



**U.S. Army  
Corps of Engineers**

New England District  
Concord, Massachusetts



**U.S. Environmental  
Protection Agency**

New England Region  
Boston, Massachusetts

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# **REST OF RIVER SITE INVESTIGATION DATA REPORT**

## **Volume II, Data**

DCN: GE-080202-ABDK

August 2002

**General Electric (GE)/Housatonic River Project  
Pittsfield, Massachusetts**

Contract No. DACW33-00-D-0006

Task Order 0003

**REST OF RIVER SITE INVESTIGATION DATA REPORT**

**VOLUME II—DATA**

**ENVIRONMENTAL REMEDIATION CONTRACT  
GENERAL ELECTRIC (GE)/HOUSATONIC RIVER PROJECT  
PITTSFIELD, MASSACHUSETTS**

Contract No. DACW33-00-D-0006, Task Order No. 0003  
DCN: GE-080202-ABDK

Prepared for

**U.S. ARMY CORPS OF ENGINEERS  
NEW ENGLAND DISTRICT**  
Concord, Massachusetts

and

**U.S. ENVIRONMENTAL PROTECTION AGENCY  
NEW ENGLAND REGION**  
Boston, Massachusetts

Prepared by

**WESTON SOLUTIONS, INC.**  
West Chester, Pennsylvania 19380

August 2002

W.O. No. 20123.001.096.0635

1 **PREFACE**

2 Volume II of the SI Data Report presents data collected in implementing the SIWP as well as  
3 data from a small number of additional programs that were subsequently identified and  
4 documented in separate SOPs; these sampling programs are summarized in Volume I. The data  
5 are provided on CDs or in hard copy. The Table of Contents for Volume II lists the programs  
6 described in Volume I, and provides a directory indicating where the data are presented (CD,  
7 hard copy, or both). One CD contains the Monthly Data Exchange Database dated August 2,  
8 2002, which contains all the chemistry data and the majority of the information associated with  
9 implementation of the SIWP. The other CD contains electronic data not included in the Data  
10 Exchange Database due to necessary differences in format. The data tables that are not available  
11 electronically are provided in hard copy.

12 In addition, some information that was collected specifically to support the modeling study or  
13 individual ecological risk assessment studies does not lend itself to the electronic formats used  
14 for the project databases or has not yet been reviewed by EPA. This information will be  
15 presented as Additional Supporting Analyses appendices in the final Modeling Framework  
16 Design (MFD) document, or in the individual investigators' reports as they become available.

**SUPPLEMENTAL INVESTIGATION DATA REPORT**  
**VOLUME II—DATA**

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\* CD 1 – Data Exchange Database (August 2, 2002)  
 CD 2 – Additional data not provided with the Data Exchange Database  
 Hard Copy – Material not in electronic format

\*\*Data will be presented as Additional Supporting Analyses appendices in the final Modeling Framework Design (MFD) document, or in the individual investigators' reports as they become available.

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**TRANSMITTAL LETTER FOR MONTHLY  
DATA EXCHANGE CD-ROM  
2 AUGUST 2002**

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Weston Solutions, Inc.  
1400 Weston Way  
P.O. Box 2653  
West Chester, Pennsylvania 19380  
610-701-3000 • Fax 610-701-3186  
www.westonsolutions.com

02 August 2002

Mr. Mark Hattersley  
Senior Project Geologist  
Blasland, Bouck & Lee, Inc  
6723 Towpath Road, Box 66  
Syracuse, NY 13214

W. O. # 20123-001-096-0612

Re: Contract No. DACW33-00-D-0006  
Data Exchange Delivery 34 – 08/02/02  
DCN: GE-072902-ABDE  
Dear Mr. Hattersley:

Per arrangements under the Data Exchange Agreement for Housatonic River Watershed executed September 15, 1999 between the U.S. Environmental Protection Agency and General Electric, please find the enclosed Delivery 34 for August, 2002 on CD-ROM.

This CD-ROM contains ten (10) databases in Microsoft Access 2000 and thirty-four (34) Microsoft Excel file and two (2) Microsoft Word documents. The databases are in flat format, meaning all related fields are represented in one record. Each database is accompanied by a data dictionary file, which describes the elements of the database.

**080202\_usepa\_hr\_dbase1.mdb**                      Contains analytical results for the following matrices: soil/sediment/water/oil/wipe/air/vegetation, as generated by field or fixed laboratories under contract to USEPA and/or USACOE between the period July 1998 and July 2001.

**080202\_usepa\_hr\_dbase2.mdb**                      Contains analytical results for waterfowl and fish tissue matrices as generated by fixed laboratories under contract to USEPA and/or USACOE between the period August 1998 and July 2001. This database also contains attribute information (e.g. size, length) for the biological specimens.

**080202\_usepa\_hr\_dbase3.mdb**                      Contains hydrograph data (staff gauge height and velocity) for eight sampling locations along the Housatonic River and its tributaries between Pittsfield, MA and Woods Pond. These data were collected by Weston field teams during 10 storm events occurring between May and October 1999.

**080202\_usepa\_hr\_dbase4.mdb**                      Contains field parameter data (water temperature, specific conductivity, dissolved oxygen, pH, and turbidity) for eight sampling locations along the Housatonic River and its tributaries between Pittsfield, MA and Woods Pond. These data were collected by Weston field teams during 10 storm events occurring between May and October 1999.





<b>080202_usepa_hr_dbase5.mdb</b>	Contains Benthic faunal data for 13 sampling locations collected in June and July 1999. The data were collected following the procedures described in the SI Work Plan.
<b>080202_usepa_hr_dbase6.xls</b>	Contains main river channel, backwater and tributary cross section information that was collected according to the protocol specified in the data dictionary. (cross section ID, station number, X coordinate, Y coordinate and elevation)
<b>080202_usepa_hr_dbase7.mdb</b>	Contains x coordinate and y coordinate for the tree swallow boxes.
<b>080202_usepa_hr_dbase8.mdb</b>	Contains small mammal attributes for additional attributes not found on main tissue database.
<b>080202_usepa_hr_dbase9.mdb</b>	Contains tree swallow EROD data.
<b>080202_usepa_hr_dbase10.mdb</b>	Contains tree swallow nest (clutch size and hatching) data.
<b>080202_usepa_hr_dbase11.mdb</b>	Contains white sucker age determination data.
<b>080202_usepa_hr_dbase12.xls</b>	Contains 3 week old kit body weight (Mink).
<b>080202_usepa_hr_dbase13.xls</b>	Contains 6 month old kit organ weight (Mink).
<b>080202_usepa_hr_dbase14.xls</b>	Contains 6 month old kit body weight (Mink).
<b>080202_usepa_hr_dbase15.xls</b> (Mink).	Contains 6 week old kit necropsy body weight
<b>080202_usepa_hr_dbase16.xls</b>	Contains 6 week old kit organ weight (Mink).
<b>080202_usepa_hr_dbase17.xls</b>	Contains adult body weight at whelping and at 3 and 6 weeks (Mink).
<b>080202_usepa_hr_dbase18.xls</b>	Contains adult body weight from December to February (pre-breeding) (Mink).
<b>080202_usepa_hr_dbase19.xls</b>	Contains adult body weight on day 1 (Mink).
<b>080202_usepa_hr_dbase20.xls</b>	Contains adult necropsy body weight (6 wk from whelping) (Mink).
<b>080202_usepa_hr_dbase21.xls</b>	Contains adult organ weight (Mink).
<b>080202_usepa_hr_dbase22.xls</b>	Contains feed consumption data (Mink).
<b>080202_usepa_hr_dbase23.xls</b> (Mink).	Contains female kit 6 month body weight (necropsy)
<b>080202_usepa_hr_dbase24.xls</b>	Contains female kit body weight- week 10 to November (Mink).
<b>080202_usepa_hr_dbase25.xls</b>	Contains female whelping or not whelping (Mink).





080202_usepa_hr_dbase26.xls	Contains gestation data (Mink).
080202_usepa_hr_dbase27.doc	Contains histopathology of 6 month old kit (Mink).
080202_usepa_hr_dbase28.doc	Contains histopathology of adult females (Mink).
080202_usepa_hr_dbase29.xls	Contains kit body weight at birth (Mink).
080202_usepa_hr_dbase30.xls (Mink).	Contains male kit 6 month necropsy body weight
080202_usepa_hr_dbase31.xls (Mink).	Contains male kit body weight-week 10 to November
080202_usepa_hr_dbase32.xls weeks of age (Mink).	Contains survivability of kits at birth, and at 3 and 6
080202_usepa_hr_dbase33.xls	Contains 10 week old kit body weight (Mink).
080202_usepa_hr_dbase34.xls study.	Contains cross reference of sample ids for Mink
080202_usepa_hr_dbase35.xls	Contains 48hr test results for Chironomus data.
080202_usepa_hr_dbase36.xls data.	Contains 7d Lumbriculus in-situ bioaccumulation.
080202_usepa_hr_dbase37.xls Chironomus.	Contains 10d test results for Hyallela and
080202_usepa_hr_dbase38.xls	Contains Chironomus emergence data.
080202_usepa_hr_dbase39.xls	Contains water chemistry data for 42d Hyallela test.
080202_usepa_hr_dbase40.xls	Contains Hyallela biomass data.
080202_usepa_hr_dbase41.xls	Contains Chironomus AFDW data.
080202_usepa_hr_dbase42.xls	Contains Chironomus biomass data.
080202_usepa_hr_dbase43.xls	Contains water chemistry data for Chironomus test.
080202_usepa_hr_dbase44.xls	Contains 20d test results for Chironomus.
080202_usepa_hr_dbase45.xls	Contains 28,25, and 42d test results for Hyallela.
080202_usepa_hr_dbase46.xls	Contains 28,35 and 42d test results for Hyallela.

Also included on the CD-ROM is a PDF file identifying the Field Sample ID Protocol.



All data within these databases are considered validated and final, i.e. they have passed through a modified Tier II or III evaluation process (as reflected by QC Level =2 attribute) or they have undergone a completeness check (as reflected by QC Level =5).

Coordinate information is provided in the following:

- Projection - State Plane
- Units - meters
- Datum - NAD 83
- Zone - 4151 (Massachusetts Mainland)

Depths are reflected in feet units.


Analytical results are represented as text and/or numeric fields.

In addition to the databases and data dictionary files, a "Readme.txt" file has also been included on the CD-ROM to describe its contents.

If you have any questions on this deliverable, please contact me at 603-656-5578.

Very truly yours,

Weston Solutions, INC.

  
for Richard A. McGrath  
QA Officer

Enclosure:

Cc: (DCN File)

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## **2.2.4 SEDIMENT CHARACTERIZATION – RADIONUCLIDE DATA**

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**Battelle**

*Putting Technology to Work*

Battelle Marine Sciences Laboratory  
1529 W. Sequim Bay Road  
Sequim, WA 98382  
Telephone (360) 681-3604  
e-mail [eric.crecelius@pnl.gov](mailto:eric.crecelius@pnl.gov)  
Fax (360) 681-3699

January 17, 2000

Ms. Sharon Nordstrom  
Roy F. Weston, Inc.  
1400 Weston Way  
West Chester, PA 19380

JAN 1 0 2000

Dear Sharon:

Enclosed is a final copy of the data and figures of the depth profiles for Pb-210, Cs-137, and Be-7 from nine sediment cores from the Housatonic River Project. Also enclosed are the age dates for the sediment cores.

If you have questions, please call me at 360/681-3604 or e-mail me at [eric.crecelius@pnl.gov](mailto:eric.crecelius@pnl.gov).

Sincerely,

Eric Crecelius  
Technical Group Leader  
Marine Chemistry

:at

Enclosures

①

JAN 18 1999

**GE/Housatonic River Project**

**Battelle**

**Age Dated Sediment Cores**

Sheet1

CORE #1004

Supported Pb210 (dpm/g)= 0.90		Total Accumulation at Mean Depths		SEDIMENT AGE IN YEARS		YEAR
Sample #	Segment Depth (cm)	Mean Depth (cm)	g/cm2		S =	0.29
(Background = 0.90)						
1334*43	H4-SE001004-0-0000A	0-2 cm.	1	0.190	1.314	1998
1334*44	H4-SE001004-0-0000B	2-4 cm.	3	0.942	3.883	1995
1334*45	H4-SE001004-0-0000C	4-6 cm.	5	2.04	7.68	1991
1334*46	H4-SE001004-0-0000D	6-8 cm.	7	3.49	12.65	1986
1334*47	H4-SE001004-0-0000E	8-10 cm.	9	5.28	18.84	1980
1334*48	H4-SE001004-0-0000F	10-12 cm.	11	7.05	24.98	1974
1334*49	H4-SE001004-0-0000G	12-14 cm.	13	8.82	31.10	1968
1334*50	H4-SE001004-0-0000H	14-18 cm.	16	11.0	38.51	1960
1334*51	H4-SE001004-0-0000I	18-22 cm.	20	13.1	45.82	1953
1334*52	H4-SE001004-0-0000J	22-26 cm.	24	15.1	52.77	1946
1334*53	H4-SE001004-0-0000K	26-30 cm	28	17.1	59.5	1939
1334*54	H4-SE001004-0-0000L	30-34 cm	32	19.0	66.1	1933
1334*55	H4-SE001004-0-0000M	34-38 cm.	36	20.8	72.5	1927
		38-45	41.5	23.0	79.8	1919
1334*56	H4-SE001004-0-0000P	45-55 cm	50	25.8	89.7	1909
1334*59	H4-SE001004-0-0000S	75-85 cm.	80	28.1	97	1902
1334*60	H4-SE001004-0-0000T	85-95 cm.	90	30.0	104	1895

Sheet1

CORE #1007

Sample #	Segment Depth (cm)	Mean Depth (cm)	Total Accumulation at Mean Depths g/cm2	SEDIMENT AGE IN YEARS S = 0.468 (Background = 0.50)	YEAR
			0.500		
1334*1	H4-SE001007-0-0000A 0-2 cm.		1 0.109	0.464	1999
1334*2	H4-SE001007-0-0000B 2-4 cm.		3 0.491	1.17	1998
1334*3	H4-SE001007-0-0000C 4-6 cm.		5 0.97	2.27	1997
1334*4	H4-SE001007-0-0000D 6-8 cm.		7 1.67	3.78	1995
1334*5	H4-SE001007-0-0000E 8-10 cm.		9 2.54	5.54	1993
1334*6	H4-SE001007-0-0000F 10-12 cm.		11 3.25	7.05	1992
1334*7	H4-SE001007-0-0000G 12-14 cm.		13 3.94	8.52	1990
1334*8	H4-SE001007-0-0000H 14-18 cm.		16 4.62	10.0	1989
1334*9	H4-SE001007-0-0000I 18-22 cm.		20 5.07	10.9	1988
1334*10	H4-SE001007-0-0000J 22-26 cm.		24 5.60	12.0	1987
1334*11	H4-SE001007-0-0000K 26-30 cm.		28 6.12	13.2	1986
1334*12	H4-SE001007-0-0000L 30-34 cm.		32 6.66	14.3	1985
1334*13	H4-SE001007-0-0000M 34-38 cm.		36 7.25	15.6	1983
1334*14	H4-SE001007-0-0000N 38-42 cm.		40 7.95	17.1	1982
1334*15	H4-SE001007-0-0000P 45-55 cm.		50 8.91	19.1	1980
1334*16	H4-SE001007-0-0000Q 55-65 cm.		60 9.54	20.4	1979
1334*17	H4-SE001007-0-0000R 65-75 cm.		70 10.2	21.8	1977
1334*18	H4-SE001007-0-0000S 75-85 cm.		80 11.1	23.8	1975
1334*19	H4-SE001007-0-0000T 85-95 cm.		90 12.1	26.0	1973
1334*69	H4-SE001007-0-0030 3-3.5	99.06	15.5	33.6	1965
1334*20	H4-SE001007-0-0000U 95-105 cm.	100	19.3	41.4	1958
1334*21	H4-SE001007-0-0000V 105-115 cm.	110	20.5	44.0	1955
1334*70	H4-SE001007-0-0035 3.5-4	114.3	24.4	52.6	1946
1334*22	H4-SE001007-0-0000W 115-125 cm.	120	28.4	60.8	1938
1334*71	H4-SE001007-0-0040 4-4.5	129.54	32.2	69.3	1930
1334*72	H4-SE001007-0-0045 4.5-5	144.78	38.3	82.0	1917
1334*73	H4-SE001007-0-0050 5-5.5	160.02	43.4	93.0	1906
1334*74	H4-SE001007-0-0055 5.5-6	175.26	49.2	105	1894

## CORE #1008

Supported Pb210 (dpm/g)= 1.50

Total  
Accumulation  
at Mean Depths SEDIMENT  
AGE IN YEARS  
YEAR  
S = 0.930  
(Background = 1.5)

Sample #	Segment Depth (cm)	Mean Depth (cm)	g/cm <sup>2</sup>	Year
1334*23	H4-SE001008-0-0000A 0-2 cm.	1	0.137	1999
1334*24	H4-SE001008-0-0000B 2-4 cm.	3	0.626	1998
1334*25	H4-SE001008-0-0000C 4-6 cm.	5	1.22	1998
1334*26	H4-SE001008-0-0000D 6-8 cm.	7	1.98	1997
1334*27	H4-SE001008-0-0000E 8-10 cm.	9	2.94	1996
1334*28	H4-SE001008-0-0000F 10-12 cm.	11	3.84	1995
1334*29	H4-SE001008-0-0000G 12-14 cm.	13	4.77	1994
1334*30	H4-SE001008-0-0000H 14-18 cm.	16	5.94	1993
1334*31	H4-SE001008-0-0000I 18-22 cm.	20	7.15	1991
1334*35	H4-SE001008-0-0000J 22-26 cm.	24	8.38	1990
1334*36	H4-SE001008-0-0000K 26-30 cm.	28	9.60	1989
1334*37	H4-SE001008-0-0000L 30-34 cm.	32	10.79	1987
1334*38	H4-SE001008-0-0000M 34-38 cm.	36	11.95	1986
	38-45	41.5	13.46	1984
1334*40	H4-SE001008-0-0000P 45-55 cm.	50	15.85	1982
1334*32	H4-SE001008-0-0000Q 55-65 cm.	60	18.50	1979
1334*33	H4-SE001008-0-0000R 65-75 cm.	70	21.2	1976
1334*34	H4-SE001008-0-0000S 75-85 cm.	80	23.8	1973
1334*41	H4-SE001008-0-0000T 85-95 cm.	90	25.9	1971



Sheet1

CORE #1011

Supported Pb210 (dpm/g)= 0.59

Total  
Accumulation  
at Mean Depths

SEDIMENT  
AGE IN YEARS

Sample #	Segment Depth (cm)	Mean Depth (cm)	g/cm2	YEAR
1334*87	H4-SE0010011-0-0000A 0-2cm	1	0.488	1998
1334*88	H4-SE0010011-0-0000B 2.0-4	3	2.40	1995
1334*89	H4-SE0010011-0-0000C 4.0-6	5	5.26	1992
1334*90	H4-SE0010011-0-0000D 6.0-8	7	9.32	1986
1334*91	H4-SE0010011-0-0000E 8.0-10	9	14.5	1980
1334*92	H4-SE0010011-0-0000F 10.0-12	11	19.7	1973
1334*93	H4-SE0010011-0-0000G 12.0-14	13	24.8	1967
1334*94	H4-SE0010011-0-0000H 14-18 cm.	15	31.1	1959
1334*95	H4-SE0010011-0-0000I 18-22 cm.	20	37.7	1950
1334*96	H4-SE0010011-0-0000J 22-26 cm.	24	45.4	1940
1334*97	H4-SE0010011-0-0000K 26-30 cm	28	53.7	1930
1334*98	H4-SE0010011-0-0000L 30-34 cm	32	62.3	1919
	34-38	36	71.5	1907
1334*100	H4-SE0010011-0-0000N 38-42 cm.	40	81	1894
	42-45	43.5	91	1883
1334*101	H4-SE0010011-0-0000P 45-55 cm	50	103	1867
1334*102	H4-SE0010011-0-0000Q 55-65 cm.	60	117	1849
1334*103	H4-SE0010011-0-0000R 65-75 cm.	70	133	1828
1334*81	H4-SE0010011-0-0030 3-3.5	99.06	151	1807

Sheet1

CORE #1012

Sample #	Segment	Depth (cm)	Mean Depth (cm)	g/cm2	Total Accumulation at Mean Depths	SEDIMENT AGE IN YEARS	
						S =	YEAR
					1.302		
						19.7	
1334*122	H4-SE001012-0-0000M	34-38 cm.	36	62.478	3.197	1996	
1334*119	H4-SE001012-0-0000J	22-26 cm.	24	43.19	2.216	1997	
1334*110	H4-SE001012-0-0000A	0-2 cm.	1	0.32	0.033	1999	
1334*111	H4-SE001012-0-0000B	2-4 cm.	3	1.70	0.107	1999	
1334*112	H4-SE001012-0-0000C	4-6 cm.	5	4.0	0.23	1999	
1334*113	H4-SE001012-0-0000D	6-8 cm.	7	7.5	0.41	1999	
1334*114	H4-SE001012-0-0000E	8-10 cm.	9	12.2	0.65	1998	
1334*115	H4-SE001012-0-0000F	10-12 cm.	11	17.6	0.92	1998	
1334*116	H4-SE001012-0-0000G	12-14 cm.	13	23.2	1.20	1998	
1334*117	H4-SE001012-0-0000H	14-18 cm.	16	30.0	1.55	1997	
1334*118	H4-SE001012-0-0000I	18-22 cm.	20	36.6	1.88	1997	
		22-26	24	43.2	2.22	1997	
1334*120	H4-SE001012-0-0000K	26-30 cm	28	49.5	2.53	1996	
1334*121	H4-SE001012-0-0000L	30-34 cm	32	55.9	2.86	1996	
		34-38	36	62.6	3.21	1996	
1334*123	H4-SE001012-0-0000N	38-42 cm.	40	69.7	3.57	1995	
1334*124	H4-SE001012-0-0000O	42-45 cm	44	76	3.90	1995	
1334*125	H4-SE001012-0-0000P	45-55 cm	50	88	4.49	1995	
1334*126	H4-SE001012-0-0000Q	55-65 cm.	60	102	5.21	1994	
1334*127	H4-SE001012-0-0000R	65-75 cm.	70	116	5.91	1993	
1334*128	H4-SE001012-0-0000S	75-85 cm.	80	129	6.59	1992	
1334*129	H4-SE001012-0-0000T	85-95 cm.	90	141	7.20	1992	
1334*104	H4-SE01012-0-0030	3-3.5 ft	99	155	8.13	1991	
1334*105	H4-SE01012-0-0035	3.5-4	114	171	8.99	1990	
1334*106	H4-SE01012-0-0040	4-4.5	130	188	9.90	1989	
1334*107	H4-SE01012-0-0045	4.5-5	145	207	10.9	1988	
1334*108	H4-SE01012-0-0050	5.0-5	160	229	12.1	1987	
1334*109	H4-SE01012-0-0055	5.5-6	175	253	13.3	1986	

Sheet1

CORE #1013

Sample #	Segment Depth (cm)	Mean Depth (cm)	Total Accumulation at Mean Depths g/cm2	SEDIMENT AGE IN YEARS S = 1.39	YEAR
1334*136	H4-SE001013-0-0 0-2 cm.	1	0.639	0.919	1998
1334*137	H4-SE001013-0-0 2-4 cm.	3	3.17	2.718	1996
1334*138	H4-SE001013-0-0 4-6 cm.	5	6.87	5.37	1994
1334*139	H4-SE001013-0-0 6-8 cm.	7	11.7	8.79	1990
1334*140	H4-SE001013-0-0 8-10 cm.	9	17.5	12.98	1986
1334*141	H4-SE001013-0-0 10-12 cm.	11	23.1	17.01	1982
1334*142	H4-SE001013-0-0 12-14 cm.	13	28.5	20.88	1978
1334*143	H4-SE001013-0-0 14-18 cm.	16	34.8	25.38	1974
1334*144	H4-SE001013-0-0 18-22 cm.	20	40.8	29.65	1969
1334*145	H4-SE001013-0-0 22-26 cm.	24	46.8	34.03	1965
1334*146	H4-SE001013-0-0 26-30 cm	28	52.5	38.02	1961
1334*147	H4-SE001013-0-0 30-34 cm	32	57.6	41.67	1957
1334*148	H4-SE001013-0-0 34-38 cm.	36	62.0	44.87	1954
1334*149	H4-SE001013-0-0 38-42 cm.	40	66.5	48.12	1951
1334*150	H4-SE001013-0-0 42-45 cm	44	70.9	51.28	1948
1334*151	H4-SE001013-0-0 45-55 cm	50	77.8	56.3	1943
1334*152	H4-SE001013-0-0 55-65 cm.	60	85.8	62.0	1937
1334*153	H4-SE001013-0-0 65-75 cm.	70	93.6	67.6	1931
1334*154	H4-SE001013-0-0 75-85 cm.	80	101	73.2	1926
1334*155	H4-SE001013-0-0 85-95 cm.	90	109	78.9	1920

**CORE #1014**

Supported Pb210 (dpm/g)= 1.33

Total  
Accumulation  
at Mean Depths SEDIMENT  
AGE IN YEARS

Sample #	Segment Depth (cm)	Mean Depth (cm)	g/cm2	YEAR S = 2.68
1334*160	H4-SE001014-0-C 0-2	1	0.255	1999
1334*161	H4-SE001014-0-C 2-4	3	1.36	1998
1334*162	H4-SE001014-0-C 4-6	5	3.20	1998
1334*163	H4-SE001014-0-C 6-8	7	5.69	1997
1334*164	H4-SE001014-0-C 8-10	9	8.95	1996
1334*165	H4-SE001014-0-C 10-12	11	12.5	1994
1334*166	H4-SE001014-0-C 12-14	13	16.0	1993
1334*167	H4-SE001014-0-C 14-18	16	20.3	1991
1334*168	H4-SE001014-0-C 18-22	20	24.5	1990
1334*169	H4-SE001014-0-C 22-26	24	28.6	1988
1334*170	H4-SE001014-0-C 26-30	28	32.7	1987
1334*171	H4-SE001014-0-C 30-34	32	36.5	1985
1334*172	H4-SE001014-0-C 34-38	36	40.1	1984
1334*173	H4-SE001014-0-C 38-42	40	43.8	1983
1334*174	H4-SE001014-0-C 42-45	44	47.3	1981
1334*175	H4-SE001014-0-C 45-55	50	52.4	1979
1334*176	H4-SE001014-0-C 55-65	60	57.8	1977
1334*177	H4-SE001014-0-C 65-75 cm.	70	62.9	1975
1334*178	H4-SE001014-0-C 75-85 cm.	80	69.0	1973

Sheet1

CORE #1015

Supported Pb210 (dpm/g)= 0.44

Total  
Accumulation  
at Mean Depths

SEDIMENT  
AGE IN YEARS

YEAR

S = 0.22

Sample #	Segment Depth (cm)	Mean Depth (cm)	g/cm2	AGE IN YEARS	YEAR
1334*187	H4-SE001015-0-0000A 0-2 cm.	1	0.229	2.048	1997
1334*188	H4-SE001015-0-0000B 2-4 cm.	3	1.08	5.560	1993
1334*189	H4-SE001015-0-0000C 4-6 cm.	5	2.18	10.407	1989
1334*190	H4-SE001015-0-0000D 6-8 cm.	7	3.55	16.514	1982
1334*191	H4-SE001015-0-0000E 8-10 cm.	9	5.19	23.81	1975
1334*192	H4-SE001015-0-0000F 10-12 cm.	11	6.65	30.42	1969
1334*193	H4-SE001015-0-0000G 12-14 cm.	13	8.14	37.24	1962
1334*194	H4-SE001015-0-0000H 14-18 cm.	16	9.98	45.31	1954
1334*195	H4-SE001015-0-0000I 18-22 cm.	20	11.9	54.06	1945
1334*196	H4-SE001015-0-0000J 22-26 cm.	24	13.9	62.79	1936
1334*197	H4-SE001015-0-0000K 26-30 cm.	28	15.8	71.43	1928
1334*198	H4-SE001015-0-0000L 30-34 cm.	32	17.6	79.60	1919
1334*199	H4-SE001015-0-0000M 34-38 cm.	36	19.4	87.58	1911
1334*200	H4-SE001015-0-0000N 38-42 cm.	40	21.2	95.41	1904
1334*201	H4-SE001015-0-0000O 42-45 cm.	43.5	23.6	107.52	1891
1334*202	H4-SE001015-0-0000P 45-55 cm.	50	27.0	121.73	1877
1334*203	H4-SE001015-0-0000Q 55-65 cm.	60	31.1	140.28	1859
1334*204	H4-SE001015-0-0000R 65-75 cm.	70	34.8	156.58	1842
1334*205	H4-SE001015-0-0000S 75-85 cm.	80	38.4	172.64	1826
1334*206	H4-SE001015-0-0000T 85-95 cm.	90	42.3	190.06	1809

## Sheet1

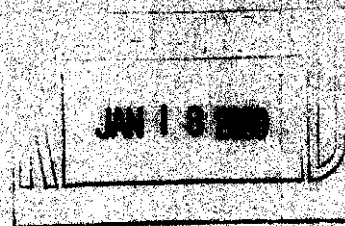
## CORE #1016

Supported Pb210 (dpm/g)= 0.75

Total  
Accumulation  
at Mean DepthsSEDIMENT  
AGE IN YEARS

Sample #	Segment Depth (cm)	Mean Depth (cm)	g/cm2	SEDIMENT AGE IN YEARS	YEAR
				S = 1.27	
1334*214	H4-SE001016-0-0 0-2 cm.	1	0.256	0.403	1999
1334*215	H4-SE001016-0-0 2-4 cm.	3	1.27	1.202	1998
1334*216	H4-SE001016-0-0 4-6 cm.	5	2.81	2.43	1997
1334*217	H4-SE001016-0-0 6-8 cm.	7	4.91	4.09	1995
1334*218	H4-SE001016-0-0 8-10 cm.	9	7.57	6.18	1993
1334*219	H4-SE001016-0-0 10-12 cm.	11	10.3	8.33	1991
1334*220	H4-SE001016-0-0 12-14 cm.	13	13.1	10.52	1988
1334*221	H4-SE001016-0-0 14-18 cm.	16	16.3	13.08	1986
1334*222	H4-SE001016-0-0 18-22 cm.	20	19.6	15.6	1983
1334*223	H4-SE001016-0-0 22-26 cm.	24	22.6	18.0	1981
1334*224	H4-SE001016-0-0 26-30 cm.	28	25.6	20.4	1979
1334*225	H4-SE001016-0-0 30-34 cm.	32	28.5	22.6	1976
1334*226	H4-SE001016-0-0 34-38 cm.	36	31.1	24.6	1974
1334*227	H4-SE001016-0-0 38-42 cm.	40	33.5	26.6	1972
	42-45	43.5	35.8	28.4	1971
1334*228	H4-SE001016-0-0 45-55 cm.	50	38.1	30.2	1969
1334*229	H4-SE001016-0-0 55-65	60	42.2	33.4	1966
1334*230	H4-SE001016-0-0 65-75 cm.	70	46.2	36.6	1962
1334*231	H4-SE001016-0-0 75-85 cm.	80	50.1	39.7	1959
1334*208	H4-SE001016-0-0 3-3.5 ft	99.06	54.0	42.7	1956
1334*209	H4-SE001016-0-0 3.5-4	114.3	58.0	45.8	1953
1334*210	H4-SE001016-0-0 4-4.5	129.54	61.8	48.9	1950
1334*211	H4-SE001016-0-0 4.5-5	144.78	65.3	51.5	1947
1334*212	H4-SE001016-0-0 5.0-5	160.2	68.4	54.0	1945
1334*213	H4-SE001016-0-0 5.5-6	175.26	71.8	56.7	1942

②



**GE/Housatonic River Project**

**Battelle**

**Pb-210 Data**

Pb-210 Final Results

PROJECT: 1334

BATTELLE CODE	SPONSOR ID	Sample Wt. (g dry wt.)	Date Plated	Date Counted
BLANK	N/A	N/A	3/23/99	3/24/99
BLANK SPIKE	N/A	N/A	3/23/99	3/24/99
CHECK STD	N/A	3.014	3/23/99	3/24/99
1334*1 R1	H4-SE001007-0-0000A	2.024	3/23/99	3/24/99
1334*1 R2	H4-SE001007-0-0000A	2.030	3/23/99	3/24/99
1334*2	H4-SE001007-0-0000B	1.869	3/23/99	3/24/99
1334*3	H4-SE001007-0-0000C	2.342	3/23/99	3/25/99
1334*4	H4-SE001007-0-0000D	3.865	3/23/99	3/25/99
1334*5	H4-SE001007-0-0000E	2.022	3/23/99	3/25/99
1334*6	H4-SE001007-0-0000F	2.092	3/23/99	3/25/99
1334*7	H4-SE001007-0-0000G	1.196	3/23/99	5/2/99
1334*8	H4-SE001007-0-0000H	1.377	3/23/99	3/25/99
1334*9	H4-SE001007-0-0000I	1.199	3/23/99	3/25/99
1334*10	H4-SE001007-0-0000J	1.089	3/23/99	3/25/99
1334*11	H4-SE001007-0-0000K	1.208	3/23/99	3/25/99
1334*12	H4-SE001007-0-0000L	0.869	3/23/99	3/25/99
1334*13	H4-SE001007-0-0000M	1.330	3/23/99	3/25/99
1334*14	H4-SE001007-0-0000N	1.454	3/23/99	3/25/99
1334*15	H4-SE001007-0-0000P	1.234	3/23/99	3/26/99
1334*16	H4-SE001007-0-0000Q	1.414	3/23/99	3/26/99
1334*17	H4-SE001007-0-0000R	1.531	3/23/99	3/26/99
1334*18	H4-SE001007-0-0000S	1.151	3/23/99	3/26/99
1334*19	H4-SE001007-0-0000T	0.995	3/23/99	3/26/99
1334*20	H4-SE001007-0-0000U	1.723	3/23/99	3/26/99
1334*Blk 2	N/A	NA	3/23/99	3/27/99
1334*Check 2	N/A	2.995	3/23/99	3/27/99
1334*21	H4-SE001007-0-0000V	1.253	3/23/99	4/30/99
1334*22	H4-SE001007-0-0000W	1.024	3/23/99	3/27/99
1334*23 R-1	H4-SE001008-0-0000A	1.665	3/23/99	5/2/99
1334*23 R-2	H4-SE001008-0-0000A	1.515	3/23/99	5/2/99
1334*24	H4-SE001008-0-0000B	2.396	3/23/99	3/28/99
1334*25	H4-SE001008-0-0000C	1.882	3/23/99	3/28/99
1334*26	H4-SE001008-0-0000D	1.326	3/23/99	3/28/99
1334*27	H4-SE001008-0-0000E	1.719	3/23/99	3/28/99
1334*28	H4-SE001008-0-0000F	1.928	3/23/99	3/28/99
1334*29	H4-SE001008-0-0000G	1.789	3/23/99	3/28/99
1334*30	H4-SE001008-0-0000H	1.901	3/25/99	5/1/99
1334*31	H4-SE001008-0-0000I	2.464	3/25/99	3/29/99
1334*32	H4-SE001008-0-0000Q	2.653	3/25/99	3/29/99
1334*33	H4-SE001008-0-0000R	2.746	3/25/99	3/29/99
1334*34	H4-SE001008-0-0000S	2.967	3/25/99	3/29/99
1334*35	H4-SE001008-0-0000J	1.711	3/25/99	3/29/99
1334*36	H4-SE001008-0-0000K	1.420	3/25/99	3/29/99



Battelle Marine  
 1529 West Sequ  
 Sequim, WA 98 6/26/86  
 (360) 683-4151

1/17/00

**AIR BLANKS Po208 Po210**

Detector 1 3 2  
 Detector 2 4 0  
 Detector 3 5 3

**PROJECT: 133**

BATTELLE CODE	?T Po210 (plating to counting)	?t Po208 (certified to counting)	Po 208 counts	Po210 counts	Detector
BLANK	1	4654	2	1	1
BLANK SPIKE	1	4654	438	2	2
CHECK STD	1	4654	621	845	3
1334*1 R1	1	4654	1087	308	1
1334*1 R2	1	4654	682	213	2
1334*2	1	4654	1097	108	3
1334*3	2	4655	235	23	1
1334*4	2	4655	251	40	2
1334*5	2	4655	437	41	3
1334*6	2	4655	239	20	1
1334*7	40	4693	566	21	1
1334*8	2	4655	476	35	3
1334*9	2	4655	585	26	1
1334*10	2	4655	350	10	2
1334*11	2	4655	710	29	3
1334*12	2	4655	357	13	1
1334*13	2	4655	157	13	2
1334*14	2	4655	579	34	3
1334*15	3	4656	401	19	1
1334*16	3	4656	309	19	2
1334*17	3	4656	627	33	3
1334*18	3	4656	718	41	1
1334*19	3	4656	708	33	2
1334*20	3	4656	748	49	3
1334*Blk 2	4	4657	6	3	3
1334*Check 2	4	4657	641	877	1
1334*21	38	4691	791	26	1
1334*22	4	4657	698	38	3
1334*23 R-1	40	4693	494	240	2
1334*23 R-2	40	4693	625	276	3
1334*24	5	4658	446	155	3
1334*25	5	4658	375	83	1
1334*26	5	4658	250	44	2
1334*27	5	4658	363	78	3
1334*28	5	4658	765	177	1
1334*29	5	4658	552	152	2
1334*30	37	4692	1293	246	1
1334*31	4	4659	224	50	1
1334*32	4	4659	434	119	2
1334*33	4	4659	404	114	3
1334*34	4	4659	360	116	1
1334*35	4	4659	233	50	2
1334*36	4	4659	361	66	3

Battelle Marine Sciences Laboratory  
 1529 West Sequim Bay Rd.  
 Sequim, WA 98382  
 (360) 683-4151

Check Std Cert: 6/26/86  
 Log-in Date: 3/19/99

PROJECT: 133

Check known: 9.968

BATTELLE CODE	Po208/blk corrected	Po210/blk corrected	Po208 time corrected	Po210 factor	Pb210 DPM/g
BLANK	-1	-1	N/A	0.9950	0.00
BLANK SPIKE	434	2	N/A	0.9950	0.00
CHECK STD	616	842	6.6057	0.9950	9.07
1334*1 R1	1084	306	9.8367	0.9950	2.79
1334*1 R2	678	213	9.8076	0.9950	3.10
1334*2	1092	105	10.6525	0.9950	1.03
1334*3	232	21	8.4955	0.9900	0.78
1334*4	247	40	5.1479	0.9900	0.84
1334*5	432	39	9.8400	0.9900	0.90
1334*6	231	16	9.5107	0.9900	0.67
1334*7	563	19	16.2269	0.8187	0.67
1334*8	471	32	14.4491	0.9900	0.99
1334*9	582	24	16.5942	0.9900	0.69
1334*10	346	10	18.2704	0.9900	0.53
1334*11	705	26	16.4706	0.9900	0.61
1334*12	354	11	22.8958	0.9900	0.72
1334*13	156	12	14.9597	0.9900	1.16
1334*14	574	31	13.6839	0.9900	0.75
1334*15	398	17	16.1130	0.9851	0.70
1334*16	305	19	14.0618	0.9851	0.89
1334*17	622	30	12.9872	0.9851	0.64
1334*18	715	39	17.2749	0.9851	0.96
1334*19	704	33	19.9833	0.9851	0.95
1334*20	743	46	11.5400	0.9851	0.73
1334*Blk 2	1	0	N/A	0.9802	0.00
1334*Check 2	638	875	6.6345	0.9802	9.28
1334*21	788	24	15.5090	0.8270	0.57
1334*22	693	35	19.4047	0.9802	1.00
1334*23 R-1	490	240	11.6561	0.8187	6.97
1334*23 R-2	620	273	12.8101	0.8187	6.89
1334*24	441	152	8.2877	0.9753	2.93
1334*25	372	81	10.5512	0.9753	2.36
1334*26	246	44	14.9754	0.9753	2.75
1334*27	358	75	11.5517	0.9753	2.48
1334*28	762	175	10.2995	0.9753	2.43
1334*29	548	152	11.0997	0.9753	3.16
1334*30	1290	244	10.2157	0.8311	2.32
1334*31	221	48	8.0537	0.9802	1.78
1334*32	430	119	7.4800	0.9802	2.11
1334*33	399	111	7.2267	0.9802	2.05
1334*34	357	114	6.6884	0.9802	2.18
1334*35	229	50	11.5981	0.9802	2.58
1334*36	356	63	13.9749	0.9802	2.52

PROJECT: 133Pb-210 Final Results

BATTELLE CODE	Pb210 decay factor	ACTIVITY Duplicate		Average	
		Pb210 dpm/g	RPD (%)	Depth, cm	Depth
BLANK	0.9996	< 0.1			
BLANK SPIKE	0.9996	< 0.1			
CHECK STD	0.9996	9.08	9%		
1334*1 R1	0.9996	2.792			
1334*1 R2	0.9996	3.098	10%	@	1 0-2 cm.
1334*2	0.9996	1.030			3 2-4 cm.
1334*3	0.9995	0.777			5 4-6 cm.
1334*4	0.9995	0.842			7 6-8 cm.
1334*5	0.9995	0.898			9 8-10 cm.
1334*6	0.9995	0.666			11 10-12 cm.
1334*7	0.9963	0.671			13 12-14 cm.
1334*8	0.9995	0.992			16 14-18 cm.
1334*9	0.9995	0.692			20 18-22 cm.
1334*10	0.9995	0.534			24 22-26 cm.
1334*11	0.9995	0.614			28 26-30 cm.
1334*12	0.9995	0.719			32 30-34 cm.
1334*13	0.9995	1.163			36 34-38 cm.
1334*14	0.9995	0.747			40 38-42 cm.
1334*15	0.9994	0.699			50 45-55 cm.
1334*16	0.9994	0.890			60 55-65 cm.
1334*17	0.9994	0.636			70 65-75 cm.
1334*18	0.9994	0.957			80 75-85 cm.
1334*19	0.9994	0.951			90 85-95 cm.
1334*20	0.9994	0.726			100 95-105 cm.
1334*Blk 2	0.9993	< 0.1			
1334*Check 2	0.9993	9.289	7%	*	
1334*21	0.9964	0.573			110 105-115 cm.
1334*22	0.9993	1.001			120 115-125 cm.
1334*23 R-1	0.9963	6.999			1 0-2 cm.
1334*23 R-2	0.9963	6.915	1%	@	1 0-2 cm.
1334*24	0.9992	2.931			3 2-4 cm.
1334*25	0.9992	2.357			5 4-6 cm.
1334*26	0.9992	2.748			7 6-8 cm.
1334*27	0.9992	2.483			9 8-10 cm.
1334*28	0.9992	2.427			11 10-12 cm.
1334*29	0.9992	3.159			13 12-14 cm.
1334*30	0.9963	2.333			16 14-18 cm.
1334*31	0.9991	1.786			20 18-22 cm.
1334*32	0.9991	2.114			60 55-65 cm.
1334*33	0.9991	2.053			70 65-75 cm.
1334*34	0.9991	2.181			80 75-85 cm.
1334*35	0.9991	2.586			24 22-26 cm.
1334*36	0.9991	2.525			28 26-30 cm.

Battelle Marine Sciences Laboratory  
1529 West Sequim Bay Rd.  
Sequim, WA 98382  
(360) 683-4151

Po208 Std  
Date Certified:

Pb-210 Final Results

PROJECT: 1334

BATTELLE CODE	SPONSOR ID	Sample Wt. (g dry wt.)	Date Plated	Date Counted
1334*37	H4-SE001008-0-0000L	1.581	3/25/99	3/29/99
1334*38	H4-SE001008-0-0000M	2.004	3/25/99	3/29/99
1334*39	H4-SE001008-0-0000N	1.154	3/25/99	5/2/99
1334*40	H4-SE001008-0-0000P	3.007	3/25/99	4/30/99
1334*Blank 3	N/A	NA	3/25/99	3/30/99
1334*Check 3	N/A	3.000	3/25/99	3/30/99
1334*41	H4-SE001008-0-0000T	1.486	3/25/99	3/30/99
1334*42	H4-SE001008-0-0000U	1.195	3/25/99	3/30/99
1334*43	H4-SE001004-0-0000A	1.879	3/25/99	3/30/99
1334*44	H4-SE001004-0-0000B	2.708	3/25/99	3/30/99
1334*45	H4-SE001004-0-0000C	2.607	3/25/99	3/30/99
1334*46 R-1	H4-SE001004-0-0000D	1.106	3/25/99	3/30/99
1334*46 R-2	H4-SE001004-0-0000D	1.033	3/25/99	3/31/99
1334*47	H4-SE001004-0-0000E	2.811	3/25/99	3/31/99
1334*48	H4-SE001004-0-0000F	2.473	3/25/99	5/2/99
1334*49	H4-SE001004-0-0000G	1.987	3/25/99	5/2/99
1334*50	H4-SE001004-0-0000H	3.293	3/25/99	5/3/99
1334*Blank 4	N/A	NA	3/25/99	3/31/99
1334*Check 4	N/A	3.029	3/25/99	3/31/99
1334*51	H4-SE001004-0-0000I	3.789	3/25/99	3/31/99
1334*52	H4-SE001004-0-0000J	2.485	3/25/99	3/31/99
1334*53	H4-SE001004-0-0000K	2.898	3/25/99	4/1/99
1334*54	H4-SE001004-0-0000L	3.272	3/25/99	4/1/99
1334*55	H4-SE001004-0-0000M	1.627	3/25/99	4/1/99
1334*56	H4-SE001004-0-0000P	1.984	3/25/99	4/1/99
1334*57	H4-SE001004-0-0000Q	2.440	3/25/99	5/3/99
1334*58	H4-SE001004-0-0000R	1.447	3/25/99	5/3/99
1334*59	H4-SE001004-0-0000S	2.655	3/25/99	4/1/99
1334*60	H4-SE001004-0-0000T	1.957	3/25/99	4/1/99
1334*61	H4-SE001004-0-0000U	1.840	3/30/99	5/3/99
1334*62	H4-SE001004-0-0000V	2.381	3/30/99	5/3/99
1334*63	H4-SE001004-0-0000W	1.923	3/30/99	4/2/99
1334*64	H4-SE001004-0-0030	3.270	3/30/99	4/2/99
1334*65	H4-SE001004-0-0035	3.034	3/30/99	4/2/99
1334*66	H4-SE001004-0-0040	3.025	3/30/99	4/2/99
1334*67	H4-SE001004-0-0045	3.080	3/30/99	4/2/99
1334*68	H4-SE001004-0-0055	3.216	3/30/99	4/3/99
1334*69	H4-SE001007-0-0030	3.007	3/30/99	4/3/99
1334*70	H4-SE001007-0-0035	3.028	3/30/99	4/3/99
1334*Blank 5	N/A	NA	3/30/99	4/3/99
1334*Check 5	N/A	3.038	3/30/99	4/3/99
1334*71	H4-SE001007-0-0040	3.009	3/30/99	4/3/99
1334*72	H4-SE001007-0-0045	3.089	3/30/99	4/3/99

Battelle Marine  
 1529 West Sequim, WA 98  
 (360) 683-4151

1/17/00

**AIR BLANKS Po208 Po210**  
 Detector 1 3 2  
 Detector 2 4 0  
 Detector 3 5 3

**PROJECT: 133**

<b>BATTELLE CODE</b>	<b>?T Po210 (plating to counting)</b>	<b>?t Po208 (certified to counting)</b>	<b>Po 208 counts</b>	<b>Po210 counts</b>	<b>Detector</b>
1334*37	4	4659	820	123	1
1334*38	4	4659	618	108	2
1334*39	38	4693	654	22	1
1334*40	36	4691	1368	415	3
1334*Blank 3	5	4660	1	0	2
1334*Check 3	5	4660	508	518	3
1334*41	5	4660	393	41	1
1334*42	5	4660	309	29	2
1334*43	5	4660	398	110	3
1334*44	5	4660	656	197	1
1334*45	5	4660	662	222	2
1334*46 R-1	5	4660	1162	162	3
1334*46 R-2	6	4661	335	53	1
1334*47	6	4661	356	115	2
1334*48	38	4693	868	139	2
1334*49	38	4693	942	126	3
1334*50	39	4694	360	122	1
1334*Blank 4	6	4661	2	3	3
1334*Check 4	6	4661	508	566	1
1334*51	6	4661	933	245	2
1334*52	6	4661	1301	223	3
1334*53	7	4662	859	138	1
1334*54	7	4662	831	161	2
1334*55	7	4662	1191	83	3
1334*56	7	4662	545	53	1
1334*57	39	4694	278	69	2
1334*58	39	4694	498	60	3
1334*59	7	4662	935	109	1
1334*60	7	4662	384	33	2
1334*61	34	4694	195	18	1
1334*62	34	4694	164	23	2
1334*63	3	4663	253	27	2
1334*64	3	4663	457	111	3
1334*65	3	4663	904	208	1
1334*66	3	4663	684	172	2
1334*67	3	4663	827	171	3
1334*68	4	4664	381	57	1
1334*69	4	4664	406	49	2
1334*70	4	4664	457	55	3
1334*Blank 5	4	4664	0	0	1
1334*Check 5	4	4664	406	581	2
1334*71	4	4664	666	56	3
1334*72	4	4664	601	74	1

Battelle Marine Sciences Laboratory  
 1529 West Sequim Bay Rd.  
 Sequim, WA 98382  
 (360) 683-4151

Check Std Cert: 6/26/86  
 Log-in Date: 3/19/99

PROJECT: 133

Check known: 9.968

BATTELLE CODE	Po208/blk corrected	Po210/blk corrected	Po208 time corrected	Po210 factor	Pb210 DPM/g
1334*37	817	121	12.5518	0.9802	1.90
1334*38	614	108	9.9024	0.9802	1.78
1334*39	651	20	16.8175	0.8270	0.62
1334*40	1363	412	6.4625	0.8353	2.34
1334*Blank 3	-3	0	N/A	0.9753	0.00
1334*Check 3	503	515	6.6105	0.9753	6.94
1334*41	390	39	13.3455	0.9753	1.37
1334*42	305	29	16.5953	0.9753	1.62
1334*43	393	107	10.5542	0.9753	2.95
1334*44	653	195	7.3233	0.9753	2.24
1334*45	658	222	7.6070	0.9753	2.63
1334*46 R-1	1157	159	17.9307	0.9753	2.53
1334*46 R-2	332	51	19.1853	0.9704	3.04
1334*47	352	115	7.0503	0.9704	2.37
1334*48	864	139	7.8477	0.8270	1.53
1334*49	937	123	9.7672	0.8270	1.55
1334*50	357	120	5.8897	0.8228	2.41
1334*Blank 4	-3	0	N/A	0.9704	0.00
1334*Check 4	505	564	6.5429	0.9704	7.53
1334*51	929	245	5.2305	0.9704	1.42
1334*52	1296	220	7.9752	0.9704	1.40
1334*53	856	136	6.8342	0.9656	1.12
1334*54	827	161	6.0530	0.9656	1.22
1334*55	1186	80	12.1730	0.9656	0.85
1334*56	542	51	9.9826	0.9656	0.97
1334*57	274	69	7.9486	0.8228	2.43
1334*58	493	57	13.4033	0.8228	1.88
1334*59	932	107	7.4597	0.9656	0.89
1334*60	380	33	10.1203	0.9656	0.91
1334*61	192	16	10.5406	0.8437	1.04
1334*62	160	23	8.1456	0.8437	1.39
1334*63	249	27	10.2925	0.9851	1.13
1334*64	452	108	6.0527	0.9851	1.47
1334*65	901	206	6.5236	0.9851	1.51
1334*66	680	172	6.5430	0.9851	1.68
1334*67	822	168	6.4261	0.9851	1.33
1334*68	378	55	6.1503	0.9802	0.91
1334*69	402	49	6.5778	0.9802	0.82
1334*70	452	52	6.5322	0.9802	0.77
1334*Blank 5	-3	-2	N/A	0.9802	0.00
1334*Check 5	402	581	6.5107	0.9802	9.60
1334*71	661	53	6.5734	0.9802	0.54
1334*72	598		6.4032	0.9802	0.79

PROJECT: 13Pb-210 Final Results

BATTELLE CODE	Pb210 decay factor	ACTIVITY Duplicate		Average Depth, cm	Depth
		Pb210 dpm/g	RPD (%)		
1334*37	0.9991	1.898		32	30-34 cm
1334*38	0.9991	1.778		36	34-38 cm.
1334*39	0.9963	0.627		40	38-42 cm.
1334*40	0.9964	2.347		50	45-55 cm.
1334*Blank 3	0.9991	< 0.1			
1334*Check 3	0.9991	6.946	30%		
1334*41	0.9991	1.370		90	85-95 cm.
1334*42	0.9991	1.619		100	95-105 cm.
1334*43	0.9991	2.949		1	0-2 cm.
1334*44	0.9991	2.244		3	2-4 cm.
1334*45	0.9991	2.634		5	4-6 cm.
1334*46 R-1	0.9991	2.529		7	6-8 cm.
1334*46 R-2	0.9990	3.040	18%	7	6-8 cm.
1334*47	0.9990	2.376		9	8-10 cm.
1334*48	0.9963	1.532		11	10-12 cm.
1334*49	0.9963	1.556		13	12-14 cm.
1334*50	0.9962	2.415		16	14-18 cm.
1334*Blank 4	0.9990	< 0.1			
1334*Check 4	0.9990	7.538	24%		
1334*51	0.9990	1.423		20	18-22 cm.
1334*52	0.9990	1.396		24	22-26 cm.
1334*53	0.9989	1.126		28	26-30 cm
1334*54	0.9989	1.222		32	30-34 cm
1334*55	0.9989	0.851		36	34-38 cm.
1334*56	0.9989	0.974		50	45-55 cm
1334*57	0.9962	2.442		60	55-65 cm.
1334*58	0.9962	1.891		70	65-75 cm.
1334*59	0.9989	0.888		80	75-85 cm.
1334*60	0.9989	0.911		90	85-95 cm.
1334*61	0.9962	1.045		100	95-105 cm.
1334*62	0.9962	1.393		110	105-115 cm.
1334*63	0.9988	1.134		120	115-125 cm.
1334*64	0.9988	1.470		99.06	3-3.5 ft
1334*65	0.9988	1.516		114.3	3.5-4
1334*66	0.9988	1.682		129.54	4-4.5
1334*67	0.9988	1.335		144.78	4.5-5
1334*68	0.9987	0.914		175.26	5.5-6
1334*69	0.9987	0.819		99.06	3-3.5
1334*70	0.9987	0.768		114.3	3.5-4
1334*Blank 5	0.9987	< 0.1			
1334*Check 5	0.9987	9.612	4%		
1334*71	0.9987	0.538		129.54	4-4.5
1334*72	0.9987	0.788		144.78	4.5-5

Pb-210 Final Results

PROJECT: 1334

BATTELLE CODE	SPONSOR ID	Sample Wt. (g dry wt.)	Date Plated	Date Counted
1334*73	H4-SE001007-0-0050	3.050	3/30/99	4/3/99
1334*74	H4-SE001007-0-0055	3.044	3/30/99	5/3/99
1334*75	H4-SE001008-0-0030	3.012	3/30/99	5/3/99
1334*76	H4-SE001008-0-0035	3.037	3/30/99	4/4/99
1334*77	H4-SE001008-0-0040	3.086	3/30/99	4/6/99
1334*78	H4-SE001008-0-0045	3.012	3/30/99	4/6/99
1334*79	H4-SE001008-0-0050	3.122	3/30/99	4/4/99
1334*80	H4-SE001008-0-0055	3.131	3/30/99	4/4/99
1334*81	H4-SE0010011-0-0030	3.048	4/15/99	4/28/99
1334*82	H4-SE0010011-0-0035	2.966	4/15/99	4/28/99
1334*83	H4-SE0010011-0-0040	2.942	4/15/99	4/28/99
1334*84	H4-SE0010011-0-0045	3.116	3/30/99	4/5/99
1334*85	H4-SE0010011-0-0050	2.982	3/30/99	4/5/99
1334*86	H4-SE0010011-0-0055	3.088	3/30/99	4/5/99
1334*87	H4-SE0010011-0-0000A	2.996	3/30/99	4/6/99
1334*88	H4-SE0010011-0-0000B	3.035	3/30/99	4/6/99
1334*89	H4-SE0010011-0-0000C	3.035	3/30/99	4/6/99
1334*Blank 6	N/A	NA	3/30/99	4/6/99
1334*Check 6	N/A	3.034	3/30/99	4/6/99
1334*90	H4-SE0010011-0-0000D	2.970	3/30/99	4/6/99
1334*91	H4-SE0010011-0-0000E	2.930	3/30/99	4/6/99
1334*92 R-1	H4-SE0010011-0-0000F	2.965	3/30/99	4/6/99
1334*92 R-2	H4-SE0010011-0-0000F	3.038	3/30/99	4/7/99
1334*93	H4-SE0010011-0-0000G	2.637	4/15/99	4/28/99
1334*94 R-1	H4-SE0010011-0-0000H	3.254	4/1/99	4/7/99
1334*94 R-2	H4-SE0010011-0-0000H	3.008	4/1/99	4/7/99
1334*95	H4-SE0010011-0-0000I	3.294	4/1/99	4/7/99
1334*96	H4-SE0010011-0-0000J	3.406	4/1/99	4/7/99
1334*97	H4-SE0010011-0-0000K	3.047	4/1/99	4/8/99
1334*98	H4-SE0010011-0-0000L	3.044	4/1/99	4/8/99
1334*99	H4-SE0010011-0-0000M	3.072	4/1/99	4/8/99
1334*Blank 7	N/A	NA	4/1/99	4/8/99
1334*Check 7	N/A	3.034	4/1/99	4/8/99
1334*Blank Spl	N/A	NA	4/1/99	4/8/99
1334*100 R-1	H4-SE0010011-0-0000N	3.559	4/1/99	4/8/99
1334*100 R-2	H4-SE0010011-0-0000N	3.554	4/1/99	4/8/99
1334*101	H4-SE0010011-0-0000P	3.019	4/1/99	4/8/99
1334*102	H4-SE0010011-0-0000Q	3.012	4/1/99	4/9/99
1334*103	H4-SE0010011-0-0000R	3.425	4/1/99	4/9/99
1334*104	H4-SE01012-0-0030	3.089	4/1/99	4/9/99
1334*105	H4-SE01012-0-0035	3.004	4/1/99	4/9/99
1334*106 R-1	H4-SE01012-0-0040	3.207	4/1/99	4/9/99
1334*106 R-2	H4-SE01012-0-0040	3.207	4/1/99	4/9/99



Battelle Marine  
 1529 West Sequ  
 Sequim, WA 98 6/26/86  
 (360) 683-4151

1/17/00

**AIR BLANKS Po208 Po210**

Detector 1 3 2  
 Detector 2 4 0  
 Detector 3 5 3

**PROJECT: 133**

BATTELLE CODE	?T Po210 (plating to counting)	?t Po208 (certified to counting)	Po 208 counts	Po210 counts	Detector
1334*73	4	4664	675	116	2
1334*74	34	4694	245	58	3
1334*75	34	4694	887	243	1
1334*76	5	4665	322	62	2
1334*77	7	4667	648	144	1
1334*78	7	4667	339	41	3
1334*79	5	4665	438	77	2
1334*80	5	4665	741	119	3
1334*81	13	4689	657	42	2
1334*82	13	4689	379	32	2
1334*83	13	4689	497	32	3
1334*84	6	4666	764	93	1
1334*85	6	4666	830	123	2
1334*86	6	4666	755	76	3
1334*87	7	4667	351	195	1
1334*88	7	4667	551	278	2
1334*89	7	4667	485	238	3
1334*Blank 6	7	4667	0	2	1
1334*Check 6	7	4667	348	424	2
1334*90	7	4667	673	275	3
1334*91	7	4667	279	103	1
1334*92 R-1	7	4667	371	146	2
1334*92 R-2	8	4668	650	178	1
1334*93	13	4689	232	66	1
1334*94 R-1	6	4668	832	225	2
1334*94 R-2	6	4668	1503	302	3
1334*95	6	4668	358	67	1
1334*96	6	4668	662	113	2
1334*97	7	4669	1137	171	1
1334*98	7	4669	1134	158	2
1334*99	7	4669	1083	214	3
1334*Blank 7	7	4669	0	1	1
1334*Check 7	7	4669	615	456	2
1334*Blank Spl	7	4669	391	0	3
1334*100 R-1	7	4669	484	58	1
1334*100 R-2	7	4669	538	55	2
1334*101	7	4669	301	35	3
1334*102	8	4670	947	90	1
1334*103	8	4670	1606	141	2
1334*104	8	4670	1783	384	3
1334*105	8	4670	1050	208	1
1334*106 R-1	8	4670	1388	310	2
1334*106 R-2	8	4670	1176	335	3

Battelle Marine Sciences Laboratory  
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Check Std Cert: 6/26/86  
 Log-in Date: 3/19/99

PROJECT: 133

Check known: 9.968

BATTELLE CODE	Po208/blk corrected	Po210/blk corrected	Po208 time corrected	Po210 factor	Pb210 DPM/g
1334*73	671	116	6.4851	0.9802	1.14
1334*74	240	55	6.3714	0.8437	1.73
1334*75	884	241	6.4391	0.8437	2.08
1334*76	318	62	6.5086	0.9753	1.30
1334*77	645	142	6.3968	0.9656	1.46
1334*78	334	38	6.5540	0.9656	0.77
1334*79	434	77	6.3314	0.9753	1.15
1334*80	736	116	6.3132	0.9753	1.02
1334*81	653	42	6.3839	0.9371	0.44
1334*82	375	32	6.5604	0.9371	0.60
1334*83	492	29	6.6140	0.9371	0.42
1334*84	761	91	6.3394	0.9704	0.78
1334*85	826	123	6.6243	0.9704	1.02
1334*86	750	73	6.3969	0.9704	0.64
1334*87	348	193	6.5890	0.9656	3.78
1334*88	547	278	6.5043	0.9656	3.42
1334*89	480	235	6.5043	0.9656	3.30
1334*Blank 6	-3	0	N/A	0.9656	0.00
1334*Check 6	344	424	6.5065	0.9656	8.31
1334*90	668	272	6.6467	0.9656	2.80
1334*91	276	101	6.7374	0.9656	2.55
1334*92 R-1	367	146	6.6579	0.9656	2.74
1334*92 R-2	647	176	6.4937	0.9608	1.84
1334*93	229	64	7.3789	0.9371	2.20
1334*94 R-1	828	225	6.0626	0.9704	1.70
1334*94 R-2	1498	299	6.5584	0.9704	1.35
1334*95	355	65	5.9890	0.9704	1.13
1334*96	658	113	5.7921	0.9704	1.02
1334*97	1134	169	6.4702	0.9656	1.00
1334*98	1130	158	6.4766	0.9656	0.94
1334*99	1078	211	6.4176	0.9656	1.30
1334*Blank 7	-3	-1	N/A	0.9656	0.00
1334*Check 7	611	456	6.4980	0.9656	5.02
1334*Blank Spl	386	-3	N/A	0.9656	0.00
1334*100 R-1	481	56	5.5394	0.9656	0.67
1334*100 R-2	534	55	5.5472	0.9656	0.59
1334*101	296	32	6.5303	0.9656	0.73
1334*102	944	88	6.5411	0.9608	0.63
1334*103	1602	141	5.7524	0.9608	0.53
1334*104	1778	381	6.3781	0.9608	1.42
1334*105	1047	206	6.5586	0.9608	1.34
1334*106 R-1	1384	310	6.1434	0.9608	1.43
1334*106 R-2	1171	332	6.1434	0.9608	1.81

PROJECT: 133Pb-210 Final Results

BATTELLE CODE	Pb210 decay factor	ACTIVITY Pb210 dpm/g	Duplicate RPD (%)	Average	
				Depth, cm	Depth
1334*73	0.9987	1.145		160.02	5-5.5
1334*74	0.9962	1.737		175.26	5.5-6
1334*75	0.9962	2.089		99.06	3-3.5
1334*76	0.9986	1.303		114.3	3.5-4
1334*77	0.9985	1.461		129.54	4-4.5
1334*78	0.9985	0.773		144.78	4.5-5
1334*79	0.9986	1.153		160.02	5-5.5
1334*80	0.9986	1.022		175.26	5.5-6
1334*81	0.9966	0.440		99.06	3-3.5
1334*82	0.9966	0.599		114.3	3.5-4
1334*83	0.9966	0.417		129.54	4-4.5
1334*84	0.9986	0.782		144.78	4.5-5
1334*85	0.9986	1.018		160.02	5.0-5
1334*86	0.9986	0.643		175.26	5.5-6
1334*87	0.9985	3.790		1	0-2cm
1334*88	0.9985	3.429		3	2.0-4
1334*89	0.9985	3.303		5	4.0-6
1334*Blank 6	0.9985	< 0.1			
1334*Check 6	0.9985	8.318	17%		
1334*90	0.9985	2.807		7	6.0-8
1334*91	0.9985	2.557		9	8.0-10
1334*92 R-1	0.9985	2.747		11	10.0-12
1334*92 R-2	0.9984	1.842	39%	11	10.0-12
1334*93	0.9966	2.208		13	12.0-14
1334*94 R-1	0.9984	1.700		16	14-18 cm.
1334*94 R-2	0.9984	1.351	23%	16	14-18 cm.
1334*95	0.9984	1.132		20	18-22 cm.
1334*96	0.9984	1.027		24	22-26 cm.
1334*97	0.9983	1.000		28	26-30 cm
1334*98	0.9983	0.939		32	30-34 cm
1334*99	0.9983	1.303		36	34-38 cm.
1334*Blank 7	0.9983	< 0.1			
1334*Check 7	0.9983	5.031	50%		
1334*Blank Spl	0.9983	< 0.1			
1334*100 R-1	0.9983	0.669		40	38-42 cm.
1334*100 R-2	0.9983	0.593	12%	40	38-42 cm.
1334*101	0.9983	0.732		50	45-55 cm
1334*102	0.9982	0.636		60	55-65 cm.
1334*103	0.9982	0.528		70	65-75 cm.
1334*104	0.9982	1.425		99.06	3-3.5 ft
1334*105	0.9982	1.345		114.3	3.5-4
1334*106 R-1	0.9982	1.435		129.54	4-4.5
1334*106 R-2	0.9982	1.816	23%	129.54	4-4.5

Pb-210 Final Results

PROJECT: 1334

BATTELLE CODE	SPONSOR ID	Sample Wt. (g dry wt.)	Date Plated	Date Counted
1334*107	H4-SE01012-0-0045	2.958	4/1/99	4/10/99
1334*108	H4-SE01012-0-0050	3.065	4/1/99	4/10/99
1334*109	H4-SE01012-0-0055	3.010	4/1/99	4/10/99
1334*Blank 8	N/A	NA	4/1/99	4/10/99
1334*Check 8	N/A	3.038	4/1/99	4/10/99
1334*110 R-1	H4-SE001012-0-0000A	3.152	4/1/99	4/10/99
1334*110 R-2	H4-SE001012-0-0000A	3.489	4/1/99	4/10/99
1334*111	H4-SE001012-0-0000B	3.352	4/1/99	4/10/99
1334*112	H4-SE001012-0-0000C	3.020	4/1/99	4/10/99
1334*113	H4-SE001012-0-0000D	2.963	4/1/99	4/11/99
1334*114	H4-SE001012-0-0000E	2.894	4/1/99	4/11/99
1334*115	H4-SE001012-0-0000F	2.973	4/1/99	4/11/99
1334*116	H4-SE001012-0-0000G	3.177	4/1/99	4/11/99
1334*117	H4-SE001012-0-0000H	2.973	4/1/99	4/11/99
1334*118	H4-SE001012-0-0000I	3.155	4/1/99	4/11/99
1334*119	H4-SE001012-0-0000J	2.949	4/1/99	4/12/99
1334*120	H4-SE001012-0-0000K	3.156	4/1/99	4/12/99
1334*Blank Spl	N/A	NA	4/6/99	4/12/99
1334*Check 9	N/A	3.035	4/6/99	4/12/99
1334*121 R-1	H4-SE001012-0-0000L	3.048	4/6/99	4/12/99
1334*121 R-2	H4-SE001012-0-0000L	3.041	4/6/99	4/12/99
1334*122	H4-SE001012-0-0000M	2.953	4/6/99	5/3/99
1334*123	H4-SE001012-0-0000N	2.945	4/15/99	4/29/99
1334*124	H4-SE001012-0-0000O	2.975	4/15/99	4/29/99
1334*125	H4-SE001012-0-0000P	3.111	4/15/99	4/29/99
1334*126	H4-SE001012-0-0000Q	3.111	4/6/99	4/13/99
1334*127	H4-SE001012-0-0000R	2.958	4/6/99	4/13/99
1334*128	H4-SE001012-0-0000S	2.907	4/6/99	4/13/99
1334*129	H4-SE001012-0-0000T	3.013	4/6/99	4/13/99
1334*130	H4-SE001013-0-0030	3.093	4/6/99	4/13/99
1334*131	H4-SE001013-0-0035	3.301	4/6/99	4/13/99
1334*132	H4-SE001013-0-0040	3.003	4/6/99	4/14/99
1334*133	H4-SE001013-0-0045	3.068	4/6/99	4/14/99
1334*134	H4-SE001013-0-0050	3.061	4/6/99	4/14/99
1334*135	H4-SE001013-0-0055	3.131	4/6/99	4/14/99
1334*136	H4-SE001013-0-0000A	3.161	4/6/99	5/1/99
1334*137	H4-SE001013-0-0000B	3.046	4/6/99	4/15/99
1334*138	H4-SE001013-0-0000C	2.841	4/6/99	4/15/99
1334*139	H4-SE001013-0-0000D	2.923	4/6/99	4/15/99
1334*140	H4-SE001013-0-0000E	2.936	4/6/99	4/15/99
1334*141	H4-SE001013-0-0000F	3.000	4/6/99	4/16/99
1334*142	H4-SE001013-0-0000G	3.042	4/6/99	4/16/99
1334*143	H4-SE001013-0-0000H	3.013	4/6/99	4/16/99

Battelle Marine  
 1529 West Sequ  
 Sequim, WA 98 6/26/86  
 (360) 683-4151

1/17/00

**AIR BLANKS Po208 Po210**  
 Detector 1 3 2  
 Detector 2 4 0  
 Detector 3 5 3

**PROJECT: 133**

<b>BATTELLE CODE</b>	<b>?T Po210 (plating to counting)</b>	<b>?t Po208 (certified to counting)</b>	<b>Po 208 counts</b>	<b>Po210 counts</b>	<b>Detector</b>
1334*107	9	4671	876	190	1
1334*108	9	4671	1346	183	2
1334*109	9	4671	2510	363	3
1334*Blank 8	9	4671	1	1	1
1334*Check 8	9	4671	366	322	2
1334*110 R-1	9	4671	752	268	3
1334*110 R-2	9	4671	1878	710	1
1334*111	9	4671	2163	787	2
1334*112	9	4671	1221	392	3
1334*113	10	4672	522	191	1
1334*114	10	4672	715	217	2
1334*115	10	4672	1028	410	3
1334*116	10	4672	1227	498	1
1334*117	10	4672	996	330	2
1334*118	10	4672	1460	531	3
1334*119	11	4673	344	150	1
1334*120	11	4673	563	167	2
1334*Blank Spl	6	4673	289	0	3
1334*Check 9	6	4673	232	332	1
1334*121 R-1	6	4673	536	216	2
1334*121 R-2	6	4673	353	143	3
1334*122	27	4694	672	376	3
1334*123	14	4690	778	232	1
1334*124	14	4690	721	164	2
1334*125	14	4690	1030	231	3
1334*126	7	4674	227	87	1
1334*127	7	4674	350	114	2
1334*128	7	4674	493	177	3
1334*129	7	4674	592	229	1
1334*130	7	4674	432	96	2
1334*131	7	4674	1236	309	3
1334*132	8	4675	310	63	1
1334*133	8	4675	237	53	2
1334*134	8	4675	400	73	3
1334*135	8	4675	366	68	1
1334*136	25	4692	1256	307	3
1334*137	9	4676	258	77	3
1334*138	9	4676	242	94	3
1334*139	9	4676	583	239	3
1334*140	9	4676	632	293	3
1334*141	10	4677	333	149	3
1334*142	10	4677	282	177	3
1334*143	10	4677	400	195	3

Battelle Marine Battelle Marine Sciences Laboratory  
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Check Std Cert: 6/26/86  
 Log-in Date: 3/19/99

PROJECT: 133

Check known: 9.968

BATTELLE CODE	Po208/blk corrected	Po210/blk corrected	Po208 time corrected	Po210 factor	Pb210 DPM/g
1334*107	873	188	6.6562	0.9560	1.50
1334*108	1342	183	6.4238	0.9560	0.92
1334*109	2505	360	6.5412	0.9560	0.98
1334*Blank 8	-2	-1	N/A	0.9560	0.00
1334*Check 8	362	322	6.4809	0.9560	6.03
1334*110 R-1	747	265	6.2465	0.9560	2.32
1334*110 R-2	1875	708	5.6432	0.9560	2.23
1334*111	2159	787	5.8738	0.9560	2.24
1334*112	1216	389	6.5195	0.9560	2.18
1334*113	519	189	6.6406	0.9512	2.54
1334*114	711	217	6.7989	0.9512	2.18
1334*115	1023	407	6.6183	0.9512	2.77
1334*116	1224	496	6.1933	0.9512	2.64
1334*117	992	330	6.6183	0.9512	2.31
1334*118	1455	528	6.2365	0.9512	2.38
1334*119	341	148	6.6678	0.9465	3.06
1334*120	559	167	6.2304	0.9465	1.97
1334*Blank Spl	284	-3	N/A	0.9704	0.00
1334*Check 9	229	330	6.4788	0.9704	9.62
1334*121 R-1	532	216	6.4512	0.9704	2.70
1334*121 R-2	348	140	6.4660	0.9704	2.68
1334*122	667	373	6.5678	0.8737	4.20
1334*123	775	230	6.6029	0.9324	2.10
1334*124	717	164	6.5363	0.9324	1.60
1334*125	1025	228	6.2506	0.9324	1.49
1334*126	224	85	6.3164	0.9656	2.48
1334*127	346	114	6.6431	0.9656	2.27
1334*128	488	174	6.7597	0.9656	2.50
1334*129	589	227	6.5219	0.9656	2.60
1334*130	428	96	6.3532	0.9656	1.48
1334*131	1231	306	5.9529	0.9656	1.53
1334*132	307	61	6.5393	0.9608	1.35
1334*133	233	53	6.4008	0.9608	1.52
1334*134	395	70	6.4154	0.9608	1.18
1334*135	363	66	6.2720	0.9608	1.19
1334*136	1251	304	6.1436	0.8825	1.69
1334*137	253	74	6.4428	0.9560	1.97
1334*138	237	91	6.9077	0.9560	2.77
1334*139	578	236	6.7139	0.9560	2.87
1334*140	627	290	6.6841	0.9560	3.23
1334*141	328	146	6.5373	0.9512	3.06
1334*142	277	174	6.4470	0.9512	4.26
1334*143	395	192	6.5091	0.9512	3.33

PROJECT: 133Pb-210 Final Results

BATTELLE CODE	Pb210 decay factor	ACTIVITY Duplicate		Average Depth, cm	Depth
		Pb210 dpm/g	RPD (%)		
1334*107	0.9981	1.502		144.78	4.5-5
1334*108	0.9981	0.918		160.02	5.0-5
1334*109	0.9981	0.985		175.26	5.5-6
1334*Blank 8	0.9981	< 0.1			
1334*Check 8	0.9981	6.041	39% *		
1334*110 R-1	0.9981	2.322		1	0-2 cm.
1334*110 R-2	0.9981	2.233	4% @	1	0-2 cm.
1334*111	0.9981	2.244		3	2-4 cm.
1334*112	0.9981	2.186		5	4-6 cm.
1334*113	0.9980	2.547		7	6-8 cm.
1334*114	0.9980	2.186		9	8-10 cm.
1334*115	0.9980	2.774		11	10-12 cm.
1334*116	0.9980	2.644		13	12-14 cm.
1334*117	0.9980	2.319		16	14-18 cm.
1334*118	0.9980	2.384		20	18-22 cm.
1334*119	0.9980	3.064		24	22-26 cm.
1334*120	0.9980	1.971		28	26-30 cm
1334*Blank Spl	0.9980	< 0.1			
1334*Check 9	0.9980	9.640	3% *		
1334*121 R-1	0.9980	2.705		32	30-34 cm
1334*121 R-2	0.9980	2.686	1% @	32	30-34 cm
1334*122	0.9962	4.220		36	34-38 cm.
1334*123	0.9965	2.109		40	38-42 cm.
1334*124	0.9965	1.609		43.5	42-45 cm
1334*125	0.9965	1.496		50	45-55 cm
1334*126	0.9979	2.488		60	55-65 cm.
1334*127	0.9979	2.272		70	65-75 cm.
1334*128	0.9979	2.501		80	75-85 cm.
1334*129	0.9979	2.609		90	85-95 cm.
1334*130	0.9979	1.479		99.06	3-3.5 ft
1334*131	0.9979	1.536		114.3	3.5-4
1334*132	0.9978	1.355		129.54	4-4.5
1334*133	0.9978	1.519		144.78	4.5-5
1334*134	0.9978	1.186		160.02	5.0-5
1334*135	0.9978	1.190		175.26	5.5-6
1334*136	0.9963	1.698		1	0-2 cm.
1334*137	0.9977	1.976		3	2-4 cm.
1334*138	0.9977	2.781		5	4-6 cm.
1334*139	0.9977	2.874		7	6-8 cm.
1334*140	0.9977	3.241		9	8-10 cm.
1334*141	0.9976	3.066		11	10-12 cm.
1334*142	0.9976	4.268		13	12-14 cm.
1334*143	0.9976	3.334		16	14-18 cm.

Battelle Marine Sciences Laboratory  
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Po208 Std  
 Date Certified:

Pb-210 Final Results

PROJECT: 1334

BATTELLE CODE	SPONSOR ID	Sample Wt. (g dry wt.)	Date Plated	Date Counted
1334*144	H4-SE001013-0-0000I	3.516	4/8/99	4/16/99
1334*145	H4-SE001013-0-0000J	2.968	4/8/99	4/17/99
1334*146	H4-SE001013-0-0000K	2.930	4/8/99	4/17/99
1334*147	H4-SE001013-0-0000L	2.831	4/8/99	4/17/99
1334*148	H4-SE001013-0-0000M	2.877	4/8/99	4/17/99
1334*149	H4-SE001013-0-0000N	3.068	4/8/99	4/17/99
1334*150	H4-SE001013-0-0000O	3.012	4/8/99	4/17/99
1334*151	H4-SE001013-0-0000P	3.372	4/8/99	4/17/99
1334*152	H4-SE001013-0-0000Q	3.069	4/8/99	4/17/99
1334*153	H4-SE001013-0-0000R	2.939	4/8/99	4/17/99
1334*154	H4-SE001013-0-0000S	2.935	4/8/99	4/17/99
1334*155	H4-SE001013-0-0000T	2.917	4/8/99	4/17/99
1334*156	H4-SE001014-0-0030	2.918	4/8/99	4/17/99
1334*157	H4-SE001014-0-0035	2.988	4/8/99	4/18/99
1334*158	H4-SE001014-0-0040	2.942	4/8/99	4/18/99
1334*159	H4-SE001014-0-0045	3.000	4/8/99	5/1/99
1334*Blank 10	N/A	NA	4/8/99	4/12/99
1334*Check 10	N/A	2.998	4/8/99	4/18/99
1334*160	H4-SE001014-0-0000A	2.722	4/8/99	4/18/99
1334*161	H4-SE001014-0-0000B	2.981	4/8/99	4/18/99
1334*162	H4-SE001014-0-0000C	3.117	4/8/99	4/19/99
1334*163	H4-SE001014-0-0000D	2.974	4/8/99	4/19/99
1334*164	H4-SE001014-0-0000E	2.962	4/8/99	4/19/99
1334*165	H4-SE001014-0-0000F	3.067	4/8/99	4/19/99
1334*166	H4-SE001014-0-0000G	3.000	4/8/99	4/19/99
1334*167	H4-SE001014-0-0000H	2.973	4/8/99	4/19/99
1334*168	H4-SE001014-0-0000I	2.893	4/8/99	4/19/99
1334*169	H4-SE001014-0-0000J	2.877	4/8/99	4/19/99
1334*170	H4-SE001014-0-0000K	2.946	4/8/99	4/19/99
1334*171	H4-SE001014-0-0000L	3.089	4/8/99	4/20/99
1334*172 R-1	H4-SE001014-0-0000M	2.987	4/8/99	4/20/99
1334*172 R-2	H4-SE001014-0-0000M	2.958	4/8/99	4/20/99
1334*173	H4-SE001014-0-0000N	2.973	4/8/99	4/20/99
1334*174	H4-SE001014-0-0000O	2.925	4/8/99	4/20/99
1334*175	H4-SE001014-0-0000P	2.887	4/8/99	4/20/99
1334*176	H4-SE001014-0-0000Q	3.003	4/8/99	4/20/99
1334*Blank 11	N/A	NA	4/13/99	4/20/99
1334*Check 11	N/A	3.052	4/13/99	4/20/99
1334*177	H4-SE001014-0-0000R	3.008	4/13/99	4/21/99
1334*178	H4-SE001014-0-0000S	3.009	4/13/99	4/21/99
1334*179	H4-SE001014-0-0000T	3.025	4/13/99	4/21/99
1334*180 R-1	H4-SE001014-0-0000U	3.002	4/13/99	4/21/99
1334*180 R-2	H4-SE001014-0-0000U	3.016	4/13/99	4/21/99



Battelle Marine  
 1529 West Sequ  
 Sequim, WA 98  
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1/17/00

6/26/86

**AIR BLANKS Po208 Po210**

Detector 1 3 2  
 Detector 2 4 0  
 Detector 3 5 3

**PROJECT: 133**

BATTELLE CODE	?T Po210 (plating to counting)	?t Po208 (certified to counting)	Po 208 counts	Po210 counts	Detector
1334*144	8	4677	243	113	3
1334*145	9	4678	610	293	3
1334*146	9	4678	695	250	3
1334*147	9	4678	596	283	3
1334*148	9	4678	186	81	3
1334*149	9	4678	345	126	3
1334*150	9	4678	265	105	3
1334*151	9	4678	279	108	3
1334*152	9	4678	305	81	3
1334*153	9	4678	302	93	3
1334*154	9	4678	501	166	3
1334*155	9	4678	684	235	3
1334*156	9	4678	769	171	3
1334*157	10	4679	280	52	3
1334*158	10	4679	213	37	3
1334*159	23	4692	1172	213	2
1334*Blank 10	4	4673	1	2	1
1334*Check 10	10	4679	785	905	2
1334*160	10	4679	571	349	3
1334*161	10	4679	1080	667	3
1334*162	11	4680	153	90	1
1334*163	11	4680	217	105	2
1334*164	11	4680	366	169	3
1334*165	11	4680	193	98	1
1334*166	11	4680	198	80	2
1334*167	11	4680	320	144	3
1334*168	11	4680	672	355	1
1334*169	11	4680	355	183	2
1334*170	11	4680	491	253	3
1334*171	12	4681	286	154	1
1334*172 R-1	12	4681	369	188	2
1334*172 R-2	12	4681	320	147	3
1334*173	12	4681	305	115	1
1334*174	12	4681	370	152	2
1334*175	12	4681	428	154	3
1334*176	12	4681	499	178	1
1334*Blank 11	7	4681	2	0	2
1334*Check 11	7	4681	1435	1204	3
1334*177	8	4682	725	151	1
1334*178	8	4682	730	135	2
1334*179	8	4682	581	140	3
1334*180 R-1	8	4682	592	86	1
1334*180 R-2	8	4682	574	99	2

Battelle Marine Sciences Laboratory  
 1529 West Sequim Bay Rd.  
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Check Std Cert: 6/26/86  
 Log-in Date: 3/19/99

PROJECT: 133

Check known: 9.968

BATTELLE CODE	Po208/blk corrected	Po210/blk corrected	Po208 time corrected	Po210 factor	Pb210 DPM/g
1334*144	238	110	5.5779	0.9608	2.68
1334*145	605	290	6.6034	0.9560	3.31
1334*146	690	247	6.6891	0.9560	2.50
1334*147	591	280	6.9230	0.9560	3.43
1334*148	181	78	6.8123	0.9560	3.07
1334*149	340	123	6.3882	0.9560	2.42
1334*150	260	102	6.5070	0.9560	2.67
1334*151	274	105	5.8123	0.9560	2.33
1334*152	300	78	6.3861	0.9560	1.74
1334*153	297	90	6.6686	0.9560	2.11
1334*154	496	163	6.6777	0.9560	2.30
1334*155	679	232	6.7189	0.9560	2.40
1334*156	764	168	6.7166	0.9560	1.54
1334*157	275	49	6.5549	0.9512	1.23
1334*158	208	34	6.6574	0.9512	1.14
1334*159	1168	213	6.4734	0.8914	1.32
1334*Blank 10	-2	0	N/A	0.9802	0.00
1334*Check 10	781	905	6.5331	0.9512	7.96
1334*160	566	346	7.1955	0.9512	4.62
1334*161	1075	664	6.5703	0.9512	4.27
1334*162	150	88	6.2795	0.9465	3.89
1334*163	213	105	6.5815	0.9465	3.43
1334*164	361	166	6.6081	0.9465	3.21
1334*165	190	96	6.3819	0.9465	3.41
1334*166	194	80	6.5244	0.9465	2.84
1334*167	315	141	6.5837	0.9465	3.11
1334*168	669	353	6.7657	0.9465	3.77
1334*169	351	183	6.8034	0.9465	3.75
1334*170	486	250	6.6440	0.9465	3.61
1334*171	283	152	6.3323	0.9418	3.61
1334*172 R-1	365	188	6.5485	0.9418	3.58
1334*172 R-2	315	144	6.6127	0.9418	3.21
1334*173	302	113	6.5794	0.9418	2.61
1334*174	366	152	6.6873	0.9418	2.95
1334*175	423	151	6.7754	0.9418	2.57
1334*176	496	176	6.5136	0.9418	2.45
1334*Blank 11	-2	0	N/A	0.9656	0.00
1334*Check 11	1430	1201	6.4091	0.9656	5.57
1334*177	722	149	6.4986	0.9608	1.40
1334*178	726	135	6.4964	0.9608	1.26
1334*179	576	137	6.4620	0.9608	1.60
1334*180 R-1	589	84	6.5116	0.9608	0.97
1334*180 R-2	570	99	6.4813	0.9608	1.17

PROJECT: 133Pb-210 Final Results

BATTELLE CODE	Pb210 decay factor	ACTIVITY Pb210 dpm/g	Duplicate RPD (%)	Average	
				Depth, cm	Depth
1334*144	0.9976	2.690		20	18-22 cm.
1334*145	0.9975	3.319		24	22-26 cm.
1334*146	0.9975	2.511		28	26-30 cm
1334*147	0.9975	3.439		32	30-34 cm
1334*148	0.9975	3.078		36	34-38 cm.
1334*149	0.9975	2.423		40	38-42 cm.
1334*150	0.9975	2.677		44	42-45 cm
1334*151	0.9975	2.336		50	45-55 cm
1334*152	0.9975	1.741		60	55-65 cm.
1334*153	0.9975	2.119		70	65-75 cm.
1334*154	0.9975	2.301		80	75-85 cm.
1334*155	0.9975	2.407		90	85-95 cm.
1334*156	0.9975	1.549		99.06	3-3.5 ft
1334*157	0.9974	1.231		114.3	3.5-4
1334*158	0.9974	1.147		129.54	4-4.5
1334*159	0.9963	1.329		144.78	4.5-5
1334*Blank 10	0.9980	< 0.1			
1334*Check 10	0.9974	7.979	20% *		
1334*160	0.9974	4.636		1	1
1334*161	0.9974	4.277		3	3
1334*162	0.9974	3.903		5	5
1334*163	0.9974	3.437		7	7
1334*164	0.9974	3.219		9	9
1334*165	0.9974	3.416		11	11
1334*166	0.9974	2.850		13	13
1334*167	0.9974	3.122		16	16
1334*168	0.9974	3.782		20	20
1334*169	0.9974	3.758		24	24
1334*170	0.9974	3.620		28	28
1334*171	0.9973	3.621		32	32
1334*172 R-1	0.9973	3.591		36	36
1334*172 R-2	0.9973	3.219	11% @	36	36
1334*173	0.9973	2.621		40	40
1334*174	0.9973	2.957		43.5	43.5
1334*175	0.9973	2.575		50	50
1334*176	0.9973	2.461		60	60
1334*Blank 11	0.9973	< 0.1			
1334*Check 11	0.9973	5.590	44% *		
1334*177	0.9972	1.400		70	65-75 cm.
1334*178	0.9972	1.261		80	75-85 cm.
1334*179	0.9972	1.604		90	85-95 cm.
1334*180 R-1	0.9972	0.969		100	95-105 cm.
1334*180 R-2	0.9972	1.375	19% @	100	95-105 cm.

Battelle Marine Sciences Laboratory  
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 (360) 683-4151

Po208 Std  
 Date Certified:

Pb-210 Final Results

PROJECT: 1334

BATTELLE CODE	SPONSOR ID	Sample Wt. (g dry wt.)	Date Plated	Date Counted
1334*181	H4-SE001015-0-0030	3.010	4/13/99	4/21/99
1334*182	H4-SE001015-0-0035	3.014	4/13/99	4/22/99
1334*183	H4-SE001015-0-0040	3.021	4/13/99	4/22/99
1334*184	H4-SE001015-0-0045	3.056	4/13/99	4/22/99
1334*185	H4-SE001015-0-0050	3.010	4/13/99	4/22/99
1334*186	H4-SE001015-0-0055	3.049	4/13/99	5/4/99
1334*187	H4-SE001015-0-0000A	3.018	4/13/99	4/22/99
1334*188	H4-SE001015-0-0000B	3.010	4/13/99	4/22/99
1334*189	H4-SE001015-0-0000C	3.012	4/13/99	4/22/99
1334*190	H4-SE001015-0-0000D	3.010	4/13/99	4/22/99
1334*191	H4-SE001015-0-0000E	3.022	4/13/99	4/22/99
1334*192	H4-SE001015-0-0000F	3.010	4/13/99	4/22/99
1334*193	H4-SE001015-0-0000G	3.000	4/13/99	4/22/99
1334*194	H4-SE001015-0-0000H	3.005	4/13/99	4/23/99
1334*195	H4-SE001015-0-0000I	3.005	4/13/99	4/23/99
1334*196	H4-SE001015-0-0000J	3.035	4/13/99	4/23/99
1334*197	H4-SE001015-0-0000K	2.998	4/13/99	4/23/99
1334*198	H4-SE001015-0-0000L	3.014	4/13/99	4/23/99
1334*199	H4-SE001015-0-0000M	3.012	4/13/99	4/23/99
1334*200	H4-SE001015-0-0000N	3.018	4/13/99	4/23/99
1334*201	H4-SE001015-0-0000O	3.003	4/13/99	4/23/99
1334*202	H4-SE001015-0-0000P	3.007	4/13/99	4/23/99
1334*203	H4-SE001015-0-0000Q	3.010	4/13/99	4/24/99
1334*204	H4-SE001015-0-0000R	3.006	4/13/99	4/24/99
1334*205	H4-SE001015-0-0000S	3.012	4/13/99	4/24/99
1334*206	H4-SE001015-0-0000T	3.034	4/13/99	4/24/99
1334*207	H4-SE001015-0-0000U	2.998	4/13/99	4/24/99
1334*208	H4-SE001016-0-0030	3.009	4/13/99	4/24/99
1334*Blank 12	N/A	NA	4/15/99	4/24/99
1334*Blank Spl	N/A	NA	4/15/99	4/24/99
1334*Check 12	N/A	3.044	4/15/99	4/25/99
1334*209	H4-SE001016-0-0035	2.417	4/15/99	4/25/99
1334*210 R-1	H4-SE001016-0-0040	2.197	4/15/99	4/25/99
1334*210 R-2	H4-SE001016-0-0040	2.147	4/15/99	4/25/99
1334*211	H4-SE001016-0-0045	2.389	4/15/99	4/25/99
1334*212	H4-SE001016-0-0050	2.178	4/15/99	4/25/99
1334*213	H4-SE001016-0-0055	2.115	4/15/99	4/25/99
1334*214	H4-SE001016-0-0000A	2.237	4/15/99	4/26/99
1334*215	H4-SE001016-0-0000B	2.158	4/15/99	4/26/99
1334*216	H4-SE001016-0-0000C	2.159	4/15/99	4/26/99
1334*217	H4-SE001016-0-0000D	2.256	4/15/99	4/26/99
1334*218	H4-SE001016-0-0000E	2.143	4/15/99	4/26/99
1334*219	H4-SE001016-0-0000F	2.046	4/15/99	4/26/99

Battelle Marine  
 1529 West Sequ  
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1/17/00

6/26/86

**AIR BLANKS Po208 Po210**

Detector 1 3 2  
 Detector 2 4 0  
 Detector 3 5 3

**PROJECT: 133**

BATTELLE CODE	?T Po210 (plating to counting)	?t Po208 (certified to counting)	Po 208 counts	Po210 counts	Detector
1334*181	8	4682	1151	92	3
1334*182	9	4683	815	89	1
1334*183	9	4683	998	87	2
1334*184	9	4683	1296	136	3
1334*185	9	4683	759	97	1
1334*186	21	4695	1209	174	2
1334*187	9	4683	1210	440	3
1334*188	9	4683	646	129	1
1334*189	9	4683	475	88	2
1334*190	9	4683	709	96	3
1334*191	9	4683	1079	157	1
1334*192	9	4683	1045	116	2
1334*193	9	4683	1834	200	3
1334*194	10	4684	845	114	1
1334*195	10	4684	688	68	2
1334*196	10	4684	782	58	3
1334*197	10	4684	1211	99	1
1334*198	10	4684	884	49	2
1334*199	10	4684	1545	109	3
1334*200	10	4684	821	56	1
1334*201	10	4684	771	57	2
1334*202	10	4684	1175	65	3
1334*203	11	4685	481	30	1
1334*204	11	4685	429	31	2
1334*205	11	4685	694	42	3
1334*206	11	4685	1045	50	1
1334*207	11	4685	668	63	2
1334*208	11	4685	488	38	3
1334*Blank 12	9	4685	4	0	1
1334*Blank Spl	9	4685	854	0	3
1334*Check 12	10	4686	807	964	2
1334*209	10	4686	410	38	1
1334*210 R-1	10	4686	397	36	2
1334*210 R-2	10	4686	494	45	3
1334*211	10	4686	601	62	1
1334*212	10	4686	864	68	2
1334*213	10	4686	1105	95	3
1334*214	11	4687	410	181	1
1334*215	11	4687	238	75	2
1334*216	11	4687	439	163	3
1334*217	11	4687	312	119	1
1334*218	11	4687	356	141	2
1334*219	11	4687	436	149	3

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Check Std Cert: 6/26/86  
 Log-in Date: 3/19/99

PROJECT: 133

Check known: 9.968

BATTELLE CODE	Po208/blk corrected	Po210/blk corrected	Po208 time corrected	Po210 factor	Pb210 DPM/g
1334*181	1146	89	6.4942	0.9608	0.52
1334*182	812	87	6.4814	0.9560	0.73
1334*183	994	87	6.4664	0.9560	0.59
1334*184	1291	133	6.3923	0.9560	0.69
1334*185	756	95	6.4900	0.9560	0.85
1334*186	1205	174	6.3568	0.9003	1.02
1334*187	1205	437	6.4728	0.9560	2.46
1334*188	643	127	6.4900	0.9560	1.34
1334*189	471	88	6.4857	0.9560	1.27
1334*190	704	93	6.4900	0.9560	0.90
1334*191	1076	155	6.4642	0.9560	0.97
1334*192	1041	116	6.4900	0.9560	0.76
1334*193	1829	197	6.5116	0.9560	0.73
1334*194	842	112	6.4965	0.9512	0.91
1334*195	684	68	6.4965	0.9512	0.68
1334*196	777	55	6.4323	0.9512	0.48
1334*197	1208	97	6.5117	0.9512	0.55
1334*198	880	49	6.4771	0.9512	0.38
1334*199	1540	106	6.4814	0.9512	0.47
1334*200	818	54	6.4686	0.9512	0.45
1334*201	767	57	6.5009	0.9512	0.51
1334*202	1170	62	6.4922	0.9512	0.36
1334*203	478	28	6.4815	0.9465	0.40
1334*204	425	31	6.4901	0.9465	0.50
1334*205	689	39	6.4772	0.9465	0.39
1334*206	1042	48	6.4302	0.9465	0.31
1334*207	664	63	6.5074	0.9465	0.65
1334*208	483	35	6.4836	0.9465	0.50
1334*Blank 12	1	-2	N/A	0.9560	0.00
1334*Blank Spl	849	-3	N/A	0.9560	0.00
1334*Check 12	803	964	6.4049	0.9512	8.08
1334*209	407	36	8.0664	0.9512	0.75
1334*210 R-1	393	36	8.8742	0.9512	0.85
1334*210 R-2	489	42	9.0808	0.9512	0.82
1334*211	598	60	8.1610	0.9512	0.86
1334*212	860	68	8.9516	0.9512	0.74
1334*213	1100	92	9.2182	0.9512	0.81
1334*214	407	179	8.7098	0.9465	4.05
1334*215	234	75	9.0286	0.9465	3.06
1334*216	434	160	9.0244	0.9465	3.52
1334*217	309	117	8.6364	0.9465	3.45
1334*218	352	141	9.0918	0.9465	3.85
1334*219	431	146	9.5229	0.9465	3.41

PROJECT: 133Pb-210 Final Results

BATTELLE CODE	Pb210 decay factor	ACTIVITY Duplicate		Average Depth, cm	Depth
		Pb210 dpm/g	RPD (%)		
1334*181	0.9972	0.526		99.06	3-3.5 ft
1334*182	0.9971	0.729		114.3	3.5-4
1334*183	0.9971	0.594		129.54	4-4.5
1334*184	0.9971	0.691		144.78	4.5-5
1334*185	0.9971	0.856		160.2	5.0-5
1334*186	0.9961	1.024		175.26	5.5-6
1334*187	0.9971	2.463		1	0-2 cm.
1334*188	0.9971	1.345		3	2-4 cm.
1334*189	0.9971	1.271		5	4-6 cm.
1334*190	0.9971	0.899		7	6-8 cm.
1334*191	0.9971	0.977		9	8-10 cm.
1334*192	0.9971	0.759		11	10-12 cm.
1334*193	0.9971	0.736		13	12-14 cm.
1334*194	0.9970	0.911		16	14-18 cm.
1334*195	0.9970	0.681		20	18-22 cm.
1334*196	0.9970	0.480		24	22-26 cm.
1334*197	0.9970	0.551		28	26-30 cm
1334*198	0.9970	0.380		32	30-34 cm
1334*199	0.9970	0.470		36	34-38 cm.
1334*200	0.9970	0.450		40	38-42 cm.
1334*201	0.9970	0.509		43.5	42-45 cm
1334*202	0.9970	0.363		50	45-55 cm
1334*203	0.9969	0.402		60	55-65 cm.
1334*204	0.9969	0.502		70	65-75 cm.
1334*205	0.9969	0.389		80	75-85 cm.
1334*206	0.9969	0.314		90	85-95 cm.
1334*207	0.9969	0.654		100	95-105 cm.
1334*208	0.9969	0.498		99.06	3-3.5 ft
1334*Blank 12	0.9969	< 0.1			
1334*Blank Spl	0.9969	< 0.1			
1334*Check 12	0.9969	8.109	19% *		
1334*209	0.9969	0.752		114.3	3.5-4
1334*210 R-1	0.9969	0.857		129.54	4-4.5
1334*210 R-2	0.9969	0.823	4% @	129.54	4-4.5
1334*211	0.9969	0.864		144.78	4.5-5
1334*212	0.9969	0.746		160.2	5.0-5
1334*213	0.9969	0.813		175.26	5.5-6
1334*214	0.9968	4.060		1	0-2 cm.
1334*215	0.9968	3.067		3	2-4 cm.
1334*216	0.9968	3.526		5	4-6 cm.
1334*217	0.9968	3.466		7	6-8 cm.
1334*218	0.9968	3.860		9	8-10 cm.
1334*219	0.9968	3.419		11	10-12 cm.

Battelle Marine Sciences Laboratory  
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Po208 Std  
Date Certified:

Pb-210 Final Results

PROJECT: 1334

BATTELLE CODE	SPONSOR ID	Sample Wt. (g dry wt.)	Date Plated	Date Counted
1334*220	H4-SE001016-0-0000G	2.007	4/15/99	4/26/99
1334*221	H4-SE001016-0-0000H	2.035	4/15/99	4/26/99
1334*222	H4-SE001016-0-0000I	2.198	4/15/99	4/26/99
1334*223	H4-SE001016-0-0000J	2.154	4/15/99	4/27/99
1334*224	H4-SE001016-0-0000K	2.037	4/15/99	4/27/99
1334*225	H4-SE001016-0-0000L	2.083	4/15/99	4/27/99
1334*226	H4-SE001016-0-0000M	2.044	4/15/99	4/27/99
1334*227	H4-SE001016-0-0000N	2.111	4/15/99	5/4/99
1334*228	H4-SE001016-0-0000P	2.443	4/15/99	5/4/99
1334*229	H4-SE001016-0-0000Q	2.160	4/15/99	5/4/99
1334*230	H4-SE001016-0-0000R	2.019	4/15/99	4/27/99
1334*231	H4-SE001016-0-0000S	2.107	4/15/99	4/27/99

@Relative percent difference.

\*Percent difference from  
known value (9.97 dpm/g).



Battelle Marine  
 1529 West Sequim, WA 98648  
 (360) 683-4151

1/17/00

6/26/86

**AIR BLANKS Po208 Po210**

Detector 1 3 2  
 Detector 2 4 0  
 Detector 3 5 3

**PROJECT: 133**

BATTELLE CODE	?T Po210 (plating to counting)	?t Po208 (certified to counting)	Po 208 counts	Po210 counts	Detector
1334*220	11	4687	719	220	1
1334*221	11	4687	699	205	2
1334*222	11	4687	904	231	3
1334*223	12	4688	422	120	1
1334*224	12	4688	422	109	2
1334*225	12	4688	582	131	3
1334*226	12	4688	452	91	1
1334*227	19	4695	208	64	2
1334*228	19	4695	357	100	3
1334*229	19	4695	1203	302	1
1334*230	12	4688	966	166	2
1334*231	12	4688	1024	143	3

@Relative per  
 \*Percent difference  
 known value (%)

Battelle Marine Sciences Laboratory  
 1529 West Sequim Bay Rd.  
 Sequim, WA 98382  
 (360) 683-4151 (360) 683-4151

Check Std Cert: 6/26/86  
 Log-in Date: 3/19/99

PROJECT: 133

Check known: 9.968

BATTELLE CODE	Po208/blk corrected	Po210/blk corrected	Po208 time corrected	Po210 factor	Pb210 DPM/g
1334*220	716	218	9.7079	0.9465	3.12
1334*221	695	205	9.5743	0.9465	2.98
1334*222	899	228	8.8643	0.9465	2.38
1334*223	419	118	9.0395	0.9418	2.70
1334*224	418	109	9.5587	0.9418	2.65
1334*225	577	128	9.3476	0.9418	2.20
1334*226	449	89	9.5259	0.9418	2.00
1334*227	204	64	9.1814	0.9094	3.17
1334*228	352	97	7.9337	0.9094	2.40
1334*229	1200	300	8.9731	0.9094	2.47
1334*230	962	166	9.6439	0.9418	1.77
1334*231	1019	140	9.2411	0.9418	1.35

@Relative per

\*Percent difference  
 known value (%)

Battelle Marine  
 1529 West Sequim, WA 98281  
 (360) 683-4151

1/17/00

**PROJECT: 133Pb-210 Final Results**

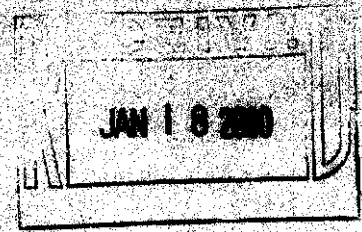
BATTELLE CODE	Pb210 decay factor	ACTIVITY Duplicate		Average Depth, cm	Depth
		Pb210 dpm/g	RPD (%)		
1334*220	0.9968	3.133		13	12-14 cm.
1334*221	0.9968	2.993		16	14-18 cm.
1334*222	0.9968	2.383		20	18-22 cm.
1334*223	0.9967	2.712		24	22-26 cm.
1334*224	0.9967	2.656		28	26-30 cm.
1334*225	0.9967	2.209		32	30-34 cm.
1334*226	0.9967	2.012		36	34-38 cm.
1334*227	0.9961	3.180		40	38-42 cm.
1334*228	0.9961	2.414		50	42-45 cm.
1334*229	0.9961	2.477		60	45-55 cm.
1334*230	0.9967	1.773		70	55-65 cm.
1334*231	0.9967	1.353		80	65-75 cm.

@Relative per

\*Percent difference

known value (%)

3

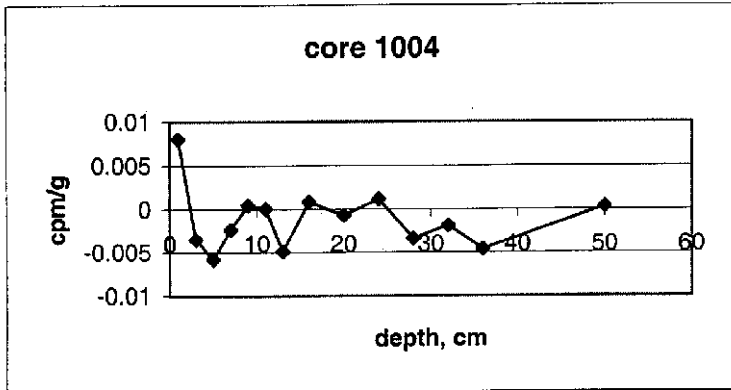


**GE/Housatonic River Project**

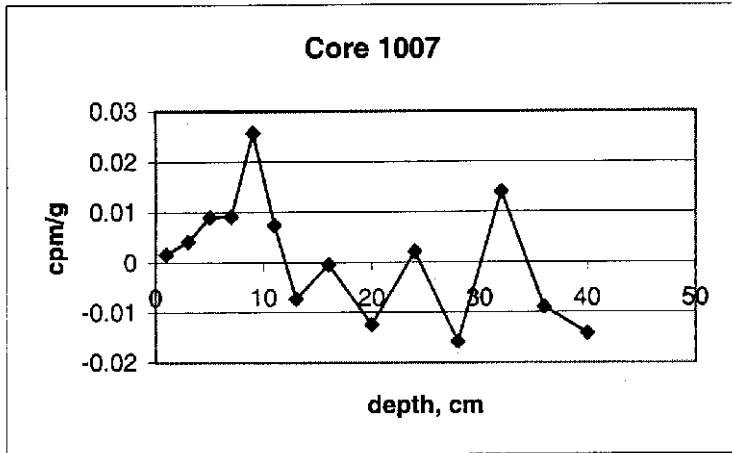
**Battelle**

**Be Data and Profiles**

Battelle ID	Client ID	Depth, cm	CPM/G
1334*43	H4-SE001004-0-0000A	1	0.008045
1334*44	H4-SE001004-0-0000B	3	-0.003496
1334*45	H4-SE001004-0-0000C	5	-0.005771
1334*46	H4-SE001004-0-0000D	7	-0.002362
1334*47	H4-SE001004-0-0000E	9	0.000468
1334*48	H4-SE001004-0-0000F	11	6.07E-05
1334*49	H4-SE001004-0-0000G	13	-0.004914
1334*50	H4-SE001004-0-0000H	16	0.000861
1334*51	H4-SE001004-0-0000I	20	-0.000697
1334*52	H4-SE001004-0-0000J	24	0.001203
1334*53	H4-SE001004-0-0000K	28	-0.003397
1334*54	H4-SE001004-0-0000L	32	-0.001851
1334*55	H4-SE001004-0-0000M	36	-0.00461
1334*56	H4-SE001004-0-0000P	50	0.000327

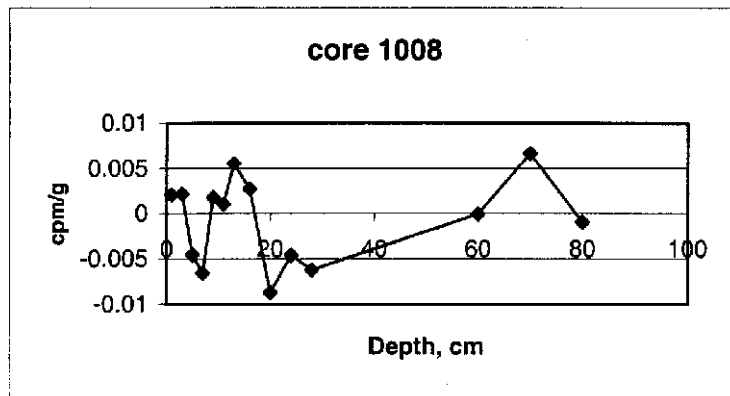


Battelle ID	Client ID	Depth	CPM/G
1334*1	H4-SE001007-0-0000A	1	0.001637
1334*2	H4-SE001007-0-0000B	3	0.004241
1334*3	H4-SE001007-0-0000C	5	0.00907
1334*4	H4-SE001007-0-0000D	7	0.009151
1334*5	H4-SE001007-0-0000E	9	0.025791
1334*6	H4-SE001007-0-0000F	11	0.007457
1334*7	H4-SE001007-0-0000G	13	-0.007216
1334*8	H4-SE001007-0-0000H	16	-0.000359
1334*9	H4-SE001007-0-0000I	20	-0.012419
1334*10	H4-SE001007-0-0000J	24	0.002188
1334*11	H4-SE001007-0-0000K	28	-0.015794
1334*12	H4-SE001007-0-0000L	32	0.014073
1334*13	H4-SE001007-0-0000M	36	-0.008908
1334*14	H4-SE001007-0-0000N	40	-0.014137

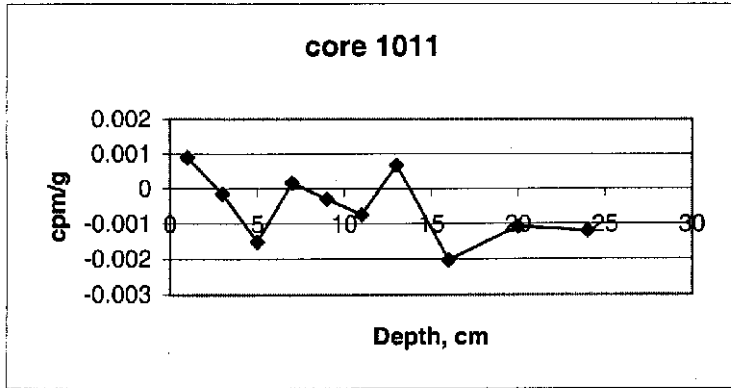




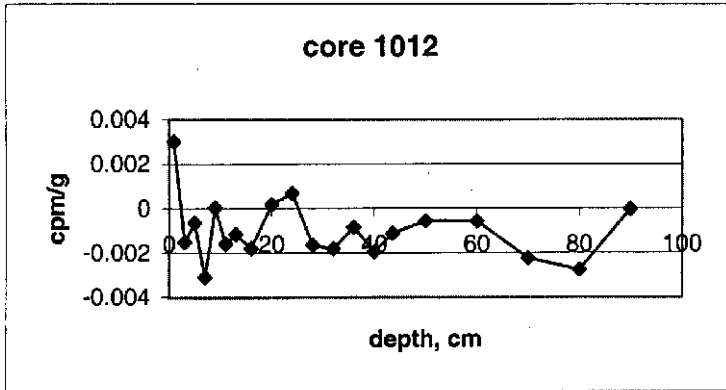
Battelle ID	Client ID	Depth, cm	CPM/G
1334*23	H4-SE001008-0-0000A	1	0.002104
1334*24	H4-SE001008-0-0000B	3	0.0021822
1334*25	H4-SE001008-0-0000C	5	-0.004525
1334*26	H4-SE001008-0-0000D	7	-0.006551
1334*27	H4-SE001008-0-0000E	9	0.0017868
1334*28	H4-SE001008-0-0000F	11	0.0010512
1334*29	H4-SE001008-0-0000G	13	0.0055519
1334*30	H4-SE001008-0-0000H	16	0.0027412
1334*31	H4-SE001008-0-0000I	20	-0.008691
1334*35	H4-SE001008-0-0000J	24	-0.004596
1334*36	H4-SE001008-0-0000K	28	-0.006219
1334*32	H4-SE001008-0-0000Q	60	-7.71E-05
1334*33	H4-SE001008-0-0000R	70	0.0066606
1334*34	H4-SE001008-0-0000S	80	-0.000983



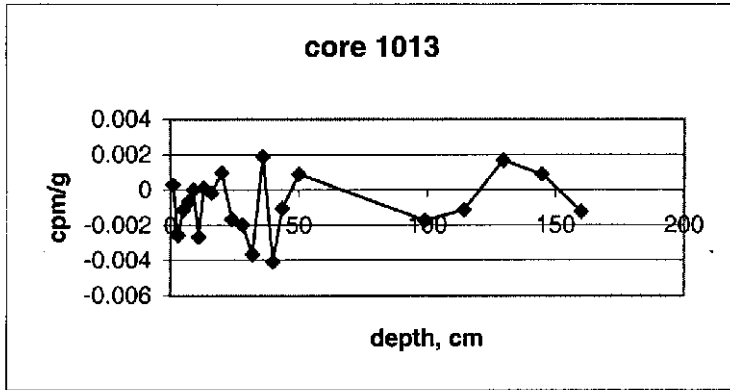
Battelle ID	Client ID	Depth, cm	CPM/G
1334*87	H4-SE001011-0-0000A	1	0.000908
1334*88	H4-SE001011-0-0000B	3	-0.000146
1334*89	H4-SE001011-0-0000C	5	-0.001514
1334*90	H4-SE001011-0-0000D	7	0.000172
1334*91	H4-SE001011-0-0000E	9	-0.000294
1334*92	H4-SE001011-0-0000F	11	-0.000739
1334*93	H4-SE001011-0-0000G	13	0.000683
1334*94	H4-SE001011-0-0000H	16	-0.002033
1334*95	H4-SE001011-0-0000I	20	-0.001072
1334*96	H4-SE001011-0-0000J	24	-0.001193



Battelle ID	Client ID	Depth, cm	CPM/G
1334*110	H4-SE001012-0-0000A	1	0.003006
1334*111	H4-SE001012-0-0000B	3	-0.001494
1334*112	H4-SE001012-0-0000C	5	-0.00063
1334*113	H4-SE001012-0-0000D	7	-0.003099
1334*114	H4-SE001012-0-0000E	9	3.46E-05
1334*115	H4-SE001012-0-0000F	11	-0.001578
1334*116	H4-SE001012-0-0000G	13	-0.001147
1334*117	H4-SE001012-0-0000H	16	-0.001784
1334*118	H4-SE001012-0-0000I	20	0.000181
1334*119	H4-SE001012-0-0000J	24	0.000679
1334*120	H4-SE001012-0-0000K	28	-0.001629
1334*121	H4-SE001012-0-0000L	32	-0.001809
1334*122	H4-SE001012-0-0000M	36	-0.000827
1334*123	H4-SE001012-0-0000N	40	-0.001947
1334*124	H4-SE001012-0-0000O	43.5	-0.001123
1334*125	H4-SE001012-0-0000P	50	-0.000557
1334*126	H4-SE001012-0-0000Q	60	-0.000578
1334*127	H4-SE001012-0-0000R	70	-0.00224
1334*128	H4-SE001012-0-0000S	80	-0.002773
1334*129	H4-SE001012-0-0000T	90	-3.22E-05

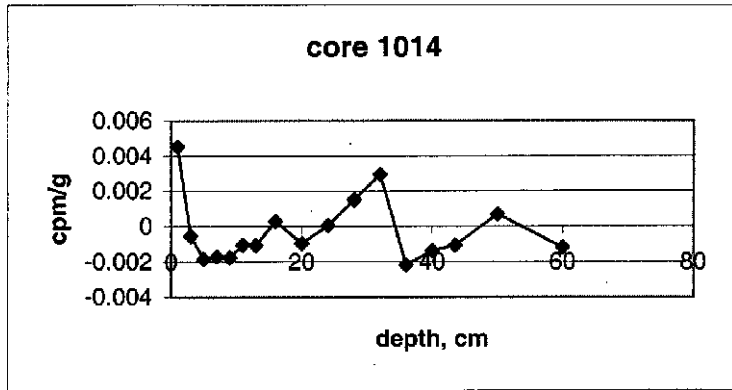


Battelle ID	Client ID	Depth, cm	CPM/G
1334*136	H4-SE001013-0-0000A	1	0.000304
1334*137	H4-SE001013-0-0000B	3	-0.002558
1334*138	H4-SE001013-0-0000C	5	-0.001129
1334*139	H4-SE001013-0-0000D	7	-0.000663
1334*140	H4-SE001013-0-0000E	9	2.45E-05
1334*141	H4-SE001013-0-0000F	11	-0.002663
1334*142	H4-SE001013-0-0000G	13	0.000113
1334*143	H4-SE001013-0-0000H	16	-0.000165
1334*144	H4-SE001013-0-0000I	20	0.000993
1334*145	H4-SE001013-0-0000J	24	-0.001665
1334*146	H4-SE001013-0-0000K	28	-0.00196
1334*147	H4-SE001013-0-0000L	32	-0.003664
1334*148	H4-SE001013-0-0000M	36	0.001889
1334*149	H4-SE001013-0-0000N	40	-0.004079
1334*150	H4-SE001013-0-0000O	43.5	-0.001045
1334*151	H4-SE001013-0-0000P	50	0.00091
1334*130	H4-SE001013-0-0030	99.06	-0.00174
1334*131	H4-SE001013-0-0035	114.3	-0.001144
1334*132	H4-SE001013-0-0040	129.54	0.001677
1334*133	H4-SE001013-0-0045	144.78	0.000881
1334*134	H4-SE001013-0-0050	160.02	-0.001256

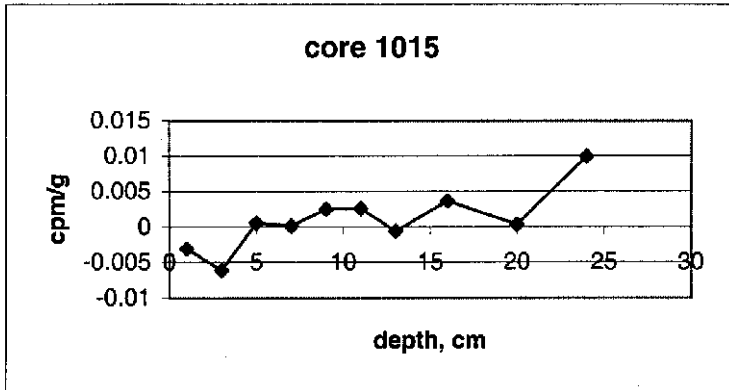




Battelle ID	Client ID	Depth	CPM/G
1334*160	H4-SE001014-0-0000A	1	0.004547
1334*161	H4-SE001014-0-0000B	3	-0.000535
1334*162	H4-SE001014-0-0000C	5	-0.001829
1334*163	H4-SE001014-0-0000D	7	-0.001694
1334*164	H4-SE001014-0-0000E	9	-0.001741
1334*165	H4-SE001014-0-0000F	11	-0.001035
1334*166	H4-SE001014-0-0000G	13	-0.001051
1334*167	H4-SE001014-0-0000H	16	0.000293
1334*168	H4-SE001014-0-0000I	20	-0.000955
1334*169	H4-SE001014-0-0000J	24	4.82E-05
1334*170	H4-SE001014-0-0000K	28	0.001507
1334*171	H4-SE001014-0-0000L	32	0.00294
1334*172	H4-SE001014-0-0000M	36	-0.002166
1334*173	H4-SE001014-0-0000N	40	-0.001368
1334*174	H4-SE001014-0-0000O	43.5	-0.001081
1334*175	H4-SE001014-0-0000P	50	0.000692
1334*176	H4-SE001014-0-0000Q	60	-0.001197

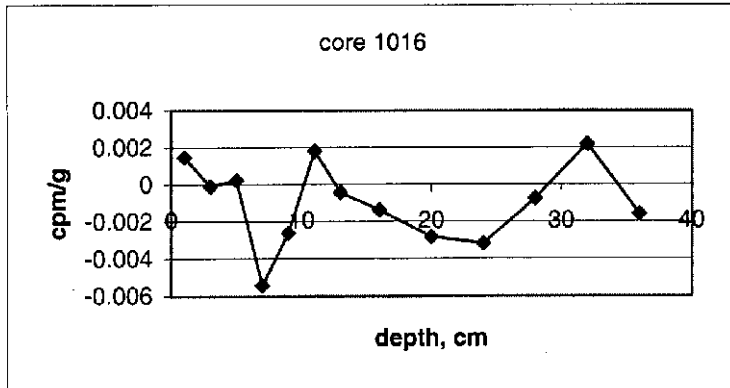


Battelle ID	Client ID	Depth	CPM/G
1334*187	H4-SE001015-0-0000A	1	-0.003115
1334*188	H4-SE001015-0-0000B	3	-0.006164
1334*189	H4-SE001015-0-0000C	5	0.000553
1334*190	H4-SE001015-0-0000D	7	9.06E-05
1334*191	H4-SE001015-0-0000E	9	0.002465
1334*192	H4-SE001015-0-0000F	11	0.002568
1334*193	H4-SE001015-0-0000G	13	-0.000662
1334*194	H4-SE001015-0-0000H	16	0.003627
1334*195	H4-SE001015-0-0000I	20	0.000263
1334*196	H4-SE001015-0-0000J	24	0.009975

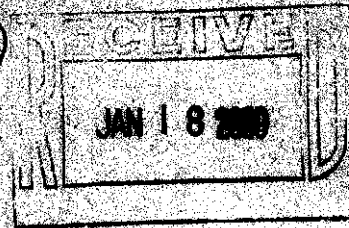


soil-tech, Be data core 1016

Battelle ID	Client ID	Depth	CPM/G
1334*214	H4-SE001016-0-0000A	1	0.00148167
1334*215	H4-SE001016-0-0000B	3	-9.685E-05
1334*216	H4-SE001016-0-0000C	5	0.00021843
1334*217	H4-SE001016-0-0000D	7	-0.0054243
1334*218	H4-SE001016-0-0000E	9	-0.0026046
1334*219	H4-SE001016-0-0000F	11	0.00181955
1334*220	H4-SE001016-0-0000G	13	-0.0004266
1334*221	H4-SE001016-0-0000H	16	-0.0013694
1334*222	H4-SE001016-0-0000I	20	-0.0028193
1334*223	H4-SE001016-0-0000J	24	-0.0031851
1334*224	H4-SE001016-0-0000K	28	-0.000754
1334*225	H4-SE001016-0-0000L	32	0.00219868
1334*226	H4-SE001016-0-0000M	36	-0.001587



4



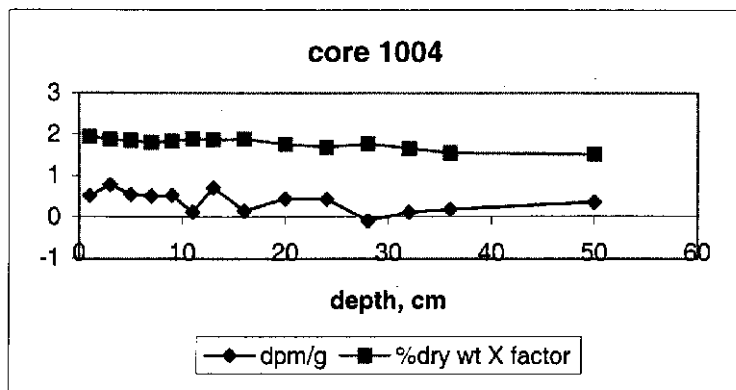
**GE/Housatonic River Project**

**Battelle**

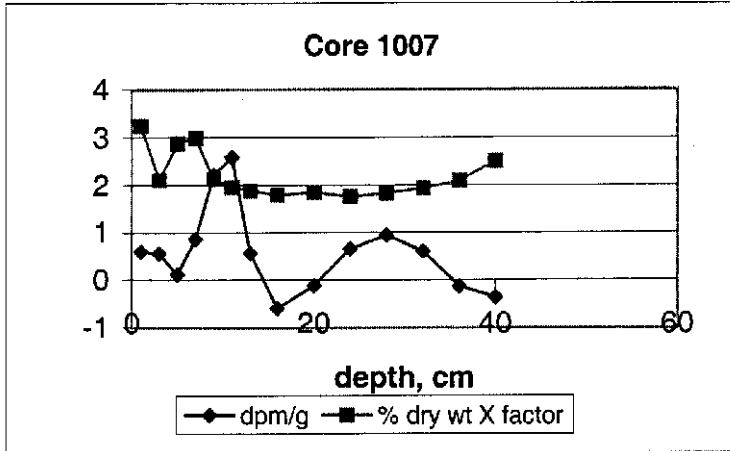
**Cs Data and Core Profiles**

Battelle ID	Client ID	Depth, cm	DPM/G	% dry wt	% dry wt * factor	Factor = 10
1334*43	H4-SE001004-0-0000A	1	0.512175	19.52%	1.952166	
1334*44	H4-SE001004-0-0000B	3	0.788221	18.87%	1.887093	
1334*45	H4-SE001004-0-0000C	5	0.546249	18.53%	1.853189	
1334*46	H4-SE001004-0-0000D	7	0.507532	18.05%	1.805368	
1334*47	H4-SE001004-0-0000E	9	0.522267	18.39%	1.838509	
1334*48	H4-SE001004-0-0000F	11	0.113948	18.99%	1.898734	
1334*49	H4-SE001004-0-0000G	13	0.701621	18.70%	1.869873	
1334*50	H4-SE001004-0-0000H	16	0.143837	18.88%	1.888055	
1334*51	H4-SE001004-0-0000I	20	0.436903	17.63%	1.763011	
1334*52	H4-SE001004-0-0000J	24	0.424621	16.87%	1.686821	
1334*53	H4-SE001004-0-0000K	28	-0.099865	17.79%	1.779179	
1334*54	H4-SE001004-0-0000L	32	0.109265	16.58%	1.658289	
1334*55	H4-SE001004-0-0000M	36	0.179972	15.49%	1.549184	
1334*56	H4-SE001004-0-0000P	50	0.347804	15.21%	1.520748	

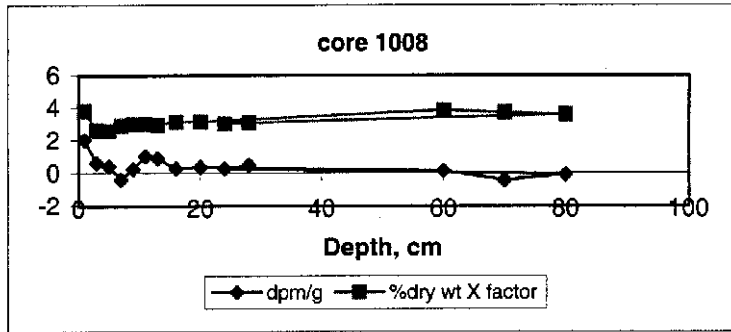




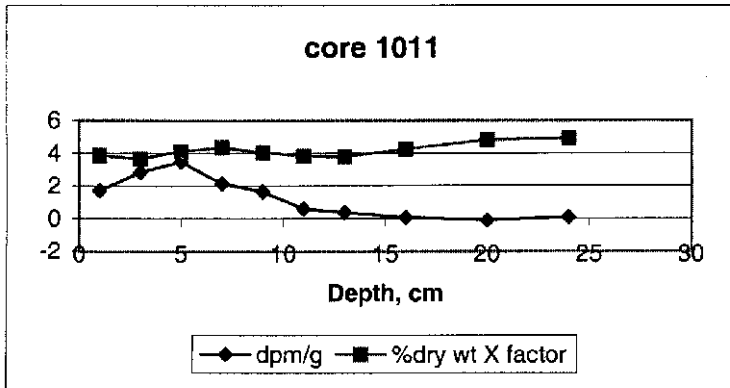
Battelle ID	Client ID	Depth	DPM/G	% dry wt	% dry wt * factor	Factor = 25
1334*1	H4-SE001007-0-0000A	1	0.597143	12.98%	3.244009	
1334*2	H4-SE001007-0-0000B	3	0.558919	8.45%	2.112986	
1334*3	H4-SE001007-0-0000C	5	0.113395	11.51%	2.877023	
1334*4	H4-SE001007-0-0000D	7	0.862678	12.00%	3.000683	
1334*5	H4-SE001007-0-0000E	9	2.221072	8.56%	2.138964	
1334*6	H4-SE001007-0-0000F	11	2.593671	7.83%	1.957259	
1334*7	H4-SE001007-0-0000G	13	0.57088	7.57%	1.891589	
1334*8	H4-SE001007-0-0000H	16	-0.591979	7.16%	1.790676	
1334*9	H4-SE001007-0-0000I	20	-0.117313	7.40%	1.848875	
1334*10	H4-SE001007-0-0000J	24	0.65396	7.03%	1.757556	
1334*11	H4-SE001007-0-0000K	28	0.94682	7.31%	1.826526	
1334*12	H4-SE001007-0-0000L	32	0.60305	7.75%	1.936776	
1334*13	H4-SE001007-0-0000M	36	-0.12909	8.37%	2.092165	
1334*14	H4-SE001007-0-0000N	40	-0.357711	10.02%	2.505783	



Battelle ID	Client ID	Depth, cm	DPM/G	% dry wt	% dry wt * factor	Factor = 25
1334*23	H4-SE001008-0-0000A	1	2.023612	15.30%	3.825792	
1334*24	H4-SE001008-0-0000B	3	0.618416	10.50%	2.6246	
1334*25	H4-SE001008-0-0000C	5	0.420761	10.33%	2.582975	
1334*26	H4-SE001008-0-0000D	7	-0.390735	11.68%	2.921031	
1334*27	H4-SE001008-0-0000E	9	0.253183	12.05%	3.011984	
1334*28	H4-SE001008-0-0000F	11	1.027809	12.11%	3.027301	
1334*29	H4-SE001008-0-0000G	13	0.899538	11.82%	2.954576	
1334*30	H4-SE001008-0-0000H	16	0.26974	12.59%	3.147452	
1334*31	H4-SE001008-0-0000I	20	0.371836	12.59%	3.148435	
1334*32	H4-SE001008-0-0000Q	60	0.127037	15.45%	3.861302	
1334*33	H4-SE001008-0-0000R	70	-0.454089	14.87%	3.717547	
1334*34	H4-SE001008-0-0000S	80	-0.088431	14.42%	3.604742	
1334*35	H4-SE001008-0-0000J	24	0.281474	12.16%	3.041129	
1334*36	H4-SE001008-0-0000K	28	0.488465	12.49%	3.123066	

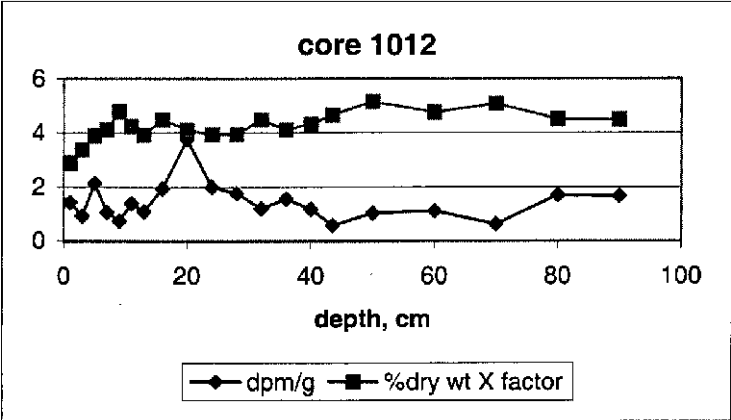


Battelle ID	Client ID	Depth, cm	DPM/G	% dry wt	% dry wt * factor	Factor = 10
1334*87	H4-SE0010011-0-0000A	1	1.723144	38.77%	3.87676	
1334*88	H4-SE0010011-0-0000B	3	2.839085	36.67%	3.667045	
1334*89	H4-SE0010011-0-0000C	5	3.468936	41.28%	4.128288	
1334*90	H4-SE0010011-0-0000D	7	2.142599	43.52%	4.351547	
1334*91	H4-SE0010011-0-0000E	9	1.644649	40.38%	4.03776	
1334*92	H4-SE0010011-0-0000F	11	0.592184	38.35%	3.834673	
1334*93	H4-SE0010011-0-0000G	13	0.369943	37.89%	3.788938	
1334*94	H4-SE0010011-0-0000H	16	0.055912	42.61%	4.2606	
1334*95	H4-SE0010011-0-0000I	20	-0.119747	48.19%	4.818827	
1334*96	H4-SE0010011-0-0000J	24	0.086462	49.30%	4.930249	

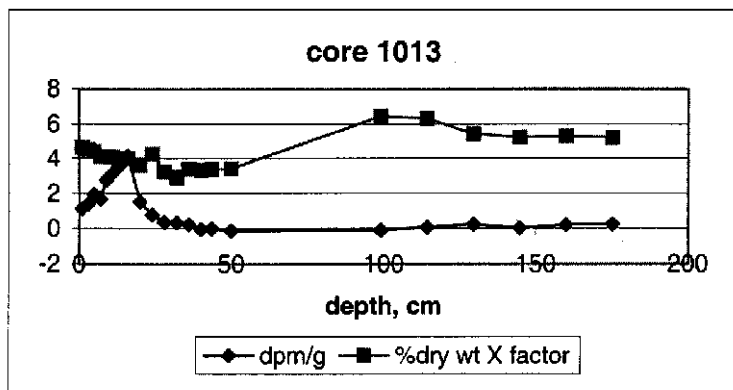


Battelle ID	Client ID	Depth, cm	DPM/G	% dry wt	% dry wt * factor	Factor = 10
1334*110	H4-SE001012-0-0000A	1	1.434069	28.95%	2.895284	
1334*111	H4-SE001012-0-0000B	3	0.935644	33.89%	3.389278	
1334*112	H4-SE001012-0-0000C	5	2.143523	38.97%	3.896545	
1334*113	H4-SE001012-0-0000D	7	1.066995	41.28%	4.12761	
1334*114	H4-SE001012-0-0000E	9	0.744518	47.91%	4.791323	
1334*115	H4-SE001012-0-0000F	11	1.393817	42.48%	4.248176	
1334*116	H4-SE001012-0-0000G	13	1.097114	39.16%	3.915794	
1334*117	H4-SE001012-0-0000H	16	1.945415	44.87%	4.486834	
1334*118	H4-SE001012-0-0000I	20	3.759213	41.17%	4.11749	
1334*119	H4-SE001012-0-0000J	24	1.994145	39.37%	3.936833	
1334*120	H4-SE001012-0-0000K	28	1.761728	39.54%	3.953503	
1334*121	H4-SE001012-0-0000L	32	1.203837	44.86%	4.485873	
1334*122	H4-SE001012-0-0000M	36	1.563262	41.16%	4.115734	
1334*123	H4-SE001012-0-0000N	40	1.181968	43.34%	4.333659	
1334*124	H4-SE001012-0-0000O	43.5	0.579408	46.64%	4.663684	
1334*125	H4-SE001012-0-0000P	50	1.039022	51.46%	5.14578	
1334*126	H4-SE001012-0-0000Q	60	1.110344	47.65%	4.765336	
1334*127	H4-SE001012-0-0000R	70	0.626115	50.76%	5.075834	
1334*128	H4-SE001012-0-0000S	80	1.695563	45.04%	4.503842	
1334*129	H4-SE001012-0-0000T	90	1.662041	44.80%	4.479764	

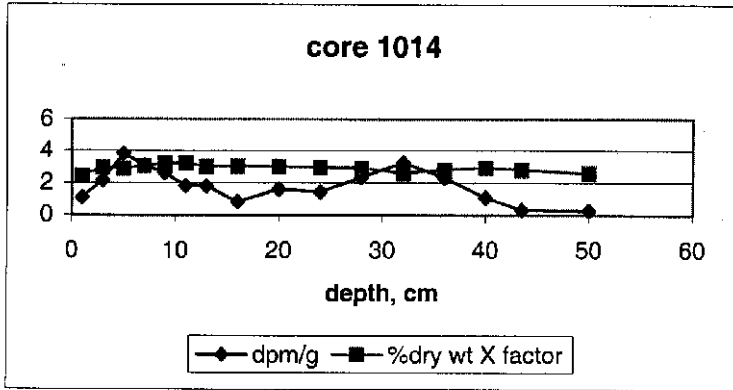




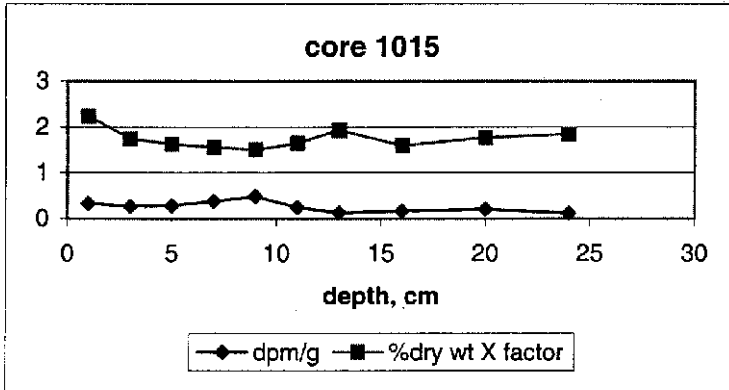
Battelle ID	Client ID	Depth, cm	DPM/G	% dry wt	% dry wt * factor	Factor = 10
1334*136	H4-SE001013-0-0000A	1	1.148682	46.59%	4.658653	
1334*137	H4-SE001013-0-0000B	3	1.40526	45.27%	4.527124	
1334*138	H4-SE001013-0-0000C	5	1.936794	44.23%	4.423136	
1334*139	H4-SE001013-0-0000D	7	1.697445	41.48%	4.14808	
1334*140	H4-SE001013-0-0000E	9	2.761393	41.28%	4.127977	
1334*141	H4-SE001013-0-0000F	11	3.16335	40.88%	4.088136	
1334*142	H4-SE001013-0-0000G	13	3.538636	39.37%	3.937068	
1334*143	H4-SE001013-0-0000H	16	4.154424	40.36%	4.035681	
1334*144	H4-SE001013-0-0000I	20	1.548352	36.29%	3.629485	
1334*145	H4-SE001013-0-0000J	24	0.790494	42.80%	4.280184	
1334*146	H4-SE001013-0-0000K	28	0.367501	32.42%	3.242177	
1334*147	H4-SE001013-0-0000L	32	0.352614	29.20%	2.919595	
1334*148	H4-SE001013-0-0000M	36	0.243758	33.99%	3.398508	
1334*149	H4-SE001013-0-0000N	40	-0.026811	33.42%	3.341708	
1334*150	H4-SE001013-0-0000O	43.5	0.002468	33.82%	3.381979	
1334*151	H4-SE001013-0-0000P	50	-0.120937	34.20%	3.419548	
1334*130	H4-SE001013-0-0030	99.06	-0.096878	64.48%	6.447853	
1334*131	H4-SE001013-0-0035	114.3	0.080781	63.15%	6.314935	
1334*132	H4-SE001013-0-0040	129.54	0.25026	54.40%	5.440284	
1334*133	H4-SE001013-0-0045	144.78	0.017756	52.37%	5.237431	
1334*134	H4-SE001013-0-0050	160.02	0.207111	53.09%	5.309123	
1334*135	H4-SE001013-0-0055	175.26	0.242214	52.14%	5.214163	



Battelle ID	Client ID	Depth	DPM/G	% dry wt	% dry wt * factor	Factor = 10
1334*160	H4-SE001014-0-0000A	1	1.085245	24.29%	2.429135	
1334*161	H4-SE001014-0-0000B	3	2.138185	29.69%	2.9686	
1334*162	H4-SE001014-0-0000C	5	3.837361	28.78%	2.878221	
1334*163	H4-SE001014-0-0000D	7	3.08875	30.60%	3.060312	
1334*164	H4-SE001014-0-0000E	9	2.623254	32.36%	3.236261	
1334*165	H4-SE001014-0-0000F	11	1.831337	32.33%	3.232972	
1334*166	H4-SE001014-0-0000G	13	1.806268	30.12%	3.012228	
1334*167	H4-SE001014-0-0000H	16	0.831134	30.30%	3.030175	
1334*168	H4-SE001014-0-0000I	20	1.619746	30.17%	3.016911	
1334*169	H4-SE001014-0-0000J	24	1.449257	29.55%	2.955196	
1334*170	H4-SE001014-0-0000K	28	2.35423	29.16%	2.915772	
1334*171	H4-SE001014-0-0000L	32	3.267944	26.08%	2.607682	
1334*172	H4-SE001014-0-0000M	36	2.32036	28.27%	2.826864	
1334*173	H4-SE001014-0-0000N	40	1.081566	29.43%	2.942794	
1334*174	H4-SE001014-0-0000O	43.5	0.302983	28.17%	2.81691	
1334*175	H4-SE001014-0-0000P	50	0.271379	25.89%	2.58891	

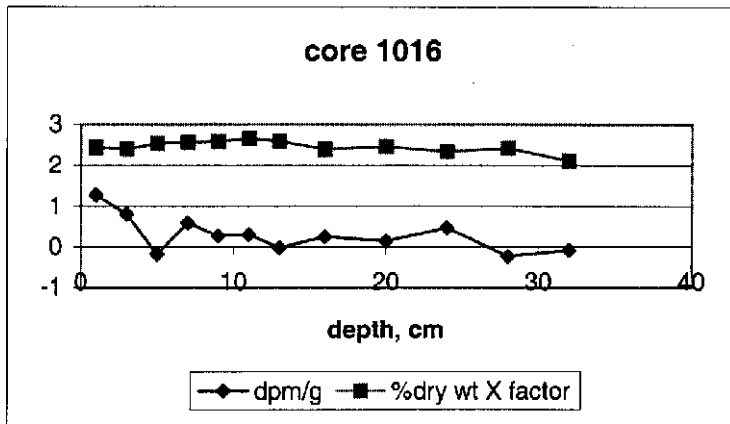


Battelle ID	Client ID	Depth	DPM/G	% dry wt	% dry wt * factor	Factor = 10
1334*187	H4-SE001015-0-0000A	1	0.335818	22.40%	2.239678	
1334*188	H4-SE001015-0-0000B	3	0.272958	17.47%	1.747361	
1334*189	H4-SE001015-0-0000C	5	0.286113	16.32%	1.632228	
1334*190	H4-SE001015-0-0000D	7	0.385283	15.65%	1.564527	
1334*191	H4-SE001015-0-0000E	9	0.488966	15.04%	1.504171	
1334*192	H4-SE001015-0-0000F	11	0.250189	16.49%	1.648862	
1334*193	H4-SE001015-0-0000G	13	0.132011	19.30%	1.929756	
1334*194	H4-SE001015-0-0000H	16	0.172784	15.99%	1.598948	
1334*195	H4-SE001015-0-0000I	20	0.207866	17.70%	1.769652	
1334*196	H4-SE001015-0-0000J	24	0.119836	18.43%	1.843455	



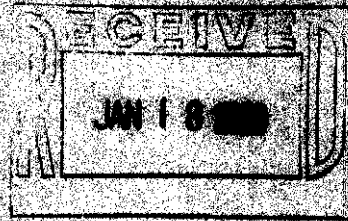
Battelle ID	Client ID	Depth	DPM/G	% dry wt	% dry wt * factor	Factor = 10
1334*214	H4-SE001016-0-0000A	1	1.285945	24.31%	2.431157	
1334*215	H4-SE001016-0-0000B	3	0.813096	24.01%	2.401193	
1334*216	H4-SE001016-0-0000C	5	-0.183496	25.34%	2.533779	
1334*217	H4-SE001016-0-0000D	7	0.595052	25.68%	2.56774	
1334*218	H4-SE001016-0-0000E	9	0.276805	25.78%	2.578173	
1334*219	H4-SE001016-0-0000F	11	0.302451	26.65%	2.664693	
1334*220	H4-SE001016-0-0000G	13	-0.017452	25.86%	2.58557	
1334*221	H4-SE001016-0-0000H	16	0.254678	23.97%	2.397302	
1334*222	H4-SE001016-0-0000I	20	0.140445	24.54%	2.454068	
1334*223	H4-SE001016-0-0000J	24	0.469751	23.40%	2.340486	
1334*224	H4-SE001016-0-0000K	28	-0.231476	24.20%	2.419765	
1334*225	H4-SE001016-0-0000L	32	-0.085672	21.09%	2.10864	





<b>Cs 137</b>		<b>SRM</b>	
<b>BATTELLE</b>	<b>dis/min/g</b>	<b>CERTIFIED VALUE</b>	<b>% RPD</b>
<b>CODE</b>	<b>(dry wt.)</b>	<b>dis/min/g</b>	
IAEA-135	62.8	57.36	9%
1334*1	0.644		
1334*2	1.828		
1334*3	1.059		
1334*4	1.661		
1334*5	3.301		
1334*6	4.055		
1334*7	1.067		
1334*8	1.438	1.28	
1334*9	2.294		
1334*10	1.919		
1334*11	2.659		
1334*12	1.955		
1334*13	1.176		
1334*14	6.243		

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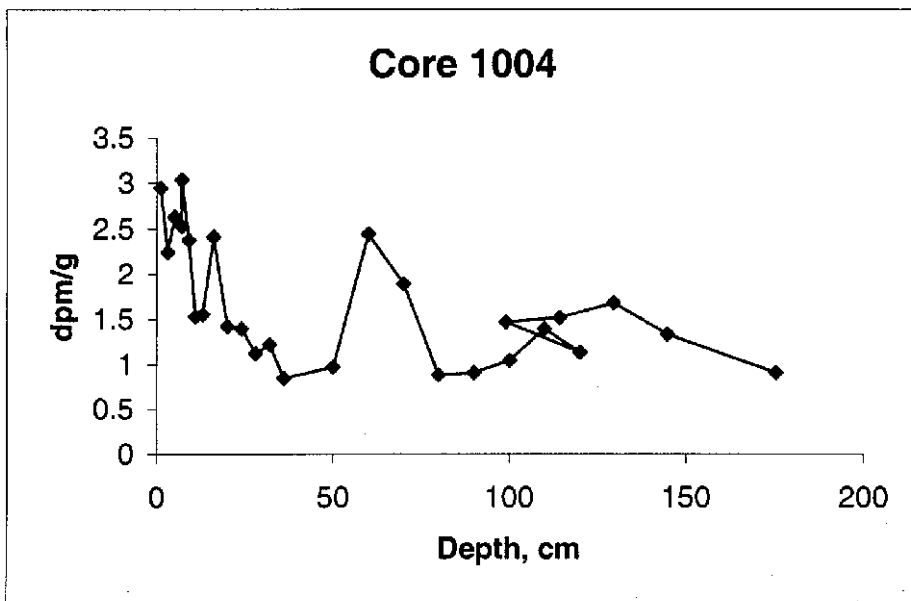


**GE/Housatonic River Project**

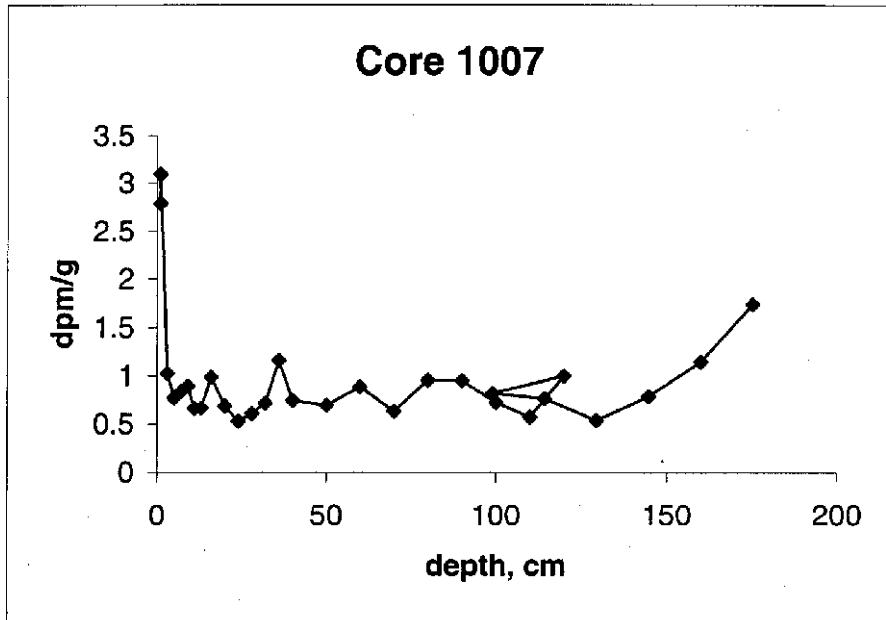
**Battelle**

**Pb-210 Profiles**

Battelle Sample #	Sponsor code	DCM/g	Depth, cm
1334*43	H4-SE001004-0-0000A	2.949049	1
1334*44	H4-SE001004-0-0000B	2.244348	3
1334*45	H4-SE001004-0-0000C	2.633926	5
1334*46 R-1	H4-SE001004-0-0000D	2.528868	7
1334*46 R-2	H4-SE001004-0-0000D	3.039998	7
1334*47	H4-SE001004-0-0000E	2.375942	9
1334*48	H4-SE001004-0-0000F	1.53245	11
1334*49	H4-SE001004-0-0000G	1.556241	13
1334*50	H4-SE001004-0-0000H	2.415208	16
1334*51	H4-SE001004-0-0000I	1.422877	20
1334*52	H4-SE001004-0-0000J	1.396474	24
1334*53	H4-SE001004-0-0000K	1.125725	28
1334*54	H4-SE001004-0-0000L	1.221722	32
1334*55	H4-SE001004-0-0000M	0.851301	36
1334*56	H4-SE001004-0-0000P	0.973856	50
1334*57	H4-SE001004-0-0000Q	2.441979	60
1334*58	H4-SE001004-0-0000R	1.89057	70
1334*59	H4-SE001004-0-0000S	0.88791	80
1334*60	H4-SE001004-0-0000T	0.911182	90
1334*61	H4-SE001004-0-0000U	1.045146	100
1334*62	H4-SE001004-0-0000V	1.393235	110
1334*63	H4-SE001004-0-0000W	1.134272	120
1334*64	H4-SE001004-0-0030	1.469839	99.06
1334*65	H4-SE001004-0-0035	1.51586	114.3
1334*66	H4-SE001004-0-0040	1.682001	129.54
1334*67	H4-SE001004-0-0045	1.334808	144.78
1334*68	H4-SE001004-0-0055	0.914136	175.26

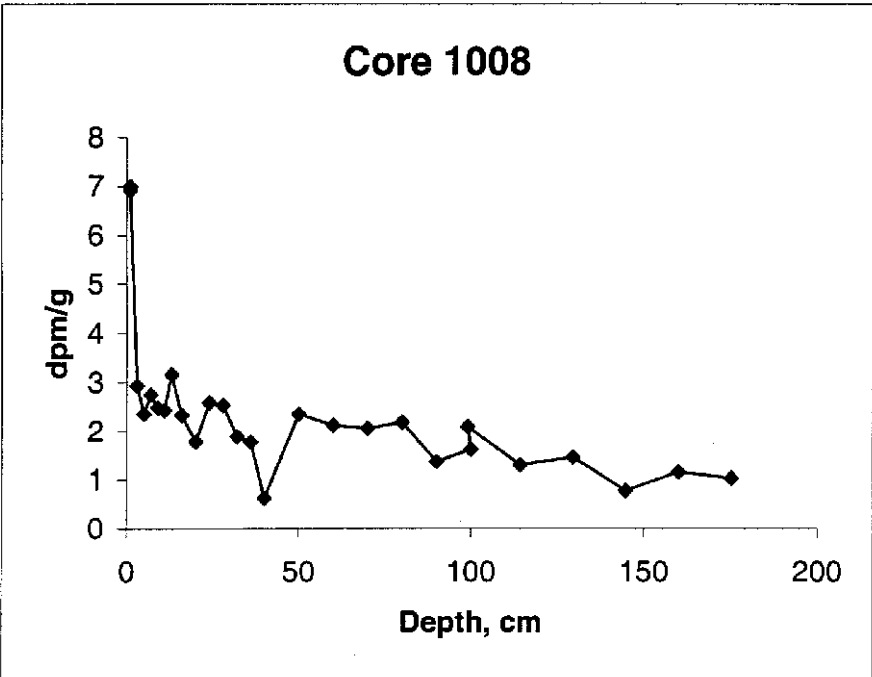


Battelle Sample #	Sponsor code	DCM/g	Depth
1334*1 R1	H4-SE001007-0-0000A	2.791889	1
1334*1 R2	H4-SE001007-0-0000A	3.097921	1
1334*2	H4-SE001007-0-0000B	1.02985	3
1334*3	H4-SE001007-0-0000C	0.777114	5
1334*4	H4-SE001007-0-0000D	0.842469	7
1334*5	H4-SE001007-0-0000E	0.897719	9
1334*6	H4-SE001007-0-0000F	0.665713	11
1334*7	H4-SE001007-0-0000G	0.671377	13
1334*8	H4-SE001007-0-0000H	0.992055	16
1334*9	H4-SE001007-0-0000I	0.691528	20
1334*10	H4-SE001007-0-0000J	0.533625	24
1334*11	H4-SE001007-0-0000K	0.613844	28
1334*12	H4-SE001007-0-0000L	0.718969	32
1334*13	H4-SE001007-0-0000M	1.162908	36
1334*14	H4-SE001007-0-0000N	0.746837	40
1334*15	H4-SE001007-0-0000P	0.699061	50
1334*16	H4-SE001007-0-0000Q	0.889752	60
1334*17	H4-SE001007-0-0000R	0.636239	70
1334*18	H4-SE001007-0-0000S	0.957079	80
1334*19	H4-SE001007-0-0000T	0.951443	90
1334*20	H4-SE001007-0-0000U	0.725685	100
1334*21	H4-SE001007-0-0000V	0.573242	110
1334*22	H4-SE001007-0-0000W	1.000514	120
1334*69	H4-SE001007-0-0030	0.819017	99.06
1334*70	H4-SE001007-0-0035	0.767653	114.3
1334*71	H4-SE001007-0-0040	0.538404	129.54
1334*72	H4-SE001007-0-0045	0.787534	144.78
1334*73	H4-SE001007-0-0050	1.145227	160.02
1334*74	H4-SE001007-0-0055	1.737332	175.26



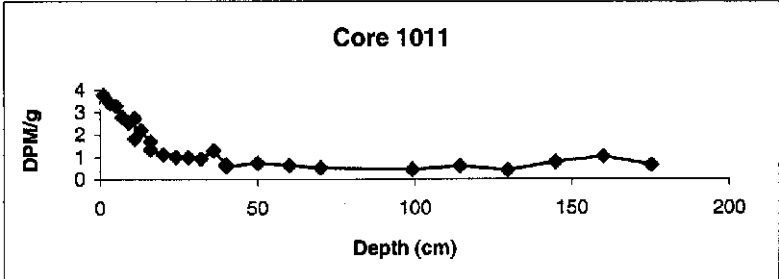
Battelle Sample #	Sponsor Code	DPM/g	Depth
1334*23 R-1	H4-SE001008-0-0000A	6.999276	1
1334*23 R-2	H4-SE001008-0-0000A	6.915292	1
1334*24	H4-SE001008-0-0000B	2.9311	3
1334*25	H4-SE001008-0-0000C	2.357409	5
1334*26	H4-SE001008-0-0000D	2.748441	7
1334*27	H4-SE001008-0-0000E	2.483218	9
1334*28	H4-SE001008-0-0000F	2.427105	11
1334*29	H4-SE001008-0-0000G	3.159113	13
1334*30	H4-SE001008-0-0000H	2.333476	16
1334*31	H4-SE001008-0-0000I	1.786083	20
1334*35	H4-SE001008-0-0000J	2.585699	24
1334*36	H4-SE001008-0-0000K	2.5252	28
1334*37	H4-SE001008-0-0000L	1.898126	32
1334*38	H4-SE001008-0-0000M	1.778489	36
1334*39	H4-SE001008-0-0000N	0.627123	40
1334*40	H4-SE001008-0-0000P	2.347087	50
1334*32	H4-SE001008-0-0000Q	2.113658	60
1334*33	H4-SE001008-0-0000R	2.052783	70
1334*34	H4-SE001008-0-0000S	2.180784	80
1334*41	H4-SE001008-0-0000T	1.369616	90
1334*42	H4-SE001008-0-0000U	1.619376	100
1334*75	H4-SE001008-0-0030	2.088746	99.06
1334*76	H4-SE001008-0-0035	1.302866	114.3
1334*77	H4-SE001008-0-0040	1.460699	129.54
1334*78	H4-SE001008-0-0045	0.773411	144.78
1334*79	H4-SE001008-0-0050	1.153316	160.02
1334*80	H4-SE001008-0-0055	1.021591	175.26





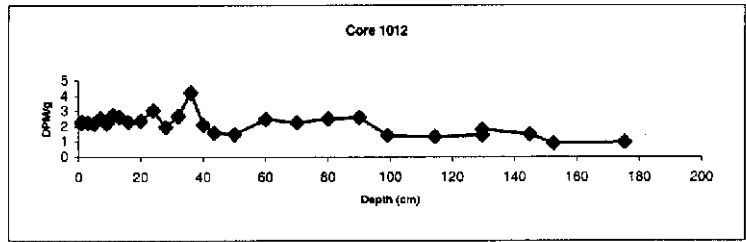
**Core 10011**

Sample	Sponsor code	DPM/g	Depth (cm)
1334*87	H4-SE0010011-0-0000A	3.790219	1
1334*88	H4-SE0010011-0-0000B	3.428679	3
1334*89	H4-SE0010011-0-0000C	3.302904	5
1334*90	H4-SE0010011-0-0000D	2.807	7
1334*91	H4-SE0010011-0-0000E	2.557	9
1334*92 R-1	H4-SE0010011-0-0000F	2.747	11
1334*92 R-2	H4-SE0010011-0-0000F	1.842	11
1334*93	H4-SE0010011-0-0000G	2.208	13
1334*94 R-1	H4-SE0010011-0-0000H	1.700	16
1334*94 R-2	H4-SE0010011-0-0000H	1.351	16
1334*95	H4-SE0010011-0-0000I	1.132	20
1334*96	H4-SE0010011-0-0000J	1.027	24
1334*97	H4-SE0010011-0-0000K	1.000	28
1334*98	H4-SE0010011-0-0000L	0.939	32
1334*99	H4-SE0010011-0-0000M	1.303	36
1334*100 R-1	H4-SE0010011-0-0000N	0.669	40
1334*100 R-2	H4-SE0010011-0-0000N	0.593	40
1334*101	H4-SE0010011-0-0000P	0.732	50
1334*102	H4-SE0010011-0-0000Q	0.636	60
1334*103	H4-SE0010011-0-0000R	0.528	70
1334*81	H4-SE0010011-0-0030	0.439677	99.06
1334*82	H4-SE0010011-0-0035	0.59946	114.3
1334*83	H4-SE0010011-0-0040	0.417448	129.54
1334*84	H4-SE0010011-0-0045	0.782282	144.78
1334*85	H4-SE0010011-0-0050	1.017938	160.02
1334*86	H4-SE0010011-0-0055	0.642523	175.26



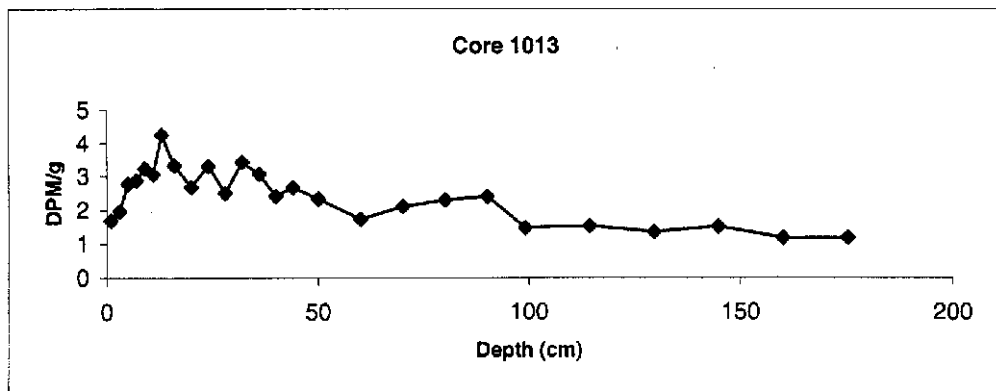
**CORE 1012**

Sample	Sponsor code	DPM/g	Depth (cm)
1334*110 R-1	H4-SE001012-0-0000A	2.322	1
1334*110 R-2	H4-SE001012-0-0000A	2.233	1
1334*111	H4-SE001012-0-0000B	2.244	3
1334*112	H4-SE001012-0-0000C	2.186	5
1334*113	H4-SE001012-0-0000D	2.547	7
1334*114	H4-SE001012-0-0000E	2.186	9
1334*115	H4-SE001012-0-0000F	2.774	11
1334*116	H4-SE001012-0-0000G	2.644	13
1334*117	H4-SE001012-0-0000H	2.319	16
1334*118	H4-SE001012-0-0000I	2.384	20
1334*119	H4-SE001012-0-0000J	3.064	24
1334*120	H4-SE001012-0-0000K	1.971	28
1334*121 R-1	H4-SE001012-0-0000L	2.705	32
1334*121 R-2	H4-SE001012-0-0000L	2.686	32
1334*122	H4-SE001012-0-0000M	4.220	36
1334*123	H4-SE001012-0-0000N	2.109	40
1334*124	H4-SE001012-0-0000O	1.609	43.5
1334*125	H4-SE001012-0-0000P	1.496	50
1334*126	H4-SE001012-0-0000Q	2.488	60
1334*127	H4-SE001012-0-0000R	2.272	70
1334*128	H4-SE001012-0-0000S	2.501	80
1334*129	H4-SE001012-0-0000T	2.609	90
1334*104	H4-SE01012-0-0030	1.425	99.06
1334*105	H4-SE01012-0-0035	1.345	114.3
1334*106 R-1	H4-SE01012-0-0040	1.435	129.54
1334*106 R-2	H4-SE01012-0-0040	1.816	129.54
1334*107	H4-SE01012-0-0045	1.502	144.78
1334*108	H4-SE01012-0-0050	0.918	152.4
1334*109	H4-SE01012-0-0055	0.985	175.26



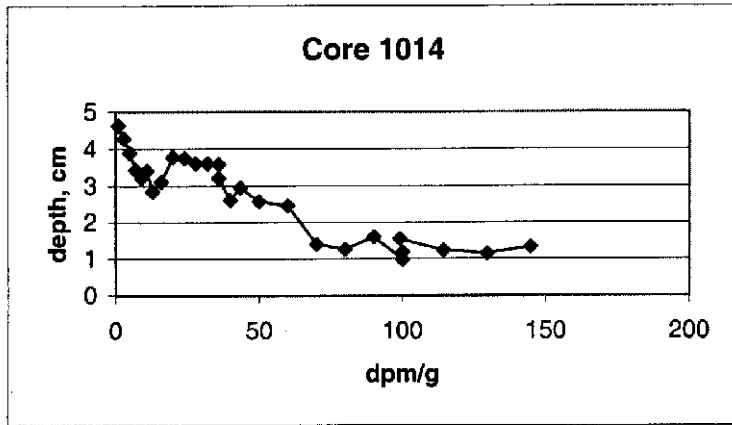
**Core 1013**

Sample	Sponsor code	DPM/g	Depth (cm)
1334*136	H4-SE001013-0-0000A	1.698	1
1334*137	H4-SE001013-0-0000B	1.976	3
1334*138	H4-SE001013-0-0000C	2.781	5
1334*139	H4-SE001013-0-0000D	2.874	7
1334*140	H4-SE001013-0-0000E	3.241	9
1334*141	H4-SE001013-0-0000F	3.066	11
1334*142	H4-SE001013-0-0000G	4.268	13
1334*143	H4-SE001013-0-0000H	3.334	16
1334*144	H4-SE001013-0-0000I	2.690	20
1334*145	H4-SE001013-0-0000J	3.319	24
1334*146	H4-SE001013-0-0000K	2.511	28
1334*147	H4-SE001013-0-0000L	3.439	32
1334*148	H4-SE001013-0-0000M	3.078	36
1334*149	H4-SE001013-0-0000N	2.423	40
1334*150	H4-SE001013-0-0000O	2.677	44
1334*151	H4-SE001013-0-0000P	2.336	50
1334*152	H4-SE001013-0-0000Q	1.741	60
1334*153	H4-SE001013-0-0000R	2.119	70
1334*154	H4-SE001013-0-0000S	2.301	80
1334*155	H4-SE001013-0-0000T	2.407	90
1334*130	H4-SE001013-0-0030	1.479	99.06
1334*131	H4-SE001013-0-0035	1.536	114.3
1334*132	H4-SE001013-0-0040	1.355	129.54
1334*133	H4-SE001013-0-0045	1.519	144.78
1334*134	H4-SE001013-0-0050	1.186	160.02
1334*135	H4-SE001013-0-0055	1.190	175.26



Core 1014			
Sample	Sponsor code	DPM/g	Depth (cm)
1334*160	H4-SE001014-0-0000A	4.636009	1
1334*161	H4-SE001014-0-0000B	4.277307	3
1334*162	H4-SE001014-0-0000C	3.902576	5
1334*163	H4-SE001014-0-0000D	3.436889	7
1334*164	H4-SE001014-0-0000E	3.218938	9
1334*165	H4-SE001014-0-0000F	3.415864	11
1334*166	H4-SE001014-0-0000G	2.850124	13
1334*167	H4-SE001014-0-0000H	3.121838	16
1334*168	H4-SE001014-0-0000I	3.781786	20
1334*169	H4-SE001014-0-0000J	3.757516	24
1334*170	H4-SE001014-0-0000K	3.620493	28
1334*171	H4-SE001014-0-0000L	3.621262	32
1334*172 R-1	H4-SE001014-0-0000M	3.59129	36
1334*172 R-2	H4-SE001014-0-0000M	3.218656	36
1334*173	H4-SE001014-0-0000N	2.621183	40
1334*174	H4-SE001014-0-0000O	2.957041	43.5
1334*175	H4-SE001014-0-0000P	2.575197	50
1334*176	H4-SE001014-0-0000Q	2.460914	60
1334*177	H4-SE001014-0-0000R	1.399776	70
1334*178	H4-SE001014-0-0000S	1.260847	80
1334*179	H4-SE001014-0-0000T	1.604206	90
1334*180 R-1	H4-SE001014-0-0000U	0.969261	100
1334*180 R-2	H4-SE001014-0-0000U	1.174942	100
1334*156	H4-SE001014-0-0030	1.548743	99.06
1334*157	H4-SE001014-0-0035	1.230993	114.3
1334*158	H4-SE001014-0-0040	1.146953	129.54
1334*159	H4-SE001014-0-0045	1.32923	144.78

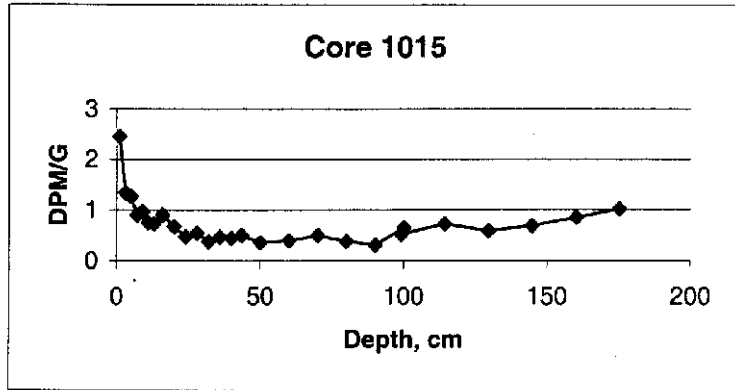




## Soil Tech Pb-210 Dating

**Core 1015**

Sample	Sponsor code	DPM/g	Depth (cm)
1334*187	H4-SE001015-0-0000A	2.462558	1
1334*188	H4-SE001015-0-0000B	1.344738	3
1334*189	H4-SE001015-0-0000C	1.271213	5
1334*190	H4-SE001015-0-0000D	0.899405	7
1334*191	H4-SE001015-0-0000E	0.976869	9
1334*192	H4-SE001015-0-0000F	0.758669	11
1334*193	H4-SE001015-0-0000G	0.735771	13
1334*194	H4-SE001015-0-0000H	0.911165	16
1334*195	H4-SE001015-0-0000I	0.680995	20
1334*196	H4-SE001015-0-0000J	0.480085	24
1334*197	H4-SE001015-0-0000K	0.551326	28
1334*198	H4-SE001015-0-0000L	0.380282	32
1334*199	H4-SE001015-0-0000M	0.470398	36
1334*200	H4-SE001015-0-0000N	0.450253	40
1334*201	H4-SE001015-0-0000O	0.509401	43.5
1334*202	H4-SE001015-0-0000P	0.36275	50
1334*203	H4-SE001015-0-0000Q	0.402368	60
1334*204	H4-SE001015-0-0000R	0.501699	70
1334*205	H4-SE001015-0-0000S	0.388553	80
1334*206	H4-SE001015-0-0000T	0.313919	90
1334*207	H4-SE001015-0-0000U	0.654335	100
1334*181	H4-SE001015-0-0030	0.526413	99.06
1334*182	H4-SE001015-0-0035	0.728503	114.3
1334*183	H4-SE001015-0-0040	0.593736	129.54
1334*184	H4-SE001015-0-0045	0.690849	144.78
1334*185	H4-SE001015-0-0050	0.855553	160.2
1334*186	H4-SE001015-0-0055	1.023538	175.26



## Soil Tech Pb-210 Dating

**Core 1016**

Sample	Sponsor code	DPM/g	Depth (cm)
1334*214	H4-SE001016-0-0000A	4.06029	1
1334*215	H4-SE001016-0-0000B	3.067315	3
1334*216	H4-SE001016-0-0000C	3.526485	5
1334*217	H4-SE001016-0-0000D	3.466192	7
1334*218	H4-SE001016-0-0000E	3.860279	9
1334*219	H4-SE001016-0-0000F	3.419277	11
1334*220	H4-SE001016-0-0000G	3.133001	13
1334*221	H4-SE001016-0-0000H	2.993429	16
1334*222	H4-SE001016-0-0000I	2.382933	20
1334*223	H4-SE001016-0-0000J	2.712131	24
1334*224	H4-SE001016-0-0000K	2.655508	28
1334*225	H4-SE001016-0-0000L	2.209191	32
1334*226	H4-SE001016-0-0000M	2.011644	36
1334*227	H4-SE001016-0-0000N	3.179933	40
1334*228	H4-SE001016-0-0000P	2.413581	50
1334*229	H4-SE001016-0-0000Q	2.476524	60
1334*230	H4-SE001016-0-0000R	1.772903	70
1334*231	H4-SE001016-0-0000S	1.352626	80
1334*208	H4-SE001016-0-0030	0.497918	99.06
1334*209	H4-SE001016-0-0035	0.75244	114.3
1334*210 R-	H4-SE001016-0-0040	0.857275	129.54
1334*210 R-	H4-SE001016-0-0040	0.822524	129.54
1334*211	H4-SE001016-0-0045	0.863524	144.78
1334*212	H4-SE001016-0-0050	0.746437	160.2
1334*213	H4-SE001016-0-0055	0.813065	175.26

