORANTHENE	PERYLENE-D12 (INT.STD)	0.998
RESPONSE	PAH	PYRENE	CHRYSENE-D12 (INT.STD)	0.999
RESPONSE	PAH	1-METHYLPHENANTHRENE	PHENANTHRENE-D10 (INT STD)	0.999
RESPONSE	PAH	FLUORANTHENE	PHENANTHRENE-D10 (INT STD)	0.995
RESPONSE	PAH	ANTHRACENE	PHENANTHRENE-D10 (INT STD)	1.000
RESPONSE	PAH	PHENANTHRENE	PHENANTHRENE-D10 (INT STD)	1.000
RESPONSE	PAH	2,6-DIMETHYLNAPHTHALENE	ACENAPHTHENE-D10 (INT.STD)	1.000
RESPONSE	PAH	BIPHENYL	ACENAPHTHENE-D10 (INT.STD)	0.997
RESPONSE	PAH	FLUORENE	ACENAPHTHENE-D10 (INT.STD)	0.999
RESPONSE	PAH	ACENAPHTHENE	ACENAPHTHENE-D10 (INT.STD)	1.000
RESPONSE	PAH	ACENAPHTHYLENE	ACENAPHTHENE-D10 (INT.STD)	0.997
RESPONSE	PAH	2-METHYLNAPHTHALENE	NAPHTHALENE-D8	0.997
RESPONSE	PAH	2-METHYLNAPHTHALENE	NAPHTHALENE-D8	0.997
RESPONSE	PAH	NAPHTHALENE	NAPHTHALENE-D8	0.998
27 reports				

TOTAL PAHs in SEDIMENT
BY ug/kg AND SITE

KEY site	site	total PAHs ug/kg
7-9	Hannah Mills Comp	BDL
8	Hannah Mills Creek 50 07/98	BDL
8	Hannah Mills Creek 50 11/98	BDL
9	Hannah Mills Creek 100 05/98	BDL
9	Hannah Mills Creek 100 07/98	BDL
9	Hannah Mills Creek 100 11/98	BDL
4-6	Cedar Point Creek Comp 1	BDL
4	Cedar Point Creek 0 11/98	BDL
5	Cedar Point Creek 50 07/98	BDL
5	Cedar Point Creek 50 11/98	BDL
1	Little Clapboard Creek 05/98	BDL
12	Sisters Creek - Dead End 07/98	BDL
12	Sisters Creek - Dead End 011/98	BDL
2	Clapboard Creek 1 (Palotas) 07/98	BDL
2	Clapboard Creek 1 (Palotas) 05/98	40.57
10	Saint Johns River 1 05/98	53.19
11	Sister Creek - Mouth 07/98	55.38
7	Hannah Mills Creek 0 07/98 (duplicate)	55.94
4	Cedar Point Creek 0 07/98	60.57
12	Sister Creek - Dead End 05/98	73.67
1	Little Clapboard Creek 07/98	84.72
4-6	Cedar Point Creek Comp 2	86.36
7	Hannah Mills Creek 0 11/98	87.19
2	Clapboard Creek 1 (Palotas) 11/98	91.09
10	Saint Johns River #2 05/98	102.68
3	Clapboard Creek 2 (Dead End) 05/98	114.29
6	Cedar Point Creek 100 11/98	125.45
7	Hannah Mills Creek 0 07/98	141.39
3	Clapboard Creek 2 (Dead End) 11/98	158.75
10	Saint Johns River 11/98	165.63
3	Clapboard Creek 2 (Dead End) 07/98	173.33
11	Sisters Creek - Mouth 05/98 (duplicate)	201.40
5	Cedar Point Creek 50 05/98	218.06
1	Little Clapboard Creek 11/98	222.90
8	Hannah Mills Creek 50 05/98	226.50
6	Cedar Point Creek 100 07/98	232.90
11	Sisters Creek - Mouth 11/98	360.59
11	Sister Creek - Mouth 05/98	374.44

BDL = Below detection limit

- A SITE TYPE=CLOSED(1),CULVERT(2),OPEN(3)
A' CREEK=HMC(1),CPC(2), SJR(3), CLBR(4), SC (5)
B POSITION=1(0), 2(50), 3(100),4(M),5(Mid),6 (DE), 7 (SJR), 8 (Comp)
C SEASON=1(Spring), 2(Summer), 3(Fall)

				TOTAL PAHs in SEDIMENT BY SITE NAME and STATLETS		
SITE					KEY	total PAHs
TYPE	CREEK	POSITION	SEASON	site	site	ug/kg
A	A'	B	C			
1	1	8	2	Hannah Mills Comp	7-9	BDL
1	1	1	2	Hannah Mills Creek 0 07/98	7	141.39
1	1	1	2	Hannah Mills Creek 0 07/98 (duplicate)	7	55.94
1	1	1	3	Hannah Mills Creek 0 11/98	7	87.19
1	1	2	1	Hannah Mills Creek 50 05/98	8	226.50
1	1	2	2	Hannah Mills Creek 50 07/98	8	BDL
1	1	2	3	Hannah Mills Creek 50 11/98	8	BDL
1	1	3	1	Hannah Mills Creek 100 05/98	9	BDL
1	1	3	2	Hannah Mills Creek 100 07/98	9	BDL
1	1	3	3	Hannah Mills Creek 100 11/98	9	BDL
2	2	8	2	Cedar Point Creek Comp 1	4-6	BDL
2	2	8	2	Cedar Point Creek Comp 2	4-6	86.36
2	2	1	2	Cedar Point Creek 0 07/98	4	60.57
2	2	1	3	Cedar Point Creek 0 11/98	4	BDL
2	2	2	1	Cedar Point Creek 50 05/98	5	218.06
2	2	2	2	Cedar Point Creek 50 07/98	5	BDL
2	2	2	3	Cedar Point Creek 50 11/98	5	BDL
2	2	3	2	Cedar Point Creek 100 07/98	6	232.90
2	2	3	3	Cedar Point Creek 100 11/98	6	125.45
3	3	7	1	Saint Johns River 1 05/98	10	53.19
3	3	7	1	Saint Johns River #2 05/98	10	102.68
3	3	7	3	Saint Johns River 11/98	10	165.63
3	4	6	1	Little Clapboard Creek 05/98	1	BDL
3	4	6	2	Little Clapboard Creek 07/98	1	84.72
3	4	6	3	Little Clapboard Creek 11/98	1	222.90
3	5	4	1	Sister Creek - Mouth 05/98	11	374.44
3	5	4	1	Sisters Creek - Mouth 05/98 (duplicate)	11	201.40
3	5	4	2	Sister Creek - Mouth 07/98	11	55.38
3	5	4	3	Sisters Creek - Mouth 11/98	11	360.59
3	5	6	1	Sister Creek - Dead End 05/98	12	73.67
3	5	6	2	Sisters Creek - Dead End 07/98	12	BDL
3	5	6	3	Sisters Creek - Dead End 011/98	12	BDL
3	4	5	1	Clapboard Creek 1 (Pelotes) 05/98	2	40.57
3	4	5	2	Clapboard Creek 1 (Pelotes) 07/98	2	BDL
3	4	5	3	Clapboard Creek 1 (Pelotes) 11/98	2	91.09
3	4	6	1	Clapboard Creek 2 (Dead End) 05/98	3	114.29
3	4	6	2	Clapboard Creek 2 (Dead End) 07/98	3	173.33
3	4	6	3	Clapboard Creek 2 (Dead End) 11/98	3	158.75

BDL = Below detection limit

8/13/99
CLBR 1

FAU

CS

CLBR 1
PAH

DATA: 3369817 #1
CALI: 3369816 #2
SCANS 1800 TO 7500

RIC

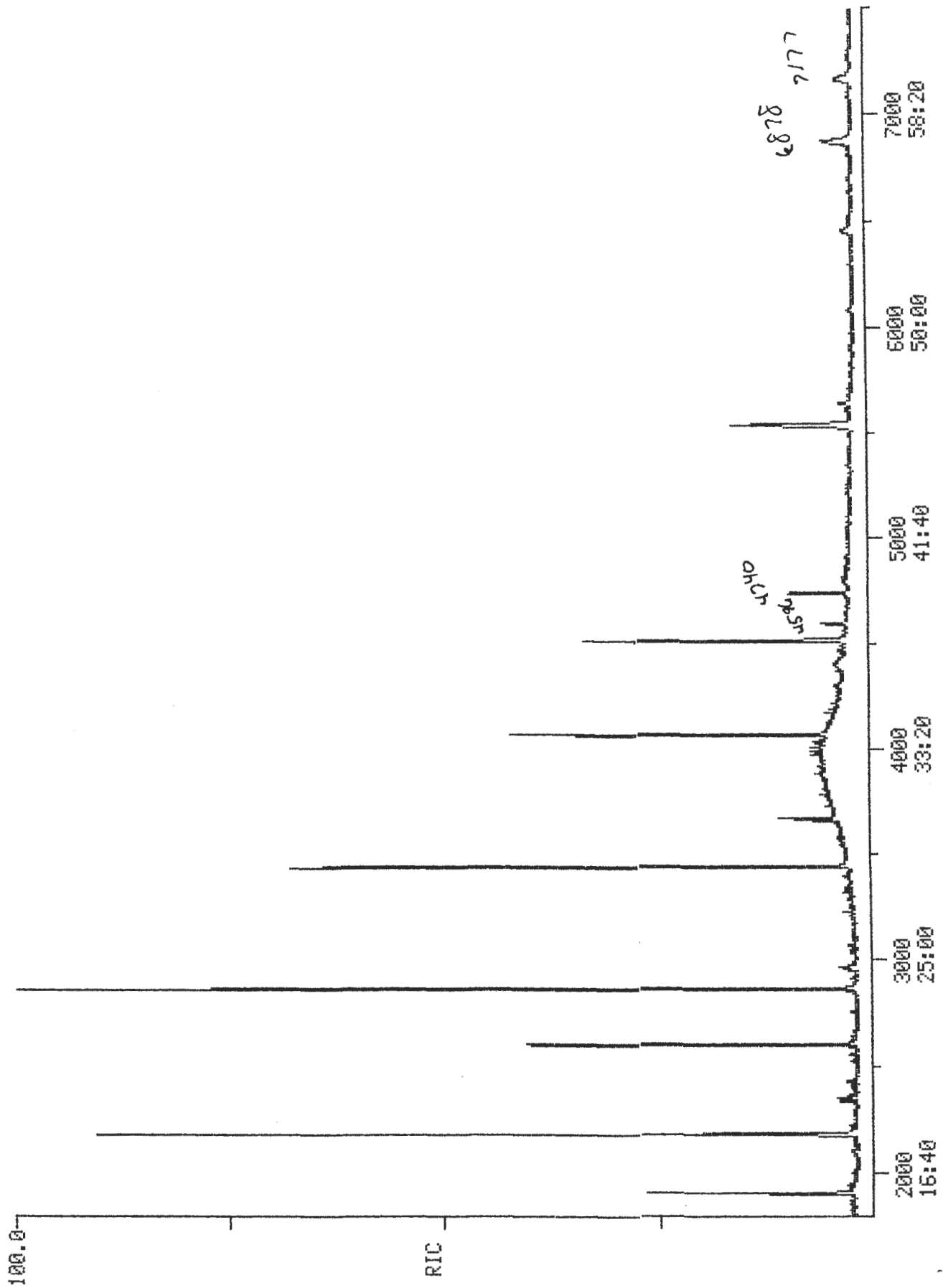
06/24/99 14:50:00

SAMPLE: CLBR 1 12/4

CONDS.: 625 GROB INJ 1 UL

RANGE: G 1.7500 LABEL: N 2, 5.0 QUAN: A 2, 2.0 J 0 BASE: U 20, 3

143350.



TCA FINISHED, 8 FOUND
FINISHED AT: 6/24/99 14:25:42

< ---- STANDARDS ---- >				>< --- PLUS UNKNOWN --- ><				>< - LIST NAMES - >	
PROC	USED	POSS	RMS	PROC	USED	POSS	RMS	STANDARD/UNKNOWN	
1	1	1	0	4	2	1	0	BNAIS2/PAH1	
1	1	1	0	7	3	2	76	BNAIS3/PAH2	
1	1	1	0	5	1	1	0	BNAIS4/PAH3	
1	1	1	0	6	2	1	0	BNAIS5/PAH4	
1	1	1	0	8	1	1	0	BNAIS6/PAH5	

30 COMPOUNDS PROCESSED, 9 FOUND

< COMPOUND ><			SEARCH					>< SAT ><		>< CHRO ><			
NO	LIB	ENTRY	REF	PRED	SEL	DELTA	PEAKS	FIT	PEAKS	M/Z	TOP	DELTA	PEAKS
1	BN	22	-2171	2186	2186	.	1	963	-1	136	2186	.	1
2	BN	14	-1896	1911	1911	.	1	989	.	82	1911	.	1
3	BN	23	-2180	2195	.	.	.	.	.	128	2194	.	1
4	BN	73	-2449	2464	.	.	.	.	.	142	2462	.	1
5	BN	33	-2853	2866	2866	.	1	994	.	164	2866	.	1
6	BN	31	-2798	2811	.	.	.	.	.	152	2811	.	1
7	BN	34	-2866	2879	.	.	.	.	.	154	2878	.	1
8	BN	38	-3067	3080	.	.	.	.	.	166	3079	.	2
9	BN	68	-2593	2606	2606	.	2	985	.	172	2605	-1	1
10	BN	85	-2631	2644	2645	1	1	847	.	154	2645	.	1
11	BN	86	-2692	2705	.	.	.	.	.	156	2706	.	1
12	BN	47	-3433	3446	3446	.	1	988	.	188	3446	.	1
13	BN	48	-3442	3455	.	.	.	.	.	178	3455	.	1
14	BN	49	-3463	3476	.	.	.	.	.	178	3475	.	1
15	BN	51	-3910	3925	.	.	.	.	.	202	3923	.	1
16	BN	87	-3683	3697	.	.	.	.	.	192	3696	.	1
17	BN	56	-4504	4516	4516	.	1	972	.	240	4516	.	1
18	BN	53	-3999	4013	.	.	.	.	.	202	4011	.	1
19	BN	55	-4499	4511	.	.	.	.	.	228	4510	.	1
20	BN	58	-4519	4531	.	.	.	.	.	228	4530	.	1
21	BN	70	-4059	4073	4073	.	1	974	.	244	4073	.	1
22	BN	59	-4534	4546	.	.	.	.	.	149	.	.	.
23	BN	64	-5528	5543	5543	.	1	952	.	264	5542	-1	1
24	BN	61	-5193	5207	.	.	.	.	.	252	5206	.	1
25	BN	62	-5214	5228	.	.	.	.	.	252	5228	.	1
26	BN	63	-5479	5494	.	.	.	.	.	252	5495	.	1
27	BN	65	-6836	6855	.	.	.	.	.	276	6853	.	1
28	BN	66	-6898	6917	.	.	.	.	.	278	6919	.	1
29	BN	67	-7248	7268	.	.	.	.	.	276	.	.	.
30	BN	89	-5432	5447	.	.	.	.	.	252	.	.	.

Data: 3369817.TI

06/24/99 14:50:00

Sample: CLBR 1 12/4

Conds.: 625 GROB INJ 1 UL

Formula:

Submitted by:

Instrument: FINN

Analyst: CAB

Weight: 0.000

Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)

Resp. fac. from linear fit to whole .RL

No	Name
1	NAPHTHALENE-D8 (INTERNAL STD.)
2	NITROBENZENE-D5 (SURR.)
3	NAPHTHALENE
4	2-METHYLNAPHTHALENE
5	ACENAPHTHENE-D10 (INTERNAL STD.)
6	ACENAPHTHYLENE
7	ACENAPHTHENE
8	FLUORENE
9	2-FLUOROBIPHENYL (SURR.)
10	BIPHENYL
11	2,6-DIMETHYLNAPHTHALENE
12	PHENANTHRENE-D10 (INTERNAL STD.)
13	PHENANTHRENE
14	ANTHRACENE
15	FLUORANTHENE
16	1-METHYLPHENANTHRENE
17	CHRYSENE-D12 (INTERNAL STD.)
18	PYRENE
19	BENZO(A)ANTHRACENE
20	CHRYSENE
21	TERPHENYL-D14 (SURR.)
22	BIS(2-ETHYLHEXYL)PHTHALATE
23	PERYLENE-D12 (INTERNAL STD.)
24	BENZO(B)FLUORANTHENE
25	BENZO(K)FLUORANTHENE
26	BENZO(A)PYRENE
27	INDENO(1,2,3-C,D)PYRENE
28	DIBENZ(A,H)ANTHRACENE
29	BENZO(G,H,I)PERYLENE
30	BENZO(E)PYRENE

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount	%Tot
1	136	2186	18:13	1	1.000	A BB	311158.	40.000	9.47
2	82	1911	15:55	1	0.874	A BB	60178.	68.507 %	16.22
3	128	2194	18:17	1	1.004	A BB	870.	0.047 UG/ML	0.01
4	142	2462	20:31	1	1.126	A BB	321.	0.033 UG/ML	0.01
5	164	2866	23:53	5	1.000	A BB	172642.	40.000	9.47
6	152	2811	23:25	5	0.981	A BB	425.	0.024 UG/ML	0.01
7	154	2878	23:59	5	1.004	A VB	217.	0.022 UG/ML	0.01
8	166	3079	25:39	5	1.074	A*BB	216.	0.024 UG/ML	0.01
9	172	2605	21:42	5	0.909	A BB	97011.	45.629 %	10.81
10	154	2645	22:02	5	0.923	A BB	547.	0.039 UG/ML	0.01
11	156	2706	22:33	5	0.944	A BB	124.	0.011 UG/ML	0.00
12	188	3446	28:43	12	1.000	A BB	195460.	40.000	9.47
13	178	3455	28:47	12	1.003	A BB	802.	0.068 UG/ML	0.02

[illegible]

LIBRARY SEARCH

05/24/99 14:50:00 + 33:26

SAMPLE: CLER 1 12/4

COND5.: 625 GR0B INJ 1 UL

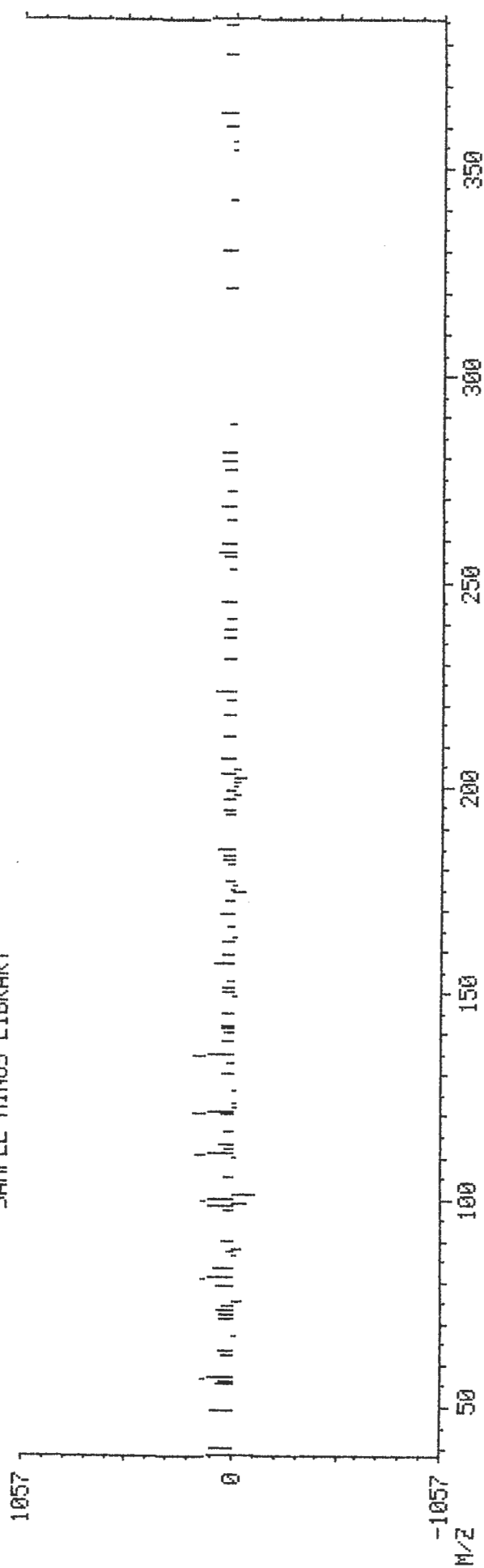
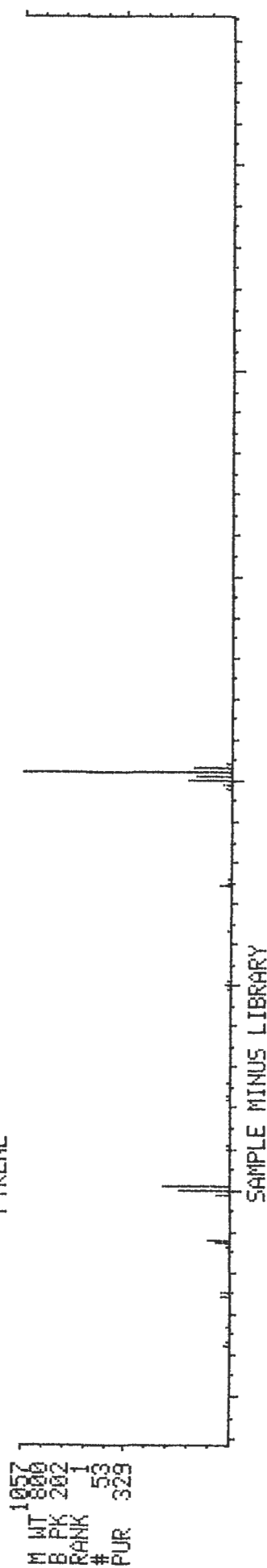
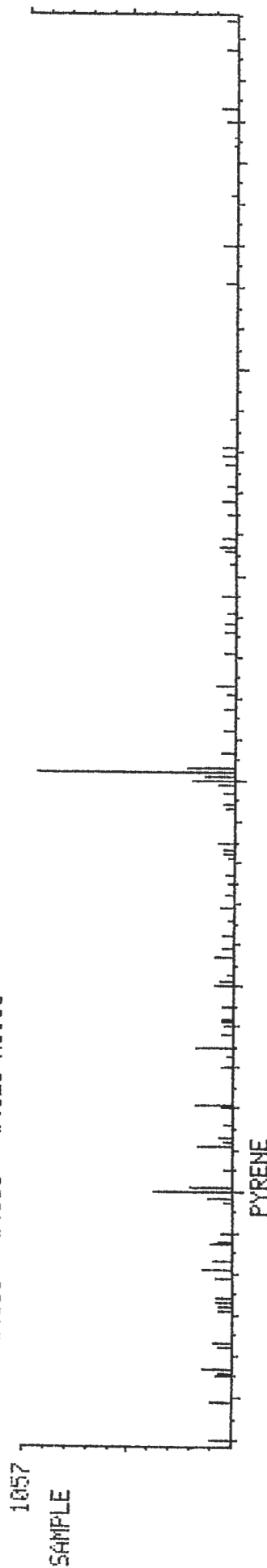
#4013 - #4008 - #4025 X1.00

DATA: 3359817 #4013

CALI: 3359817 # 2

BASE M/Z: 202

RIC: 1697.



LIBRARY SEARCH

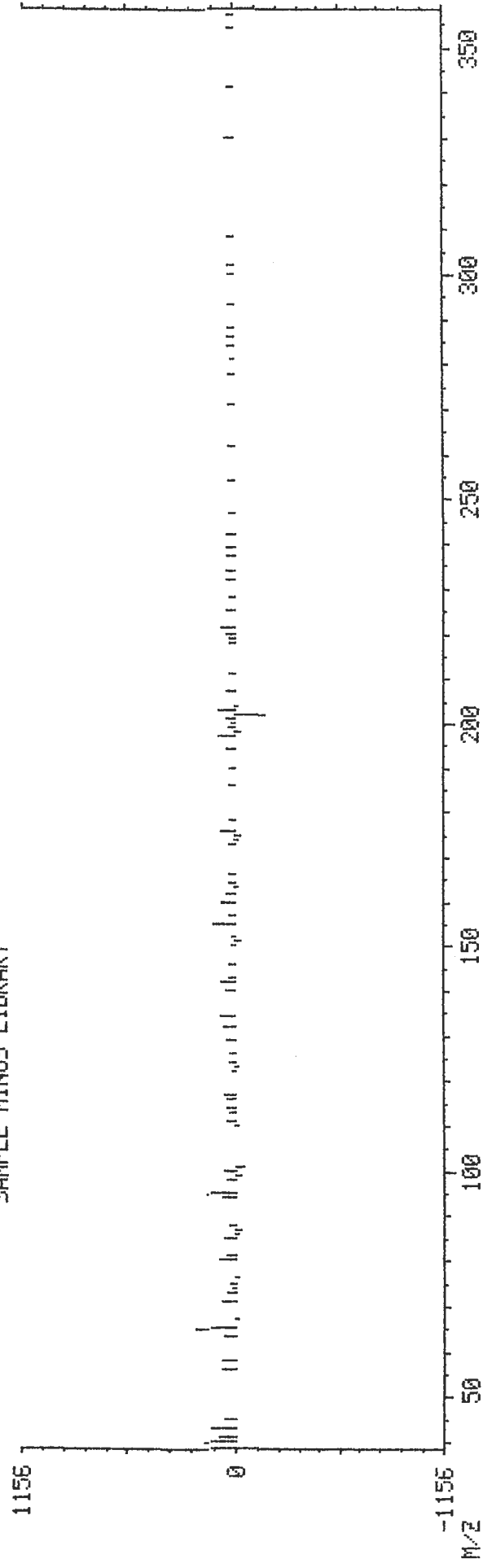
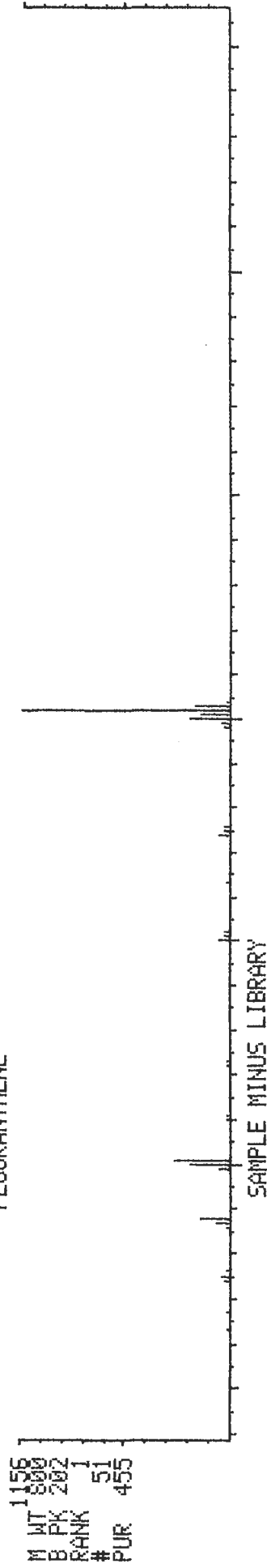
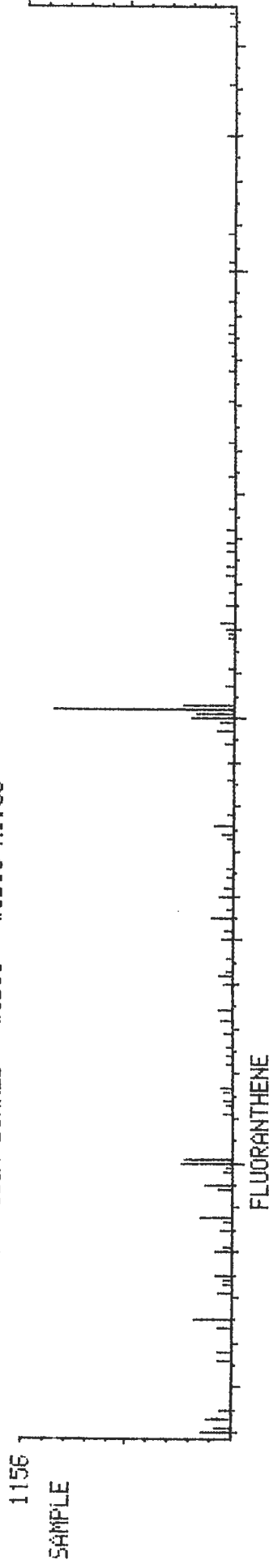
06/24/99 14:50:00 + 32:41

SAMPLE: CLBR 1 12/4

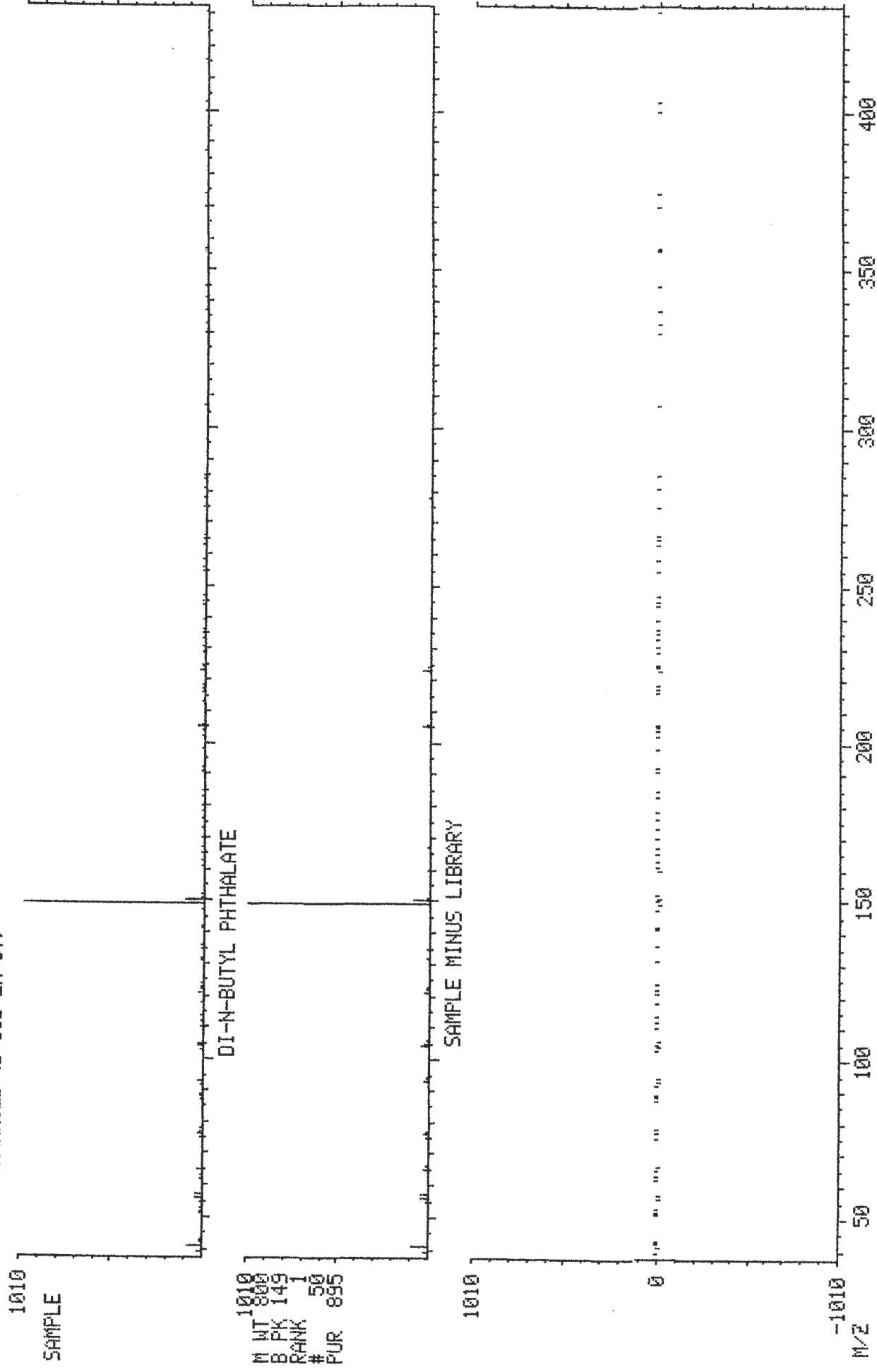
CONDS.: 625 GR08 INJ 1 UL

#3923 TO #3924 SUMMED - #3933 - #3915 X1.00

DATA: 3369817 #3923
CALI: 3369817 # 2
BASE M/Z: 202
RIC: 3071.



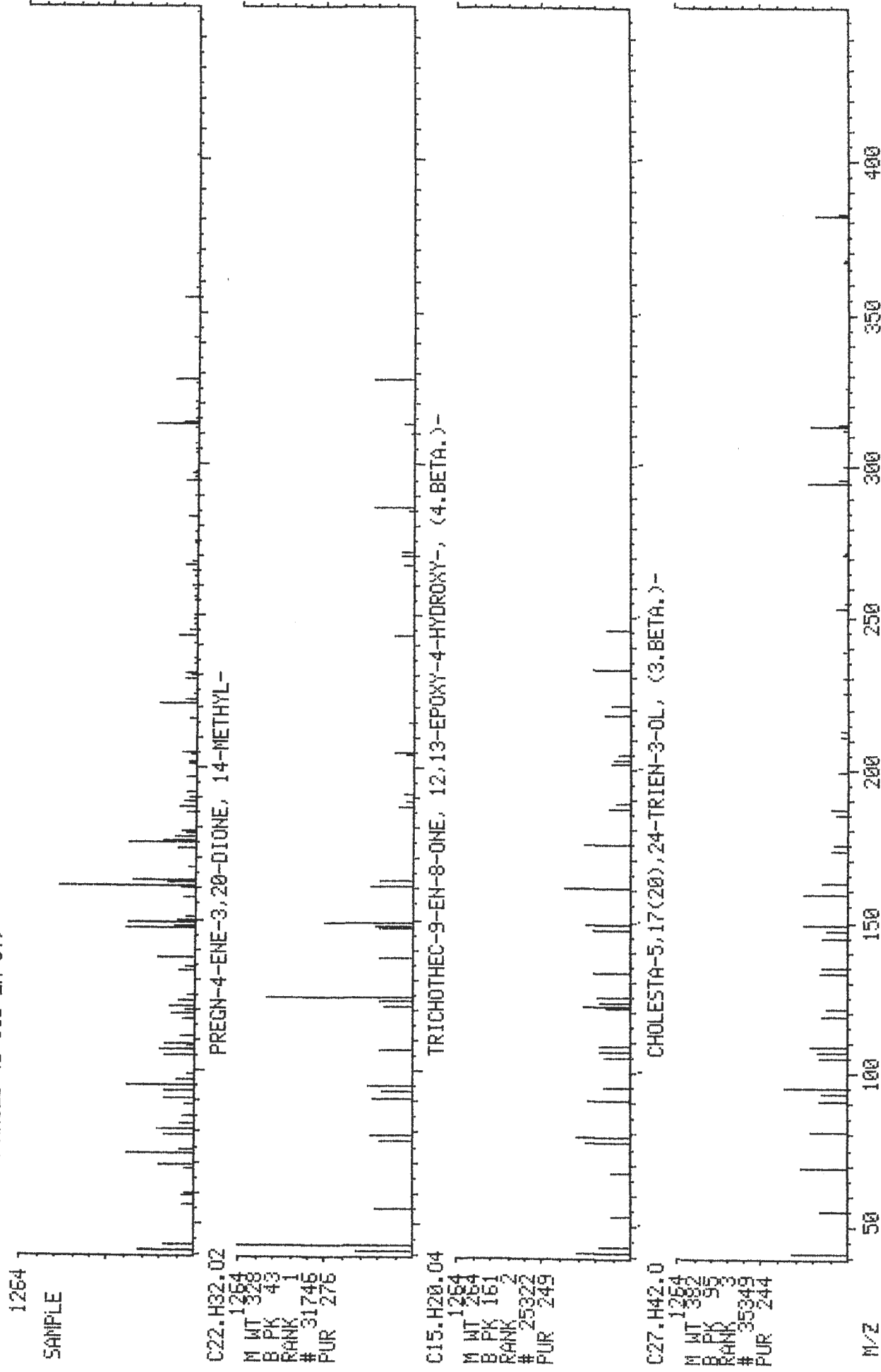
BASE MZ: 149
RIC: 9615.



LIBRARY SEARCH

06/24/99 14:50:00 + 38:18
 SAMPLE: CLER 1 12/4
 CONDS.: 525 GROB INJ 1 UL
 ENHANCED (S 15B 2N 0T)

DATA: 3369817 #4596
 CALI: 3369817 # 2
 BASE M/Z: 161
 RIC: 3123.

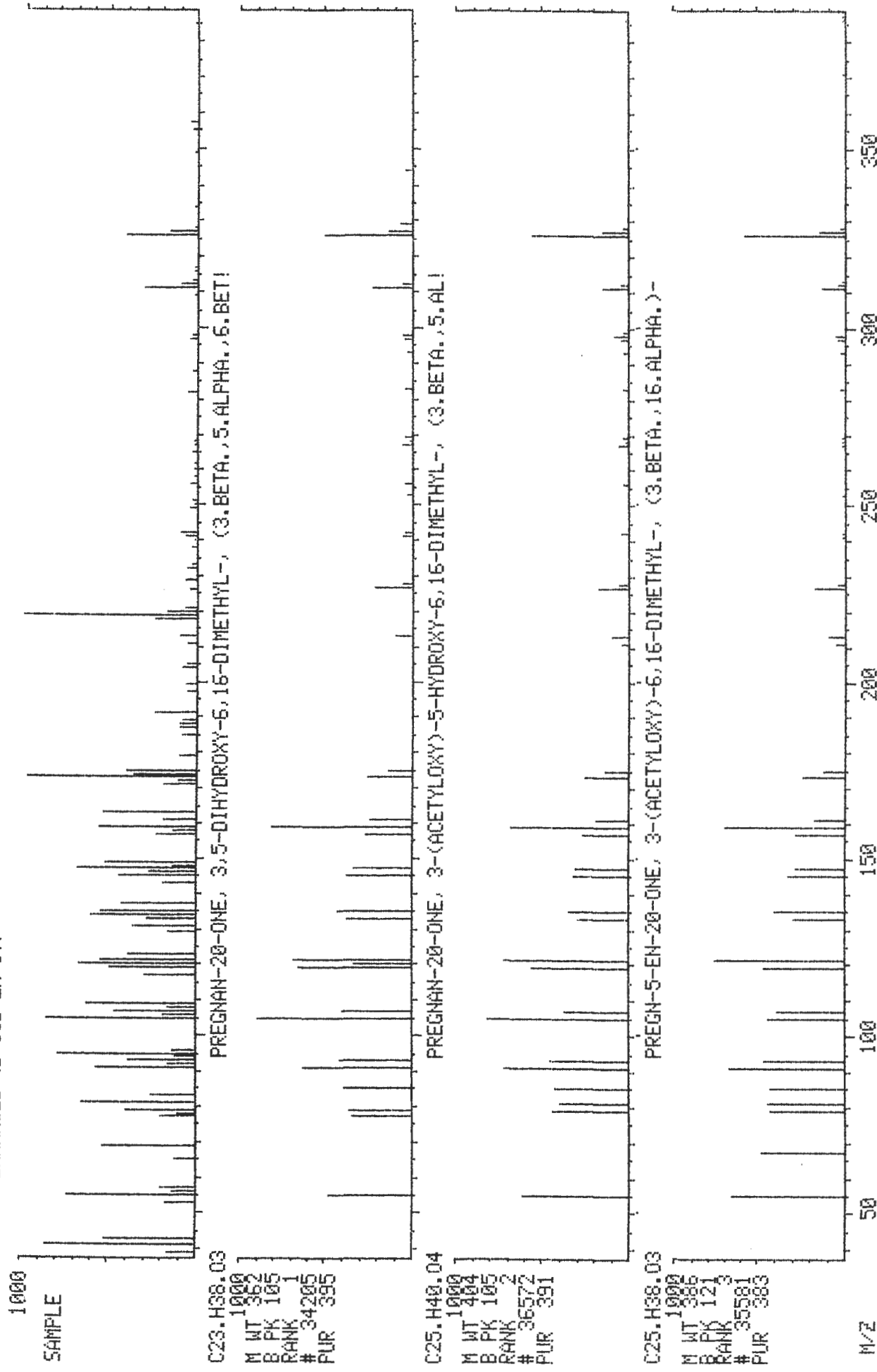


LIBRARY SEARCH

06/24/99 14:50:00 + 39:30
 SAMPLE: CLBR 1 12/4
 COND5.: 625 GR08 INJ 1 UL
 ENHANCED (S 156 2N 0T)

DATA: 3369817 #4740
 CALI: 3369817 # 2

BASE M/Z: 219
 RIC: 7359.



LITERARY SEARCH

05/24/99 14:50:00 + 59:44

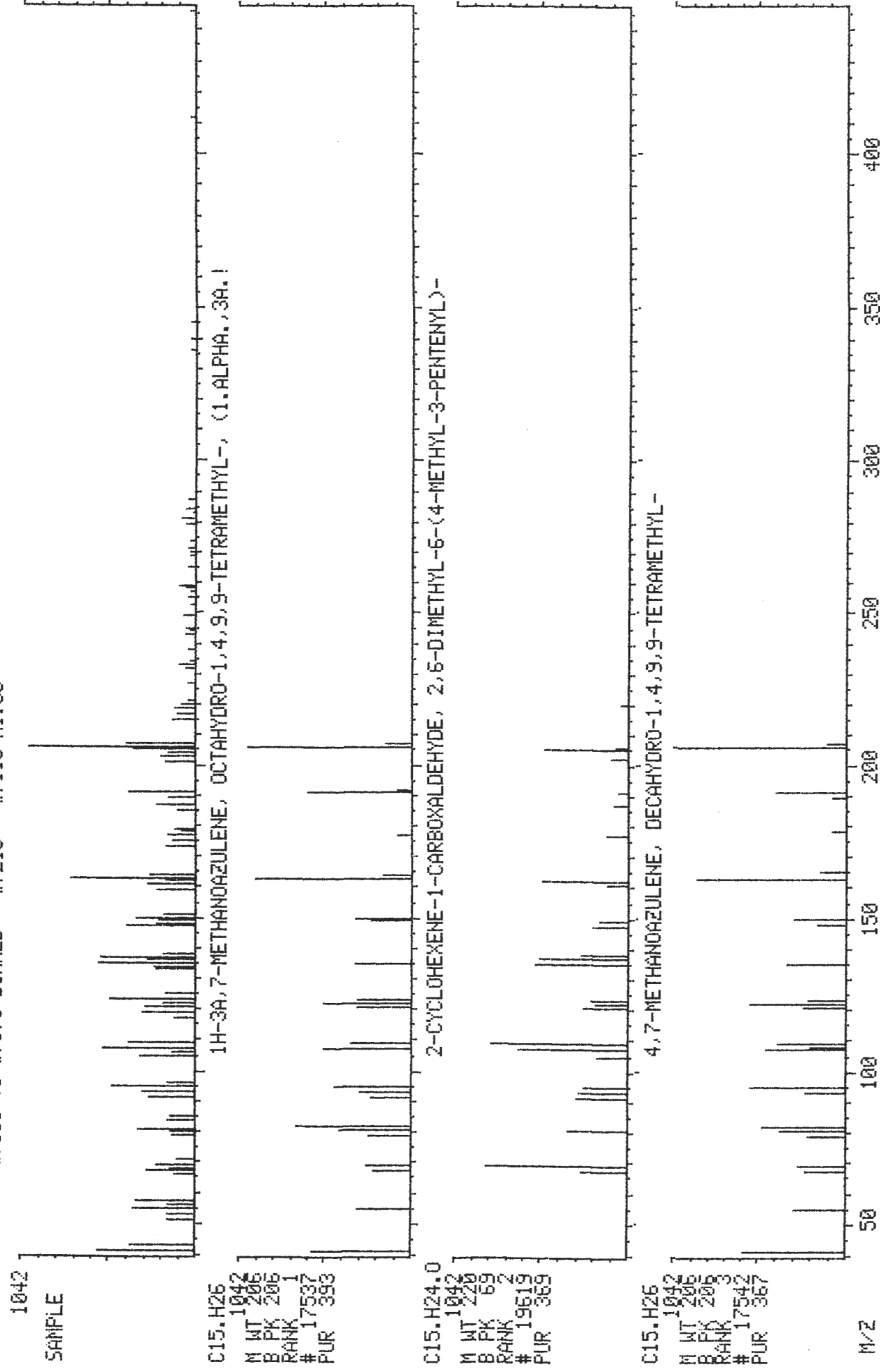
SAMPLE: CLBR 1 12/4

CONDS.: 625 GROB INJ 1 UL

#7166 TO #7170 SUMMED - #7216 - #7115 X1.00

DATA: 3369817 #7166
CALL: 3369817 # 2

BASE M/Z: 206
RIC: 9023.



REPORTS_PAH&PCB

City of Jacksonville Environmental Laboratory
Roger Bascomb, Director

if date in this column
represents date of extraction

sample run
on GC/MS

SITE		Field Dup	Lab Dup	season	Type Matrix	Type Contam	Report Identification as entered by GC/MS analyst - City of Jacksonville Environmental Laboratory			
na	na			na	na	na	DETECTION LIMIT STD	10/21/1998	F1060396 #1	DL11020 #4
na	Blank			spring	Sediment	PCB	PCB ON #3 EXT 6/3	1/13/1999	PB3603 #1	PCB_2PM112 #2
Clapboard Creek 2	CBLR2			spring	Sediment	PCB	CLBR2B	1/21/1999	CLBR2B605 #1	SMB605 #2
Clapboard Creek 1	CLBR1			spring	Sediment	PCB	CLBR 1 ext 6/5/98	1/20/1999	CLBR1605 #1	PB4603 #2
Cedar Point Creek 100	CPK100			spring	Sediment	PCB	CPK 100 ext 6/5/98	1/21/1999	CPK100605 #1	SMB605 #2
Cedar Point Creek 50	CPK50			spring	Sediment	PCB	CPK 50 ext 6/4/98	1/19/1999	CPK50604 #1	PCB2PM119 #2
Hannah Mills Creek 100	HM100			spring	Sediment	PCB	HM100 ext 6/5/98	1/20/1999	HM100605 #1	PCB1PM120 #2
Little Clapboard Creek	LCC			spring	Sediment	PCB	LCC ext 6/5/98	1/20/1999	LCC605 #1	PCB1PM120 #2
na	Matrix Spike			spring	Sediment	PCB	PCB ON #1 EXT 6/3/98	1/13/1999	PB1603 #1	PCB_4PM112 #2
na	Matrix Spike			spring	Sediment	PCB	HM100 S1 EXT 6/5/98	1/20/1999	HM100S1605 #1	CLBR1605 #2
na	Matrix Spike			spring	Sediment	PCB	HM100 SPIKE 2 EXT 6/5/98	1/22/1999	HM100S2 #1	PCB2PM122 #2
Sisters Creek "dead end"	SDE			spring	Sediment	PCB	SDE ext 6/4/98	1/19/1999	SDE604 #1	PB4603 #1
St. Johns River	SJR		1	spring	Sediment	PCB	SJR 6 ext 6/5/98	1/21/1999	SJR8605 #1	CLBR2B605 #2
St. Johns River	SJR		2	spring	Sediment	PCB	SJR ext 6/4/98	1/19/1999	SJR604 #1	HM50604 #2
Sister Creek "mouth"	SM			spring	Sediment	PCB	SMB ext 6/5/98	1/21/1999	SMB605 #1	SMB605 #2
				spring	Sediment	PCB	#1 matrix spike	1/13/1999	PB2603 #1	BP1603 #2
				spring	Sediment	PCB	#4	1/19/1999	PB4603 #1	0139911 #2
				spring	Sediment	PCB	CAN'T READ NAME EXT 6/5/98	1/22/1999	SMEAR605 #1	SMB605 #2
na	Blank			summer	Sediment	PCB	50 NG DFTPP	3/11/1999	EXBLK826 #1	EDWOYMS #2
na	Blank			summer	Sediment	PCB	PCB MID EXT BLK 8/26/98	3/4/1999	PBEXBLK826 #1	PB2319818 #2
Clapboard Creek 1	CLBR1			summer	Sediment	PCB	CLBR1-PEL 8/20	3/1/1999	PB2229809 #1	PB2229815 #4
Clapboard Creek 2	CLBR2		1	summer	Sediment	PCB	50 NG DFTPP	3/9/1999	PB2229815R #1	PB2319817R #2
Clapboard Creek 2	CLBR2		2	summer	Sediment	PCB	CLBR #2 8/20	3/1/1999	PB2229815 #1	EXTBLK120 #4
Cedar Point Creek "composite 1"	CPC COMP1	1	1	summer	Sediment	PCB	CPC-COMP1 8/20	3/1/1999	PB2229816 #1	PB2229809 #4
Cedar Point Creek "composite 1"	CPC COMP1	1	2	summer	Sediment	PCB	CPC-COMP 8/28	3/16/1999	PB2229802C #1	PB3369816M #2
Cedar Point Creek "composite 2"	CPC COMP2	2	A	summer	Sediment	PCB	CPC COMP 2A	1/25/1999	PB2229802A #1	PB2229801 #2
Cedar Point Creek "composite 2"	CPC COMP2	2	B	summer	Sediment	PCB	CPC COMP 2B	1/25/1999	PB2229802B #1	PCB2PM125 #2
Cedar Point Creek 0	CPC0		1	summer	Sediment	PCB	50 NG DFTPP	3/9/1999	PB229805R2 #1	PB1PM309 #2
Cedar Point Creek 0	CPC0		2	summer	Sediment	PCB	CPC-0 8/20/98	3/2/1999	PB2229805 #1	HM0MS #4
Cedar Point Creek 0	CPC0		3	summer	Sediment	PCB	CPC-0 TEPEAT 8/21	3/2/1999	2229805R #1	EXTBLK120 #4
Cedar Point Creek 100	CPC100			summer	Sediment	PCB	CPC-100 8/20	2/26/1999	PB2229812 #1	PBTCLP20B #2

SITE	site-id	Field Dup	Lab Dup	season	Type Matrix	Type Contam	ID	Date	Data	Call
Cedar Point Creek 50	CPC50			summer	Sediment	PCB	CPC-50 8/20/98	2/26/1999	PB2229814 #1	PB2229813 #2
Hannah Mills Creek "composite"	HM COMP			summer	Sediment	PCB	HM COMP A 8/20	1/25/1999	PB2229806 #1	HM100S2 #2
Hannah Mills Creek 0	HM0		1	summer	Sediment	PCB	PCB MID ON HM00-DD 8/20/98	3/3/1999	PB2229806DD #1	PB1PM303 #2
Hannah Mills Creek 0	HM0		2	summer	Sediment	PCB	HM-0-R 8/28	3/12/1999	PB2229808R #1	PB1PM312 #2
Hannah Mills Creek 100	HM100			summer	Sediment	PCB	HM-100 8/20/98	2/26/1999	PB2229813 #1	PBBLKOY #2
Hannah Mills Creek 50	HM50			summer	Sediment	PCB	HM 50 EXT 8/20	1/22/1999	PB2229606 #1	SMEAR605 #2
Little Clapboard Creek	LCC		1	summer	Sediment	PCB	LCC DUP 8/20	1/22/1999	PB2229801D #1	PB2229806 #2
Little Clapboard Creek	LCC		2	summer	Sediment	PCB	LCC 8/20	1/25/1999	PB2229801 #1	PC2229804 #2
na	Matrix Spike			summer	Sediment	PCB	HM-0 MATRIX SPIKE 8/20/98	3/2/1999	HM0MS #1	PB1PM302 #4
na	Matrix Spike			summer	Sediment	PCB	SIST MOUTH MATRIX SPIKE 8/20	1/26/1999	SISTMMS820 #1	PCC2229804 #2
Sisters Creek "dead end"	SDE			summer	Sediment	PCB	PCB SIS D.E. EXT 8/20	1/25/1999	PC2229804 #1	PCB2PM125 #2
St. Johns River	SJR1	1	A	summer	Sediment	PCB	PCB ON SJR #1	1/26/1999	PB2229807 #1	PC2229804 #2
St. Johns River	SJR1	1	B	summer	Sediment	PCB	SJR #1 REPEAT	1/26/1999	PB2229807R #1	PB2229807 #2
St. Johns River	SJR1	1	C	summer	Sediment	PCB	SJR #1 DUP	1/26/1999	PB2229807D #1	PB2229807 #2
St. Johns River	SJR2	2	A	summer	Sediment	PCB	SJR #2 AUG 24	2/25/1999	PB2229811R #1	PB1PM225 #2
St. Johns River	SJR2	2	B	summer	Sediment	PCB	SJR #2 AUG 20 98	2/25/1999	PB2229811 #1	PB2PM225 #4
Sisters Creek "mouth"	SM			summer	Sediment	PCB	PCB ON SISTER MOUTH 8/20	1/26/1999	PB2229810 #1	SISTMMS820 #2
na	Blank				Sediment	PCB	PCB EXT BLK 1	1/22/1999	PBBLK1 #1	PCB2PM121 #2
na	Blank				Sediment	PCB	PCB EXT BLK 2	1/22/1999	PBBLK2 #1	PBBLK1 #2
Clapboard Creek 1	CLBR1			fall	Sediment	PCB	PCB MID METHOD FOR S. FOX	3/16/1999	PB3369817 #1	PB3369816 #2
Clapboard Creek 2	CLBR2			fall	Sediment	PCB	CLBR2 12/4 PCB MID	3/16/1999	PB3369813 #1	PB2229802C #2
Cedar Point Creek 0	CPK0			fall	Sediment	PCB	CPK-0 12/4	3/15/1999	PB3369812 #1	PB2229808R #2
Cedar Point Creek 100	CPK100			fall	Sediment	PCB	PCB MID METHOD FOR S. FOX	3/16/1999	PB3369815 #1	PB3369815 #2
Cedar Point Creek 50	CPK50			fall	Sediment	PCB	PCB MID METHOD FOR S. FOX	3/15/1999	PB3369816 #1	PB3369816 #2
Hannah Mills Creek 0	HM0		1	fall	Sediment	PCB	PCB MID HM-O 12/15/	3/19/1999	PB3469801D #1	PB3489801 #2
Hannah Mills Creek 0	HM0		2	fall	Sediment	PCB	PCB MID HM0 12/15	3/19/1999	PB3489801 #1	EXBLK1215 #2
Hannah Mills Creek 100	HM100			fall	Sediment	PCB	PCB MID HM 100 12/15	3/19/1999	PB3489803 #1	PB2489802 #2
Hannah Mills Creek 50	HM50			fall	Sediment	PCB	PCB MID METHOD FOR S. FOX	3/19/1999	PB2489802 #1	PB3489801D #2
Little Clapboard Creek	LCC			fall	Sediment	PCB	PCB MID METHOD FOR S. FOX	3/16/1999	PB3369819 #1	PB3369816 #2
na	Matrix Spike			fall	Sediment	PCB	PCB MID MATRIX SPIKE 1 12/13	3/17/1999	PBMS11213 #1	PB1PM317 #2
na	Matrix Spike			fall	Sediment	PCB	PCB MID MATRIX SPIKE 2 12/13	3/17/1999	PBMS21215 #1	PB2229802C #2
na	Matrix Spike			fall	Sediment	PCB	CPK-50 MATIX SPIKE	3/16/1999	PB3369816M #1	PB1PM316 #2
Sisters Creek "dead end"	SDE			fall	Sediment	PCB	PCB MID SIST D.E. 12/4 ALMOST DRIED BECAUSE OF LOSE CAP	3/19/1999	PB3369814 #1	PB3489803 #2

SITE	site-id	Field Dup	Lab Dup	season	Type Matrix	Type Contam	ID	Date	Data	Call
St. Johns River	SJR			fall	Sediment	PCB	PCB MID METHOD FOR S. FOX	3/17/1999	3489804 #1	PB1PM319 #2
Sisters Creek "mouth"	SM			fall	Sediment	PCB	PCB MID METHOD FOR S. FOX	3/16/1999	PB3369818 #1	PB3369816 #2
St. Johns River	SJR			spring	Sediment	PAH	SJR EXT 6/4/98 S FOX	10/26/1998	SJR604 #1	SDE604 #4
				spring	Sediment	PAH	CAN'T READ NAME EXT 6/5/98	11/3/1998	SMEAR605 #1	SMEAR605 #4
				spring	Sediment	PAH	#4 EXT ON 6/3/98 BY S FOX	10/22/1998	F4060398 #1	F3060398 #4
Sisters Creek "mouth"	SM			spring	Sediment	PAH	#2 EXT ON 6/3/98 BY S FOX	10/21/1998	F2060398 #1	F1060398 #4
Sisters Creek "mouth"	SM			spring	Sediment	PAH	SMB EXT 6/5/98 S FOX	10/29/1998	SMB605 #1	CPK100605 #4
Sisters Creek "mouth"	SM			spring	Sediment	PAH	SMB EXT 6/5/98 S FOX	12/30/1998	SMB605 #1	2229813 #4
Clapboard Creek 2	CLBR2B			spring	Sediment	PAH	50 NG DFTPP	12/16/1998	CLBR2B605 #1	2229815MD #4
Hannah Mills Creek 50	HM50			spring	Sediment	PAH	HM50 EXT 6/4/98	1/19/1999	HM50604 #1	PB4603 #2
Sisters Creek "dead end"	SDE			spring	Sediment	PAH	50 NG DFTPP	10/27/1998	SDE604 #1	HM50604 #4
Hannah Mills Creek 100	HM100			spring	Sediment	PAH	HM100 EXT 6/5/98 S FOX	10/26/1998	HM100605 #1	HM100605 #4
Hannah Mills Creek 50	HM50			spring	Sediment	PAH	HM50 EXT 6/4/98 S FOX	10/27/1998	HM50604 #1	CPK50604 #4
Clapboard Creek 1	CLBR1			spring	Sediment	PAH	CLBR1 EXT 6/5/98 S FOX	10/29/1998	CLBR1605 #1	HM100605 #4
Little Clapboard Creek	LCC			spring	Sediment	PAH	LCC EXT 6/5/98 S FOX	10/28/1998	LCC605 #1	SJR604 #4
Cedar Point Creek 50	CPK50			spring	Sediment	PAH	CPK 50 6/4/98 S FOX	10/27/1998	CPK50604 #1	BN20PM1027 #4
Cedar Point Creek 100	CPK100			spring	Sediment	PAH	CPK 100 EXT 6/5/98	12/17/1998	CPK100605 #1	SF3608 #4
Cedar Point Creek "composite 2"	CPC-COMP2	2		summer	Sediment	PAH	CPC-COMP 2C AUG 28	6/22/1999	2229802C #1	BN20PM617 #2
Cedar Point Creek 0	CPC0		R	summer	Sediment	PAH	CPC-0 R 8/21	5/20/1999	2229805R #1	229815R #2
Cedar Point Creek "composite 1"	CPC COMP1	1		summer	Sediment	PAH	CPC COMP 1 8/20	5/21/1999	2229816 #1	BN20PM521 #2
Clapboard Creek 2	CLBR2		R	summer	Sediment	PAH	CLBR2-R 8/27	5/20/1999	229815R #1	BN1PM520 #2
Cedar Point Creek 0	CPC0			summer	Sediment	PAH	BN STD 20 PPM	5/25/1999	2229805R3 #1	2229805R3 #2
Hannah Mills Creek 50	HM50			summer	Sediment	PAH	BN STD CURVE	5/24/1999	2229803 #1	BN2PM518 #2
Hannah Mills Creek 0	HM0		DD	summer	Sediment	PAH	50 NG DFTPP	12/30/1998	2229808DD #1	2229808DD #4
Cedar Point Creek 50	CPC50			summer	Sediment	PAH	BN STD 20 PPM	11/30/1998	2229814 #1	2229813R #4
Sisters Creek "mouth"	SM			summer	Sediment	PAH	SIST. MOUTH EXT 8/20	11/20/1998	2229810 #1	2229809 #4
St. Johns River	SJR	2		summer	Sediment	PAH	SJR #2 EXT 8/20	11/20/1998	2229811 #1	2229811 #4
Clapboard Creek 1	CLBR1			summer	Sediment	PAH	CLBR1-PEL EXT 8/20	11/20/1998	2229809 #1	2229808DD #4
Little Clapboard Creek	LCC			summer	Sediment	PAH	LCC D EXT 8/29/98	11/5/1998	2229801D #1	BLK2820 #4
St. Johns River	SJR	1		summer	Sediment	PAH	SJR#1	12/30/1998	2229807 #1	2229807 #4
Hannah Mills Creek 100	HM100			summer	Sediment	PAH	HM-100 8/20	12/30/1998	2229813 #1	2229808DD #4
St. Johns River	SJR	2	R	summer	Sediment	PAH	SJR #2 R EXT 8/24	11/23/1998	2229811R #1	BN20PM1123 #4
St. Johns River	SJR	1	D	summer	Sediment	PAH	SJR #1 DUP 8/20	11/19/1998	2229807D #1	2229807 #4
Cedar Point Creek 0	CPC0		R	summer	Sediment	PAH	CPC-0 REPEAT	12/28/1998	222805RR #1	BN20PPM1228 #4
Cedar Point Creek 0	CPC0			summer	Sediment	PAH	CPC-0 8/20/98	11/6/1998	2229805 #1	2229805 #4

SITE	site-id	Field Dup	Lab Dup	season	Type Matrix	Type Contam	ID	Date	Data	Call
Clapboard Creek 2	CLBR2			summer	Sediment	PAH	CLBR #2 8/20	12/16/1998	2229815MD #1	BN20PM1216 #4
Hannah Mills Creek "composite"	HM COMP		A	summer	Sediment	PAH	HM-COMP-A EXT 8/20	11/18/1998	2229806A #1	2229805R #4
Cedar Point Creek "composite 2"	CPC COMP 2		2	summer	Sediment	PAH	CPCCOMP2A EXT 8/21	11/17/1998	229802A #1	229802A #4
Little Clapboard Creek	LCC			summer	Sediment	PAH	LCC EXT AUG 20,98	11/4/1998	2229801 #1	BN20PM1104 #4
Sisters Creek "dead end"	SIST DE			summer	Sediment	PAH	SIST.D.E. AUG 20	11/6/1998	2229804 #1	BN20PM1106 #4
Cedar Point Creek "composite 2"	CPC COMP 2		2 B	summer	Sediment	PAH	CPCCOMP2B EXT 8/21	11/17/1998	2229802B #1	229802A #4
St. Johns River	SJR		1	summer	Sediment	PAH	SJR 1 R 8/21/98	11/19/1998	2229807R #1	2229807D #4
Clapboard Creek 1 *****	CLBR1			fall	Sediment	PAH	CLBR 1 12/4	6/24/1999	3369817 #1	3369816 #2
Clapboard Creek 2	CLBR2			fall	Sediment	PAH	CLBR2 12/4	6/22/1999	3369813 #1	BN20PM617 #2
Hannah Mills Creek 0	HM0			fall	Sediment	PAH	HM-0-DUP 12/15	6/30/1999	3489801D #1	3489803 #2
Hannah Mills Creek 0	HM0			fall	Sediment	PAH	HM0 12/15	6/28/1999	3489801 #1	BN20PM625 #2
Sisters Creek "mouth"	SM			fall	Sediment	PAH	SISTERS MOUTH 12/4	6/23/1999	3369818 #1	2229802C #2
Little Clapboard Creek	LCC			fall	Sediment	PAH	LCC 12/4/98	6/24/1999	3369819 #1	3369819 #2
Cedar Point Creek 0	CPK0			fall	Sediment	PAH	CPK-0 12/4	6/9/1999	3369812 #1	3369812 #2
Cedar Point Creek 100	CPK100			fall	Sediment	PAH	CPK-100 12/4/98	5/24/1999	3369815 #1	3369815 #2
St. Johns River	SJR			fall	Sediment	PAH	SJR 12/15	6/25/1999	3489804 #1	MS1213 #2
Cedar Point Creek 50	CPK50			fall	Sediment	PAH	CPK 50 12/4	6/24/1999	3369816 #1	3369819 #2
Hannah Mills Creek 50	HM50			fall	Sediment	PAH	HM50 12/15	6/25/1999	3489802 #1	BN20PM625 #2
Hannah Mills Creek 100	HM100			fall	Sediment	PAH	HM-100 12/13	6/29/1999	3489803 #1	3369814 #2
Sisters Creek "dead end"	SDE			fall	Sediment	PAH	SISTER D.E. 12/4 ALMOST DRY	6/29/1999	3369814 #1	BN20PM629 #2
na	Matrix Spike			summer	Sediment	PAH	HM-100 REPEAT 8/21	11/30/1998	2229818R #1	2229813 #4
na	Matrix Spike			spring	Sediment	PAH	HM100S2 EXT 6/5/98	11/3/1998	HM100S2 #1	SMEAR605 #4
na	Matrix Spike			spring	Sediment	PAH	HM 100 S1 EXT 6/5 98 S FOX	10/29/1998	HM100S15 #1	SMB605 #4
na	Matrix Spike			summer	Sediment	PAH	50 NG DFTPP	3/11/1999	CPCCOMMS #1	CLBLK5 #2
na	Matrix Spike			summer	Sediment	PAH	HM-0 MATRIX SPIKE 8/20	11/17/1998	HM0820MS #1	BN20PM1117 #4
na	Matrix Spike				Sediment	PAH	SIST MOUTH MS	11/16/1998	SISTMMS #1	SMEAR605 #2
na	Matrix Spike			fall	Sediment	PAH	CPK 50 MATRIX SPIKE	12/14/1998	3309818MS #1	3369818MS #4
na	Matrix Spike			summer	Sediment	PAH	CPC-COMP 2 MATRIX SPIKE 8/28	5/28/1999	CPCCOMP2MS #1	BN20PM528 #4
na	Matrix Spike				Sediment	PAH	MATRIX SPIKE 2 12 15	6/3/1999	MS21215 #1	MS21215 #2
na	Matrix Spike				Sediment	PAH	MATRIX SPIKE 12/13	6/22/1999	MS1213 #1	BN20PM622 #2
na	Blank			fall	Sediment	PAH	EXT BLANK 12/4	6/21/1999	EXTBLK1204 #1	EXTBLK1215 #2
na	Blank			fall	Sediment	PAH	EXTRACTION BLANK FROM 12/15/98	6/21/1999	EXTBLK1215 #1	BN20PM621 #2
na	Blank			summer	Sediment	PAH	BLANK S 8/28	6/1/1999	EXTBLAKS8/28 #1	BN20PM601 #2
na	Blank			spring	Sediment	PAH	#3 EXT 6/3 S FOX	12/15/1998	SF3603 #1	CLBR2B605 #4
na	Blank			summer	Sediment	PAH	EXT BLK 8/29/98	11/5/1998	BLK1820 #1	BN20PM1105 #4

SITE	site-id	Field Dup	Lab Dup	season	Type Matrix	Type Contam	ID	Date	Data	Call
na	Blank			summer	Sediment	PAH	CLBR 2B EXT 6/5/98 S FOX	11/5/1998	BLK2820 #1	BLK1820 #4
na	Blank			fall	Sediment	PAH	EXTRACTION BLANK 12/15	3/19/1999	EXBLK1215 #1	3489804 #2
Alligator Creek	Alligator Ck				Oyster	PCB	ALLIGATOR-OY 8/27	3/12/1999	PB2329804B #1	PB1PM312 #2
Lofton Creek	Lofton Ck				Oyster	PCB	LOFTON-OY 8/27	3/15/1999	PB2329803 #1	HMOYR2MS #1
Marker 67	Marker 67				Oyster	PCB	MARK67-OY 8/26	3/9/1999	PB2329805 #1	PB2329810 #2
Hannah Mills Creek	Hannah Mills Ck		1		Oyster	PCB	PCB MID HM-OY 8/27	3/12/1999	PB2329813D #1	PB1PM312 #2
St. Johns River	SJR				Oyster	PCB	SJR-OY 8/26	2/10/1999	PB2329811 #1	PB2329801 #2
Sisters Creek	Sisters Creek	1			Oyster	PCB	50 NG DFTPP	3/9/1999	PB2319817R #1	PB229805R2 #2
Sisters Creek "mouth"	Sisters Ck Mouth	2	1		Oyster	PCB	SIST MOUTH OYS	3/3/1999	PB2319818 #1	PB2319817 #2
Sisters Creek "mouth"	Sisters Ck Mouth	2			Oyster	PCB	PCB MID SYS.MOUTH DUP 8/21	3/4/1999	PB2319818D #1	NASICWMS #2
Edwards Creek	Edwards Ck				Oyster	PCB	50 NG DFTPP	3/10/1999	PB2329802 #1	PB2329813 #2
Hannah Mills Creek	Hannah Mills Ck		2		Oyster	PCB	HM-OY R2 9/4	3/11/1999	PB2329813R2 #1	PB1PM310 #2
Hannah Mills Creek	Hannah Mills Ck		1	spring	Oyster	PCB	HM OYSTER 6/5/98	3/1/1999	PBHMOYS #1	PB2229816 #4
Hannah Mills Creek	Hannah Mills Ck		2	spring	Oyster	PCB	HM OYSTER EXT 6/5/98	1/22/1999	HMOYS605 #1	PBBLK2 #2
Hannah Mills Creek	Hannah Mills Ck		3		Oyster	PCB	50 NG DFTPP	3/9/1999	PB2329813 #1	PB2229815R #2
Pumpkin Hill Creek	Pumpkin Hill Ck		1		Oyster	PCB	50 NG DFTPP	3/12/1999	PB2329806B #1	PB2329804B #2
Fitzpatrick Creek	Fitzpatrick Ck		1		Oyster	PCB	PCB MID FITZ.CK OY 8/21	3/5/1999	PB2329819 #1	PB23219819 #2
Nassau River @ ICWW	Nassau ICWW				Oyster	PCB	NASSAU ICWW MATRIX SPIKE 8/2	3/4/1999	NASICWMS #1	PBEXBLK826 #2
Fitzpatrick Creek	Fitzpatrick Ck		2		Oyster	PCB	PCB MID FITZ OY R 8/25	3/5/1999	PB2319818R #1	PB2319818D #2
Cedar Point Creek	Cedar Point Ck				Oyster	PCB	CPC-OY 8/26	3/9/1999	PB2329812 #1	PB1PM309 #2
Simpson Creek	Simpson Ck				Oyster	PCB	SIMPSON CK OY 8/26	3/10/1999	PB2329801 #1	PB1PM310 #2
Deese Creek	Deese Ck				Oyster	PCB	DEESE-OY-R 9/4	3/15/1999	PB2329807R #1	HMOYR2MS #1
Pumpkin Hill Creek	Pumpkin Hill Ck		2		Oyster	PCB	PUMPKIN HILL CK OY 9/4	3/11/1999	PB2329806R #1	PB2329813R #2
Browns Creek	Browns Ck				Oyster	PCB	BROWN CK OY 9/4	3/10/1999	PB2329808R #1	PB2329805 #2
Clapboard Creek	Clapboard Ck				Oyster	PCB	CLBR-OY 8/26	3/9/1999	PB2329810 #1	PB2329812 #2
Garden Creek	Garden Ck				Oyster	PCB	GARDEN CK OY 8/26	3/5/1999	PB2319809 #1	PB2319819 #2
Fitzpatrick Creek	Fitzpatrick Ck		1		Oyster	PAH	FITZ CK OY 8/21/98	12/10/1998	2319819 #1	2229813R #4
Garden Creek	Garden Ck				Oyster	PAH	GARDEN OY 8/26	12/29/1998	2329809 #1	2229807D #4
Cedar Point Creek	Cedar Point Ck				Oyster	PAH	CPC-OY 8/26	12/29/1998	2329812 #1	2319819 #4
Fitzpatrick Creek	Fitzpatrick Ck		2		Oyster	PAH	FITZ -OY-R 8/26	12/29/1998	2319819R #1	2229805RR #4
Sisters Creek	Sisters Creek		1		Oyster	PAH	SISTERS MOUTH OYSTER 8/21	12/6/1998	2229818 #1	2229818R #4
St. Johns River	St. Johns River			spring	Oyster	PAH	SJRB EXY 6/5/98 S FOX	10/30/1998	SJR8605 #1	HMO45605 #4
Hannah Mills Creek	Hannah Mills Ck			spring	Oyster	PAH	HM0 45 EXT 6/5/98 S FOX	10/30/1998	HMO45605 #1	CLBR2B605 #4
Clapboard Creek	Clapboard Ck				Oyster	PAH	CLBR OY 8/26	12/31/1998	2329810 #1	BN20PM12312 #4
Marker 67	Marker 67				Oyster	PAH	MARK 67 OY 8/26	12/31/1998	2329805 #1	2329810 #4

SITE	site-id	Field Dup	Lab Dup	season	Type Matrix	Type Contam	ID	Date	Data	Call
Skeet (ICWW)	Skeet		1		Oyster	PAH	SKEET-OY 8/21	12/7/1998	2229817 #1	2229817 #4
Sisters Creek	Sisters Creek		2		Oyster	PAH	50 NG DFTPP	12/14/1998	2319818D #1	BN20PM1214 #4
Deese Creek	Deese Ck		1		Oyster	PAH	DEESE-OY 9/4	6/9/1999	2329807R #1	2329807R #2
Edwards Creek	Edwards Ck				Oyster	PAH	EDWARDS OY 8/26	5/27/1999	2329802 #1	MODULAIRE #2
Skeet (ICWW)	Skeet		2		Oyster	PAH	SKEET OY REPEAT 8/26	5/26/1999	2319817R #1	BN20PM526 #2
Lofton Creek	Lofton Ck				Oyster	PAH	LOFTON OY 8/27	6/8/1999	2329803 #1	2329804 #2
Hannah Mills Creek	Hannah Mills Ck		3		Oyster	PAH	HM-OY 9/4	6/4/1999	2329813R2 #1	BN20PM603 #2
Pumpkin Hill Creek	Pumpkin Hill Ck		2		Oyster	PAH	PUMPKIN HILL CK OY SEPT 4	6/30/1999	2329806R #1	3489801D #2
Simpson Creek	Simpson Ck				Oyster	PAH	SIMPSON CK OY 8/26	5/27/1999	2329801 #1	2329801 #2
Alligator Creek	Alligator Ck				Oyster	PAH	ALLIGATOR OY 8/27	6/2/1999	2329804 #1	2329811 #2
Hannah Mills Creek	Hannah Mills Ck		2		Oyster	PAH	HM-OY D 8/27	6/3/1999	2329813D #1	2329806 #2
Browns Creek	Browns Ck				Oyster	PAH	BROWN CK OY 9/4	6/7/1999	2329808R #1	BN20PM607 #2
St. Johns River	St. Johns River				Oyster	PAH	SJR OY 8/26	6/2/1999	2329811 #1	BN20PM602 #2
Hannah Mills Creek	Hannah Mills Ck		1		Oyster	PAH	HM-OY 8/27	5/6/1999	23299813 #1	BN20PM525 #2
Pumpkin Hill Creek	Pumpkin Hill Ck		1		Oyster	PAH	PUMPKIN OY AUG 27	7/1/1999	2329806 #1	3369813 #2
Sisters Creek	Sisters Creek		3		Oyster	PAH	SYS. MOUTH DUP OY 8/21 5/25/99	5/25/1999	2319818D #1	2229805R3 #2
na	Matrix Spike				Oyster	PAH	EDWARDS OY MATRIX SPIKE 8/27	5/28/1999	EDWARDYOYMS #1	CPCCOMP2MS #2
na	Matrix Spike				Oyster	PAH	NASSAU ICWW MATRIX SPIKE OY	12/11/1998	NASSOYMS #1	BN20PM1211 #4
na	Matrix Spike				Oyster	PAH	GARDEN OYS MATRX SPIKE	12/28/1998	GARDENOYMS #1	BLK2ROY #4
na	Matrix Spike				Oyster	PAH	HM OY R2 MATRIX SPIKE SEPT 4	7/1/1999	HMOYR2MS #1	3369815 #2
na	Blank				Oyster	PAH	BLANK OST 8/24/98	12/4/1998	BLKOY824 #1	BN20PM 1204 #4
na	Blank				Oyster	PAH	EXT BLK2 FROM AUG 26, 98	12/28/1998	BLK2ROY #1	222805RR #4
na	Matrix Spike				Oyster	PCB	50 NG DFTPP	3/11/1999	EDWOYMS #1	CPCCOMMS #2
na	Matrix Spike				Oyster	PCB	HM-OY-R2 MATRIX SPIKE	3/15/1999	HMOYR2MS #1	PB1PM312 #2
na	Matrix Spike				Oyster	PCB	PCB MIS NASSUA ICWW OY	3/5/1999	PB2319816 #1	PB2319809 #2
na	Matrix Spike				Oyster	PCB	GARDEN MATRIX SPIKE 8/26	3/4/1999	GARJMS826 #1	PB1PM304 #4
na	Blank				Oyster	PCB	OYSTER BLK 8/24	2/26/1999	PBBLKOY #1	PBTCLP20A #2

198 REPORTS

*****missing from initial package