

APPENDIX D:

COVE CORPORATION BENTHIC ANALYSIS REPORT

January 6, 2004

Isabelle P. Williams
ENSR Corporation
89 Water Street
Woods Hole, MA 02543

Re: September 2003 NJ Meadowlands macrobenthic data report

Dear Izzie,

Enclosed are the September 2003 New Jersey Meadowlands macrobenthic data. Electronic copies of all data files can be found on the enclosed diskette. See Table 1 below for a list of those files. A quality control report is presented on pages 2-4. Please note that all macrobenthic data are reported on a per sample basis. If you have any questions or comments, please call or write.

Sincerely,

C. Timothy Morris
Laboratory Manager
tmorris@chesapeake.net

Table 1. List of diskette files.

File Name	Description of File	Format
Meadowlands Data	Macrobenthic data for 12 samples	Microsoft Excel 2000
Meadowlands QC Report	Cover letter and QC report	Microsoft Word 2000
Meadowlands Vouchers	List of taxa present in the voucher collection	Microsoft Excel 2000

Quality Control Report
Part I. Sorting Performance

Denise H. Crivella and Barbara A. Weems sorted the 12 macrobenthic samples. The 12 samples constituted only one batch of samples. One sample was randomly selected from the batch to evaluate sorting performance. This sample passed the sorting QC evaluation (see Tables 2 & 3 below). The acceptance/rejection level used was 95%.

Table 2. Overall sorting performance.

Total number of samples sorted	12
Total number of QC samples	1
Percentage of samples checked	8.3
Total number of QC failures	0
Total number of samples resorted	0
Overall sorting QC error (percentage)	2.2

Table 3. Detailed sorting QC results.

Batch	Sample	QC Inspector and Inspection Date	No. Found	Total No.	% Error
1	RB-SD-01-B	BAW 05NOV03	14	630	2.2

Part II. Identification and Enumeration Performance

C. Timothy Morris and Nancy K. Mountford identified the 12 macrobenthic samples. Table 4 lists the major groups identified by each taxonomist. The 12 samples constituted only one batch of samples. One sample was randomly selected from the batch to evaluate taxonomy performance of each taxonomist as well as for the entire sample. Please note that Ms. Mountford identified all of the animals from the QC sample. This sample passed the taxonomy QC check (see Tables 5 & 6). A 95% acceptance/rejection level was used.

Table 4. List of major groups identified by each taxonomist.

Taxonomist	Groups Identified
C. Timothy Morris (Cove Corporation)	<ul style="list-style-type: none"> • Arthropoda • Spionidae
Nancy K. Mountford (Cove Corporation)	<ul style="list-style-type: none"> • Annelida (except Spionidae) • Anthozoa • Insecta • Mollusca

Table 5. Overall taxonomy performance.

Total number of samples identified	12
Total number of QC samples	1
Percentage of samples checked	8.3
Total number of QC failures	0
Total number of samples re-identified	0
QC error for the entire sample (percentage)	1.1
QC error for Tim Morris (percentage)	N/A
QC error for Nancy Mountford (percentage)	1.1

Table 6. Taxonomy QC results for batch number 1 (sample KM-SD-02-C).

Taxonomist	Major Groups	QC Inspection Date	Id. Errors	Total No.	% Error
T. Morris	arthropods & spionids	N/A	N/A	0	N/A
N. Mountford	annelids, anthozoans, insects, & molluscs	12NOV03	1	93	1.1
Totals for the sample			1	93	1.1

NJ Meadowlands Macroinvertebrate Data - September 15-17, 2003 Survey

Species Code	Species Name	KM-01A	KM-01B	KM-01C	KM-02A	KM-02B	KM-02C	RB-01A	RB-01B	RB-01C	RB-02A	RB-02B	RB-02C
3759010101	<i>Edwardsia elegans</i>							2		3	32	7	
5001240801	<i>Laonereis culveri</i>			1				205	141	149	293	63	13
5001430411	<i>Polydora cornuta</i>										1	1	
5001431801	<i>Streblospio benedicti</i>										2		
5001432802	<i>Boccardiella ligerica</i>											2	
5001600201	<i>Heteromastus filiformis</i>								1				
5001670309	<i>Hobsonia florida</i>							133	34	22	362	64	12
5001701502	<i>Manayunkia aestuarina</i>							1			60	7	4
5004000000	<i>Oligochaeta</i>	77	84	49	35	26	89	114	162	431	255	68	180
5103131201	<i>Spurwinkia salsa</i>							873	209	119	27	3	5
5515310116	<i>Macoma balthica</i>										1		
6160010201	<i>Cyathura polita</i>										23	14	
6162020703	<i>Edotea triloba</i>										10	4	2
6169020108	<i>Ampelisca abdita</i>								1			12	
6169150205	<i>Apocorophium lacustre</i>								1		2	2	
6169210708	<i>Gammarus palustris</i>				2	1		5	2				
6169211006	<i>Melita nitida</i>											1	
6505040300	<i>Culicoides</i> sp.		1	2	1		3	8	9	25	4		
6505080098	<i>Chironomidae</i> pupae							2		1			
6505080099	<i>Chironomidae</i> larvae	6		11	1	4	1	146	70	37		1	1
	total number of individuals	83	85	63	39	31	93	1489	630	787	1072	249	217
	total number of taxa	2	2	4	4	3	3	10	10	8	13	14	7

NJ Meadowlands Voucher Collection

September 15-17, 2003 Survey

Species Code	Species Name	Sample Id.	CC Serial No.	No. of Vouchers
3759010101	<i>Edwardsia elegans</i>	RB-SD-02-B	45,366	7
5001240801	<i>Laeonereis culveri</i>	RB-SD-01-B	45,363	5
5001430411	<i>Polydora cornuta</i>	RB-SD-02-B	45,366	1
5001431801	<i>Streblospio benedicti</i>	RB-SD-02-A	45,365	2
5001432802	<i>Boccardiella ligerica</i>	RB-SD-02-B	45,366	2
5001600201	<i>Heteromastus filiformis</i>	RB-SD-01-B	45,363	1
5001670309	<i>Hobsonia florida</i>	RB-SD-02-A	45,365	362
		RB-SD-01-A	45,362	12
5001701502	<i>Manayunkia aestuarina</i>	RB-SD-02-A	45,365	60
5004000000	<i>Oligochaeta</i>	RB-SD-01-A	45,362	114
5103131201	<i>Spurwinkia salsa</i>	RB-SD-01-A	45,362	873
5515310116	<i>Macoma balthica</i>	RB-SD-02-A	45,365	1
6160010201	<i>Cyathura polita</i>	RB-SD-02-A	45,365	10
6162020703	<i>Edotea triloba</i>	RB-SD-02-A	45,365	10
6169020108	<i>Ampelisca abdita</i>	RB-SD-02-B	45,366	12
6169150205	<i>Apocorophium lacustre</i>	RB-SD-02-B	45,366	2
6169210708	<i>Gammarus palustris</i>	RB-SD-01-A	45,362	5
6169211006	<i>Melita nitida</i>	RB-SD-02-B	45,366	1
6505040300	<i>Culicoides</i> sp.	KM-SD-01-A	45,356	6
6505080098	Chironomidae pupae	RB-SD-01-A	45,362	2
6505080099	Chironomidae larvae	RB-SD-01-A	45,362	146