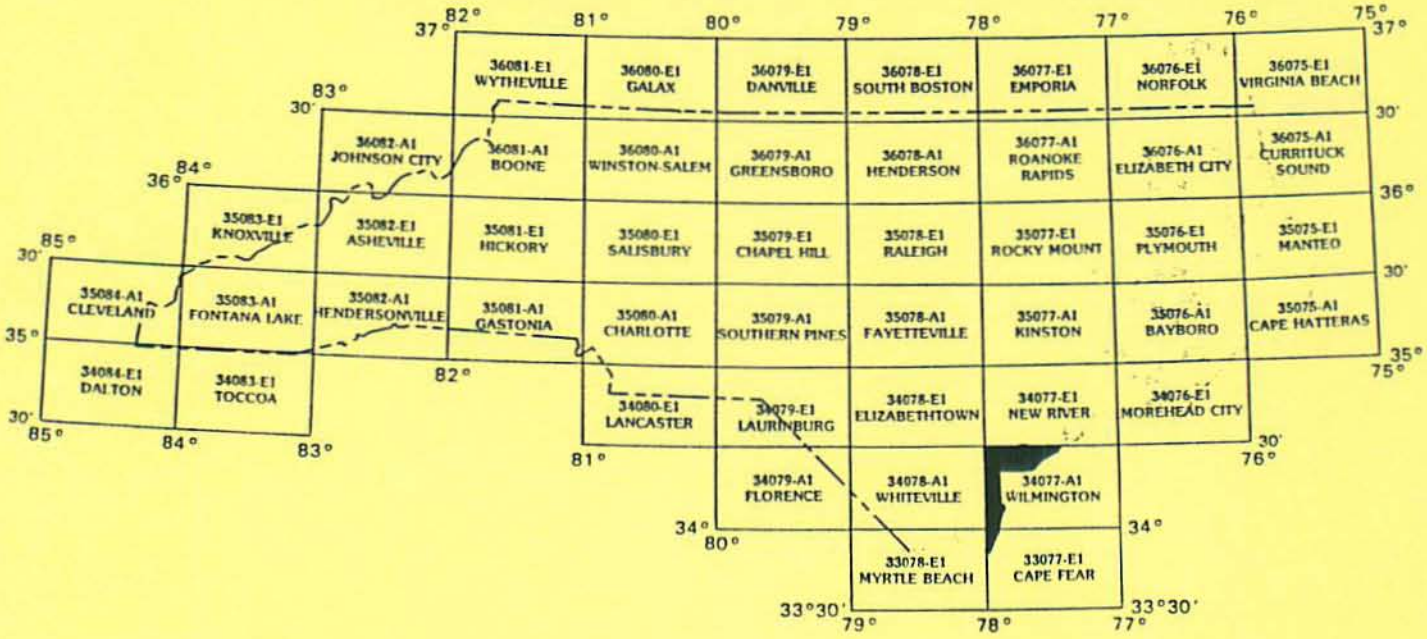
Listing of Concentrations of Variables of Stream Sediment, Stream Water, and Groundwater for the Wilmington and Cape Fear 30 x 60 - Minute Quadrangles -NURE Database

by
Robert H. Carpenter and Jeffrey C. Reid



NORTH CAROLINA GEOLOGICAL SURVEY
OPEN-FILE REPORT 93-29

State of North Carolina
James B. Hunt, Jr., Governor

Department of Environment, Health and Natural Resources
Jonathan B. Howes, Secretary
Division of Land Resources
Charles H. Gardner,
Director and State Geologist

July, 1993

GEOLOGICAL SURVEY SECTION

The Geological Survey Section examines, surveys and maps the geology, mineral resources, and topography of the State to encourage the wise conservation and use of these resources by industry, commerce, agriculture and government agencies for the general welfare of the citizens of North Carolina.

The Section conducts basic and applied research projects in environmental geology, mineral resources exploration and systematic geologic mapping. Services include identifying rock and mineral samples submitted by citizens and providing consulting services and specially prepared reports to agencies that need geological information.

The geological Survey section publishes Bulletins, Economic Papers, Information Circulars, Educational Series, Geologic Maps and Special Publications. For a list of publications or more information about the Section contact the Geological Survey Section, Division of Land Resources, at Post Office Box 27687, Raleigh, North Carolina 27611-7687.

Jeffrey C. Reid
Chief Geologist

Listing of Concentrations of Variables of Stream Sediment, Stream Water, and Groundwater for the Wilmington and Cape Fear 30 x 60 - Minute Quadrangles -NURE Database

by
Robert H. Carpenter and Jeffrey C. Reid

INTRODUCTION

This report is a compilation of geochemical data for stream sediment and groundwater for the Wilmington and Cape Fear 30 x 60 - minute quadrangles (Figure 1). Maps and tables were prepared from statewide data obtained by the Savannah River Laboratory under sponsorship of the U.S. Dept. of Energy in its National Uranium Resources Evaluation (NURE) program (Sargent and others, 1982). Sampling and analysis were performed during the period 1976 - 1980.

Because of the large size of the database, the North Carolina Geological Survey is presenting the database in both statewide and 30 x 60 - minute quadrangle formats. Statewide formats currently available include atlases of stream sediment and hydrogeochemical data which contain maps showing quartile distribution of concentrations of variables (Reid, 1991; Reid, 1993). Reid and Carpenter (1993a, 1993b) present listings of concentrations of variables which equal or exceed the 90th percentile (and pH and conductivity below the 10th percentile) for stream sediment and groundwater-stream water.

This open-file report is part of a series of reports that present sample-location maps and listings of analyses of all variables in all of the 30 x 60 - minute quadrangles that comprise the state of North Carolina. Subsequent reports will review the NURE data for individual 30 x 60 - minute quadrangles. These reviews will contain the following: 1) maps showing concentrations of all the variables in up to eight class intervals; 2) geologic review of the quadrangle and discussion of relationship of geochemical variables to rock units and structural features; 3) review of mineral resources and discussion of relationship of geochemical variables to mineral occurrences; and 4) discussion of outliers that may relate to anthropogenic contamination.

In this report, site-location maps use state boundaries, county boundaries and 7-1/2 - minute quadrangle boundaries as references to site-locations. The North Carolina Index to Topographic and Other Map Coverage, prepared by the U.S. Geological Survey, is a useful reference document. The List of Publications of the North Carolina Geological Survey indicates areas within the state for which some geologic and geophysical maps, and reports, are available.

Listings in this report are in the same basic format as those presented in microfiche by Sargent

and others (1982). Column 1 lists the laboratory numbers applied to each analyzed sample. Column 2 lists site identification codes. The first two characters are the codes for the county name. The next three digits are sample numbers. They are listed sequentially for each county in the order they were collected. The next two columns list the latitude and longitude of the sampling sites in decimal degree format. The remaining columns are data columns and analyses are given in parts per million (stream sediment) and parts per billion (groundwater). In these columns, a minus (-) sign indicates that a value is below the detection limit. If background is high, and an accurate estimate of minimum detection limit could not be made, a period (.) indicates that the element was not detected and that the detection limit is unusually high. Missing data are denoted by the letter "M". For gold, analyses are listed only for those samples in which gold was detected. For arsenic, a value of 0 is assigned for samples in which arsenic was analyzed, but not detected.

For stream sediment, two listings are presented. The first listing is for elements analyzed by neutron activation as well as field measurements for pH and conductivity of stream water. Variables included in this listing are pH, conductivity, uranium (U), thorium (Th), hafnium (Hf), cerium (Ce), iron (Fe), manganese (Mn), sodium (Na), scandium (Sc), titanium (Ti), vanadium (V), aluminum (Al), dysprosium (Dy), europium (Eu), lanthanum (La), samarium (Sm), ytterbium (Yb), and lutetium (Lu). The second listing is for supplemental elements analyzed by a variety of techniques. These include extractable uranium (Ux), silver (Ag), arsenic (As), barium (Ba), beryllium (Be), calcium (Ca), cobalt (Co), chromium (Cr), copper (Cu), potassium (K), lithium (Li), magnesium (Mg), molybdenum (Mo), niobium (Nb), nickel (Ni), phosphorous (P), lead (Pb), selenium (Se), tin (Sn), strontium (Sr), tungsten (W), yttrium (Y), and zinc (Zn). Stream sediment analyses are for the minus 100 mesh fraction (< 149 microns) unless otherwise noted.

Groundwater, normally samples of water from wells, was also analyzed by neutron activation. Field measurements were made of pH and conductivity. Variables included in listings of groundwater analyses include pH, conductivity, uranium (U), bromine (Br), chlorine (Cl), fluorine (F), magnesium (Mg), manganese (Mn), sodium (Na), vanadium (V), uranium/conductivity, aluminum (Al), and dysprosium (Dy). Stream water was also analyzed for these variables at 295 sites in North Carolina. Listings for stream water are included for areas in which these sites are located.

Although the data was acquired with considerable attention to quality control, some errors exist. These include uncertainties of sample locations due to the use of county road maps as base maps for field use and digitizing sampling sites. Malfunction of field equipment used in measurement of pH and conductivity has also been recognized in some areas. Some of the analyses are also in error. Some of these errors are apparent when concentrations show systematic "breaks" at county boundaries. This suggests that conditions of analysis for different batches of samples were not uniform. In general, analyses of stream sediment by neutron activation are more reliable than analyses of sediment by other supplemental methods.

For a number of counties, supplemental analyses were not made. Thus elements of interest for mineral exploration and environmental geochemistry are lacking for large areas.

REFERENCES

Reid, Jeffrey C., 1991 (revised 1993), A geochemical atlas of North Carolina: North Carolina Geological Survey, Bulletin 93, text plus 45 plates.

Reid, Jeffrey C., 1993, A hydrogeochemical atlas of North Carolina: North Carolina Geological Survey, Bulletin 94, text plus 26 plates.

Reid, Jeffrey C., and Carpenter, Robert H.,1993a, Listings of concentrations (stream sediments) of variables which equal or exceed the 90th percentile, and pH and conductivity below the 10th percentile in the North Carolina portion of the NURE database: North Carolina Geological Survey, Open-File Report 93-1, introductory text plus 178 pages of data.

Reid, Jeffrey C., and Carpenter, Robert H., 1993b, Listing of concentrations (groundwater and stream water) of variables which equal or exceed the 90th percentile, and pH and conductivity below the 10th percentile in the North Carolina portion of the NURE data base: North Carolina Geological Survey, Open-File Report 93-2, introductory text plus 162 pages of data.

Sargent, K.A., Cook, J.R., and Fay, W.M., 1982, Data report: North and South Carolina, National Uranium Resource Evaluation Program, Hydrochemical and stream sediment reconnaissance: E.I. du Pont de Nemours & Co., Savannah River Laboratory, Aiken, S.C., under contract to the U.S. Dept of Energy, contract DE-AC09-76SR000001 (DPST-81-146-22; GBJX-102), 45 p. plus microfiche.

CONTENTS

COUNTY CODES

Code	County
BU	Brunswick
NH	New Hanover
PE	Pender

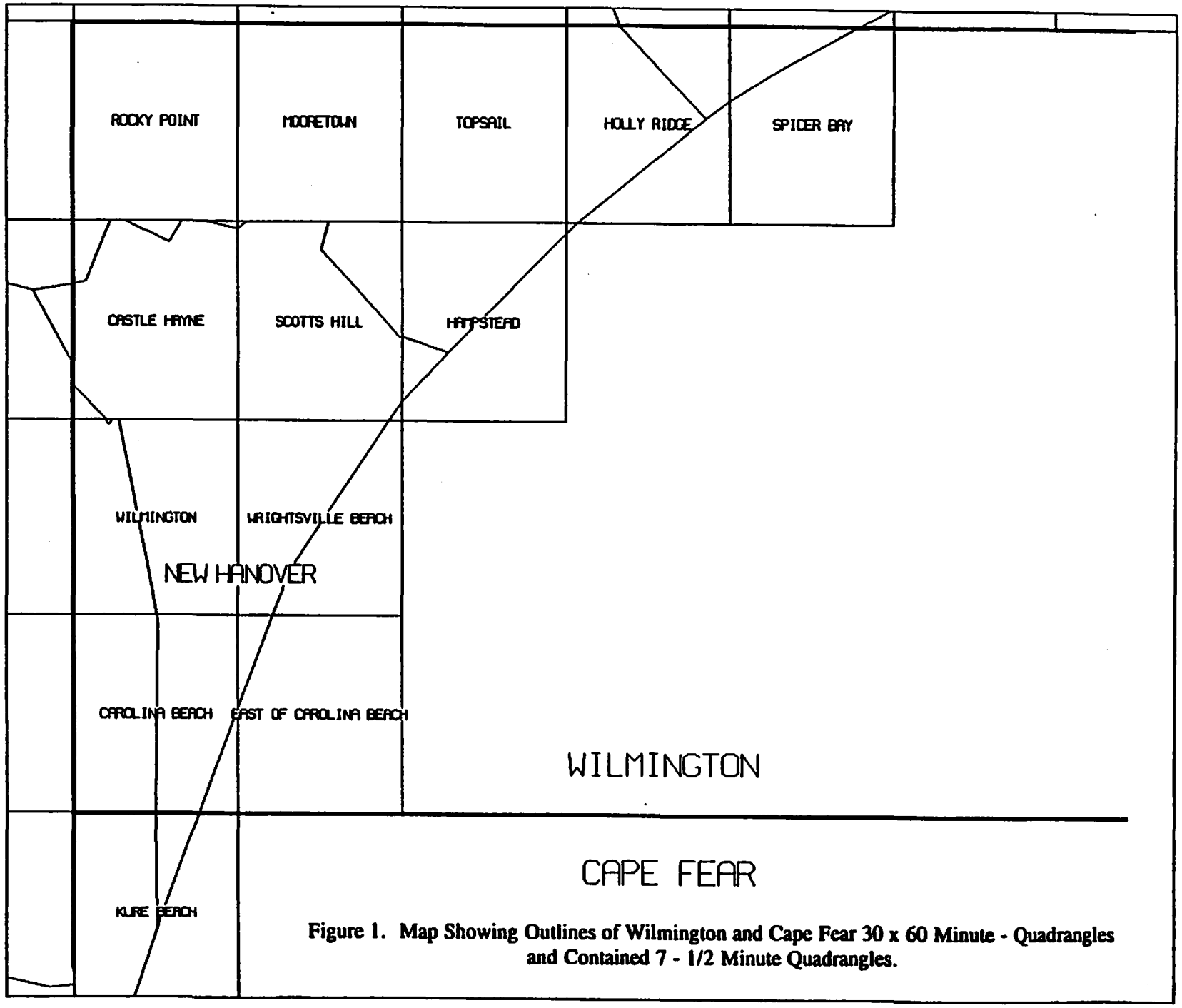


Figure 1. Map Showing Outlines of Wilmington and Cape Fear 30 x 60 Minute - Quadrangles and Contained 7 - 1/2 Minute Quadrangles.

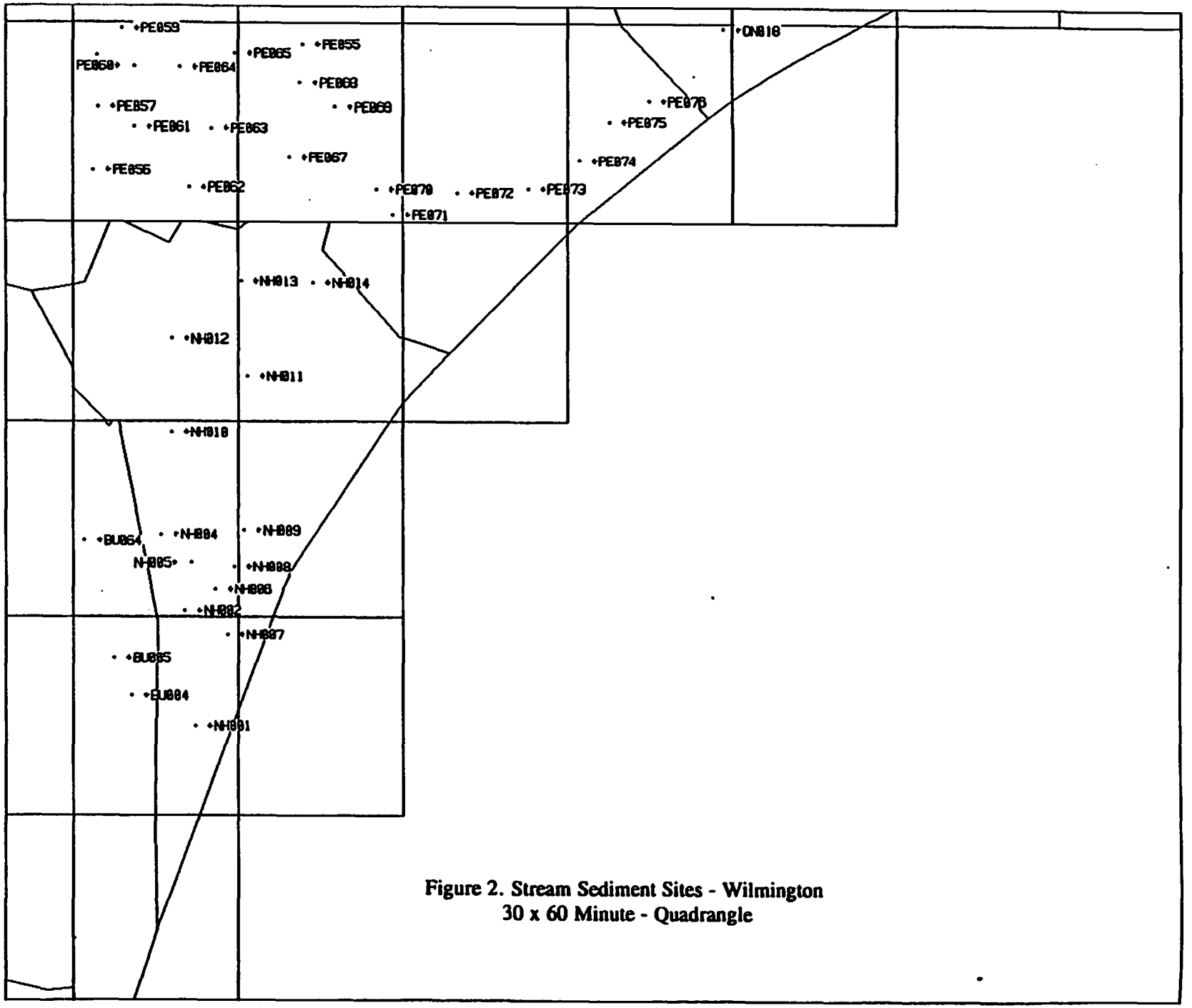


Figure 2. Stream Sediment Sites - Wilmington
30 x 60 Minute - Quadrangle

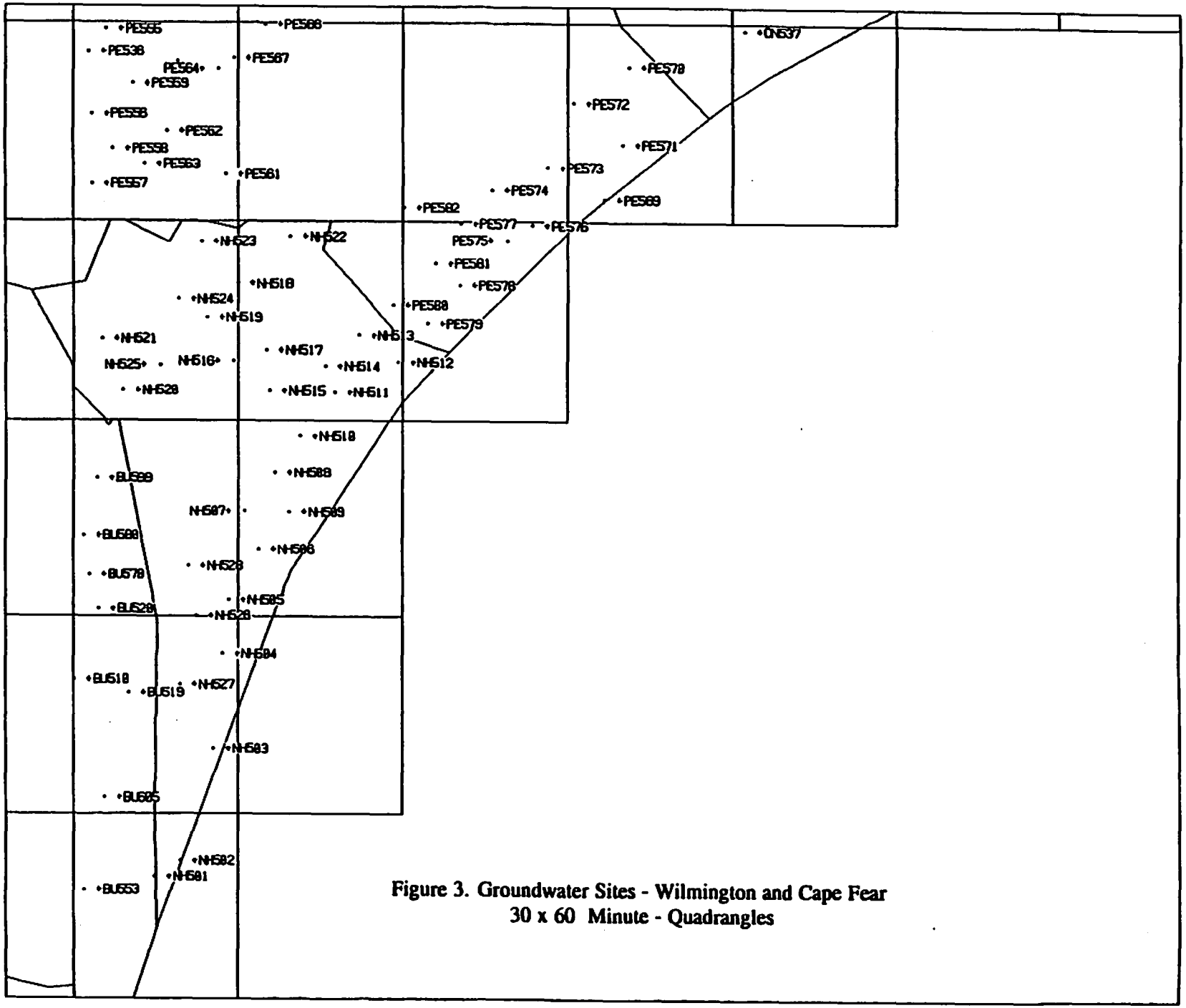


Figure 3. Groundwater Sites - Wilmington and Cape Fear
30 x 60 Minute - Quadrangles

WILMINGTON 100K QUADRANGLE - STREAM SEDIMENT

Lab #	County ID	Lat	Long	pH	Cond um/cm	U ppm	Th ppm	Hf ppm	Al ppm	Ce ppm	Fe ppm	Mn ppm	Na ppm	Sc ppm	Ti ppm	V ppm	Dy ppm	Eu ppm	La ppm	Sm ppm	Yb ppm	Lu ppm	Au ppm
762	BU004	34.0756	77.9563	6.4	200	3.4	12	12	42500	29	41400	180	3600	7.2	3900	60	1.5	M	26	6	M	M	
763	BU005	34.0995	77.9699	4.9	40	2.0	4	39	10200	18	8800	150	1700	1.0	6200	20	1.7	-1.0	16	3	1.6	0.3	
822	BU064	34.1737	77.9916	5.8	49	2.6	7	25	15400	33	11800	120	700	2.8	4700	30	2.2	-1.0	28	4	2.1	0.2	
4311	NH001	34.0565	77.9081	6.8	6000	9.6	48	94	13200	190	13400	340	1700	3.9	11900	40	9.0	M	146	15	6.8	1.0	
4312	NH002	34.1295	77.9161	6.7	200	5.4	14	13	56300	94	38300	300	2800	8.2	5400	90	1.0	1.9	36	7	2.3	0.5	
4313	NH003	34.1584	77.9380	6.5	120	4.5	10	18	42100	78	26900	210	2300	7.1	5800	60	0.2	M	33	6	2.4	0.5	
4314	NH004	34.1779	77.9340	6.8	120	3.7	11	78	12000	53	14500	330	800	3.1	15600	50	2.0	M	23	3	M	0.3	
4315	NH005	34.1596	77.9114	6.6	80	2.9	6	13	21900	44	10400	100	800	3.8	3900	30	1.8	-1.0	20	2	3.7	0.2	
4316	NH006	34.1430	77.8925	4.6	150	8.7	22	276	13400	62	30600	1100	1200	6.0	36700	100	0.3	M	35	4	7.2	1.4	
4317	NH007	34.1141	77.8835	5.8	120	0.4	M	3	7700	M	M	60	2000	0.5	2800	10	M	M	10	1	2.7	M	
4318	NH008	34.1571	77.8782	4.8	100	0.8	2	14	7600	17	-5000	110	500	0.8	4500	20	0.7	-1.0	7	1	M	0.2	
4319	NH009	34.1806	77.8704	6.9	130	7.7	19	210	10000	60	13900	640	600	4.0	23600	60	3.9	-1.0	35	4	4.8	1.2	
4320	NH010	34.2434	77.9259	7.2	220	3.1	8	17	24100	53	19200	140	1000	3.6	4700	40	2.2	-1.0	22	3	M	0.4	
4321	NH011	34.2791	77.8678	4.6	50	1.0	M	19	7300	20	-5000	90	700	0.9	4000	10	1.0	M	12	1	3.3	M	
4322	NH012	34.3024	77.9261	6.6	135	5.1	27	54	5600	101	10500	320	300	3.0	11300	30	2.7	-1.0	51	6	M	0.5	
4323	NH013	34.3384	77.8726	4.4	60	3.4	M	68	5600	M	M	150	500	2.0	6500	20	2.9	M	55	6	M	M	
4324	NH014	34.3374	77.8181	4.3	50	0.7	3	10	3700	-20	-5000	70	300	1.1	3300	10	M	-1.0	M	1	M	M	
4409	ON018	34.4967	77.5072	6.3	1640	1.5	5	36	8600	19	8000	160	1700	1.2	6000	20	M	M	10	2	M	0.2	
4582	PE055	34.4865	77.8255	5.2	30	2.2	8	25	7700	21	7300	120	600	1.7	5600	20	1.6	1.5	23	3	M	0.3	
4583	PE056	34.4072	77.9848	6.4	80	8.3	32	124	4200	142	10400	200	300	2.1	7800	20	5.3	M	91	12	5.0	0.7	
4584	PE057	34.4467	77.9813	6.1	60	2.3	8	30	8700	48	6900	120	700	1.8	4800	20	2.6	0.9	26	3	4.5	0.2	
4585	PE058	34.4791	77.9816	6.7	80	6.5	22	101	6900	80	9600	290	600	2.9	9500	30	4.5	-1.0	52	10	3.6	0.5	
4586	PE059	34.4964	77.9634	6.0	40	2.7	9	15	33700	54	16800	100	700	5.2	6900	50	4.8	3.8	23	4	M	M	
4587	PE060	34.4723	77.9539	5.8	35	2.8	7	16	29800	48	12500	70	400	4.0	6700	40	3.8	-1.0	19	3	M	0.2	
4588	PE061	34.4342	77.9536	6.2	70	1.9	10	17	11000	27	11000	80	400	1.6	4000	20	1.6	-1.0	14	2	2.4	0.2	
4589	PE062	34.3968	77.9127	7.0	130	3.6	9	30	26300	74	17100	410	1000	3.5	6800	40	M	-1.0	30	3	3.0	0.3	
4590	PE063	34.4335	77.8952	6.8	100	2.3	7	33	8700	41	12500	140	1200	1.7	4700	20	M	M	19	8	4.5	0.4	
4591	PE064	34.4718	77.9194	5.4	40	2.3	7	30	12500	38	11500	130	1300	1.8	5900	20	5.2	-1.0	21	2	4.6	0.7	
4592	PE065	34.4807	77.8773	6.6	70	12.9	39	265	7800	169	12600	290	600	3.8	10800	30	7.8	-1.0	109	16	4.7	1.3	
4594	PE067	34.4155	77.8356	4.8	40	3.0	10	53	7500	37	-5000	140	700	1.3	6300	20	1.1	-1.0	34	4	5.5	0.4	
4595	PE068	34.4620	77.8277	4.4	40	1.4	9	22	3700	10	-5000	130	200	0.7	6000	20	1.6	3.2	7	2	M	M	
4596	PE069	34.4469	77.8017	4.7	40	1.0	4	14	4900	19	-5000	60	400	1.0	2600	10	1.1	M	11	1	M	0.3	
4597	PE070	34.3956	77.7701	5.9	60	1.7	3	39	8900	27	6800	160	800	1.8	5700	20	1.1	M	13	2	M	M	
4598	PE071	34.3799	77.7575	4.5	40	2.9	9	63	6900	36	8900	250	400	2.0	9700	30	2.5	M	20	4	M	0.3	
4599	PE072	34.3936	77.7088	4.2	50	1.2	3	17	6100	20	-5000	80	400	1.5	4100	10	0.8	-1.0	8	2	M	0.1	
4600	PE073	34.3963	77.6549	4.4	50	1.4	4	24	21800	27	6800	180	6300	1.9	4700	30	3.1	M	15	3	M	0.3	
4601	PE074	34.4139	77.6161	6.3	150	1.7	5	27	8400	26	9600	130	1500	1.3	4300	10	1.7	M	24	1	M	0.1	
4602	PE075	34.4381	77.5932	5.4	60	2.3	4	75	12100	28	11800	260	1700	3.2	9900	30	M	-1.0	13	2	4.1	0.4	

WILMINGTON 100K QUADRANGLE - STREAM SEDIMENT

Lab #	County ID	Lat	Long	pH	Cond us/cm	U ppm	Th ppm	Hf ppm	Al ppm	Ce ppm	Fe ppm	Mn ppm	Na ppm	Sc ppm	Ti ppm	V ppm	Dy ppm	Eu ppm	La ppm	Sm ppm	Yb ppm	Lu ppm	Au ppm
4603	PE076	34.4511	77.5634	4.3	65	2.0	3	33	8600	14	5300	190	1200	1.6	8100	20	1.8	N	10	1	2.2	0.3	

WILMINGTON 100K QUADRANGLE - GROUNDWATER

Lab #	County ID	Lat	Long	pH	Cond um/cm	U ppb	Br ppb	Cl ppb	F ppb	Mg ppb	Mn ppb	Na ppb	V ppb	U/cond x 1000	Al ppb	Dy ppb
686	BU510	34.0852	77.9996	7.3	422	0.010	26	10400	61	2130	86	18650	-0.1	0.0	106	-0.001
695	BU519	34.0769	77.9584	5.3	133	0.093	.	23000	.	.	62	24520	-0.1	0.7	207	0.020
696	BU520	34.1297	77.9812	7.5	250	0.027	.	6400	41	2980	66	16030	-0.1	0.1	195	-0.001
754	BU578	34.1515	77.9883	7.7	240	0.022	18	6800	49	1190	50	16960	-0.1	0.0	193	-0.001
756	BU580	34.1766	77.9923	5.1	150	0.075	70	13500	44	.	69	21000	-0.1	0.5	316	-0.001
775	BU599	34.2132	77.9824	7.3	283	0.004	.	6700	59	1470	40	16950	-0.1	0.0	162	-0.001
781	BU605	34.0104	77.9765	7.3	590	0.005	139	34100	.	.	51	18240	-0.1	0.0	152	-0.001
3593	NH503	34.0415	77.8937	7.8	340	0.002	76	24000	81	7810	52	19660	-0.1	0.0	156	-0.001
3594	NH504	34.1013	77.8869	7.8	265	0.025	31	10700	28	1320	49	18770	-0.1	0.0	145	-0.001
3595	NH505	34.1355	77.8822	7.3	430	0.015	93	13300	104	.	101	21530	-0.1	0.0	133	-0.001
3596	NH506	34.1678	77.8592	7.4	485	0.023	78	11200	49	.	37	54490	-0.1	0.0	146	-0.001
3597	NH507	34.1922	77.8701	5.6	35	-0.002	45	5300	.	.	41	18440	-0.1	0.0	224	-0.001
3598	NH508	34.2170	77.8472	7.4	425	0.013	57	21200	102	6340	42	25310	-0.1	0.0	149	-0.001
3599	NH509	34.1919	77.8365	7.6	410	0.012	.	25700	144	7700	43	25690	-0.1	0.0	137	-0.001
3600	NH510	34.2406	77.8282	7.1	195	0.047	40	8700	.	1460	36	16530	-0.1	0.2	163	-0.001
3601	NH511	34.2684	77.8018	7.3	420	0.006	30	21400	.	4630	129	21330	-0.1	0.0	150	-0.001
3602	NH512	34.2872	77.7530	7.4	450	-0.002	.	42700	.	5190	.	32020	-0.1	0.0	141	0.010
3603	NH513	34.3041	77.7834	7.3	455	0.019	90	12600	61	4190	85	18190	-0.1	0.0	139	-0.001
3604	NH514	34.2847	77.8092	7.5	440	0.023	.	17800	65	10640	62	24180	-0.1	0.0	161	-0.001
3605	NH515	34.2693	77.8510	5.9	55	0.010	.	8200	.	.	61	15360	-0.1	0.1	165	-0.001
3606	NH516	34.2880	77.8785	7.3	255	0.391	19	9000	24	.	30	15650	1.6	1.5	174	-0.001
3607	NH517	34.2947	77.8535	5.0	80	0.057	39	7900	35	4970	47	14370	-0.1	0.7	553	0.020
3608	NH518	34.3365	77.8752	7.1	425	0.006	.	8000	75	6700	143	18730	-0.1	0.0	168	-0.001
3609	NH519	34.3152	77.8983	7.2	440	-0.002	26	8700	88	5360	107	17350	-0.1	0.0	158	-0.001
3610	NH520	34.2696	77.9624	8.3	120	0.028	33	4500	38	.	36	14400	-0.1	0.2	166	-0.001
3611	NH521	34.3018	77.9788	8.5	90	0.036	.	3700	16	.	41	13980	-0.1	0.4	414	-0.001
3612	NH522	34.3657	77.8353	6.6	1200	0.112	196	22900	.	19190	719	70950	-0.1	0.0	830	0.100
3613	NH523	34.3627	77.9032	8.2	315	0.248	30	8800	39	5650	25	15250	0.6	0.7	118	-0.001
3614	NH524	34.3266	77.9207	7.3	390	-0.002	158	11000	87	2370	81	18420	-0.1	0.0	133	-0.001
3615	NH525	34.2853	77.9343	7.6	275	0.012	.	7400	51	.	54	16210	-0.1	0.0	150	-0.001
3616	NH526	34.1257	77.9070	7.3	137	0.043	.	5800	390	.	38	15940	0.5	0.3	155	-0.001
3617	NH527	34.0823	77.9196	8.0	210	-0.002	17	7400	261	5280	40	16760	-0.1	0.0	152	-0.001
3618	NH528	34.1572	77.9132	8.0	310	0.012	48	21600	180	3940	73	26330	-0.1	0.0	138	-0.001
3751	ON537	34.4960	77.4910	7.3	330	0.015	33	13100	58	.	130	23620	-0.1	0.0	156	-0.001
3937	PE536	34.4812	77.9884	8.5	240	0.097	.	21700	.	2750	124	21300	0.8	0.4	152	-0.001
3956	PE555	34.4956	77.9751	7.6	800	0.058	.	20700	666	21280	126	111840	-0.1	0.0	385	-0.001
3957	PE556	34.4416	77.9859	6.3	170	0.292	.	16300	41	2500	66	17000	1.1	1.7	123	-0.001
3958	PE557	34.3980	77.9863	5.2	260	0.017	31	45500	.	.	80	34540	0.8	0.0	382	-0.001

WILMINGTON 100K QUADRANGLE - GROUNDWATER

Lab #	County ID	Lat	Long	pH	Cond um/cm	U ppb	Br ppb	Cl ppb	F ppb	Mg ppb	Mn ppb	Na ppb	V ppb	U/cond x 1000	Al ppb	Dy ppb
3959	PE558	34.4202	77.9700	7.0	210	0.012	.	8200	68	3870	94	14220	-0.1	0.0	140	-0.001
3960	PE559	34.4612	77.9551	6.9	190	-0.002	44	10000	17	.	94	17030	-0.1	0.0	122	-0.001
3961	PE560	34.4753	77.9211	7.1	200	-0.002	.	5900	73	1710	111	15090	-0.1	0.0	61	-0.001
3962	PE561	34.4044	77.8843	7.8	380	-0.002	27	9200	.	3070	64	14710	-0.1	0.0	132	-0.001
3963	PE562	34.4315	77.9290	7.2	310	0.016	.	6000	85	1970	104	14350	-0.1	0.0	163	-0.001
3964	PE563	34.4106	77.9463	6.1	180	0.009	.	6400	62	2670	88	12430	-0.1	0.0	167	-0.001
3965	PE564	34.4704	77.8899	8.3	1500	0.164	.	114000	1736	.	167	264400	-0.1	0.1	1020	-0.001
3967	PE566	34.4991	77.8539	5.5	150	0.003	35	5900	63	5040	133	15940	0.3	0.0	182	-0.001
3968	PE567	34.4775	77.8784	8.3	1300	0.075	395	84600	2186	.	226	281400	-0.1	0.0	990	0.070
3970	PE569	34.3894	77.5966	7.2	600	0.040	119	38600	117	.	113	50580	1.2	0.0	404	-0.001
3971	PE570	34.4729	77.5786	7.0	460	0.016	52	10400	140	2500	103	17840	0.5	0.0	182	-0.001
3972	PE571	34.4238	77.5831	7.2	390	0.004	22	8100	57	.	67	14620	-0.1	0.0	189	-0.001
3973	PE572	34.4494	77.6203	7.5	340	0.026	.	12900	126	2560	67	19520	-0.1	0.0	147	-0.001
3974	PE573	34.4092	77.6399	7.2	350	0.008	14	8000	126	.	61	13140	-0.1	0.0	177	-0.001
3975	PE574	34.3951	77.6814	5.0	60	0.040	18	7800	.	.	47	13770	0.5	0.6	370	-0.001
3976	PE575	34.3637	77.6702	7.1	800	-0.002	767	118400	.	.	172	58400	-0.1	0.0	289	-0.001
3977	PE576	34.3728	77.6516	7.5	150	0.023	58	7700	212	2100	55	15530	-0.1	0.1	187	-0.001
3978	PE577	34.3740	77.7054	7.2	350	0.004	.	8900	32	.	58	13880	0.4	0.0	179	-0.001
3979	PE578	34.3358	77.7061	7.3	300	0.019	45	10500	57	.	74	15640	-0.1	0.0	175	-0.001
3980	PE579	34.3118	77.7308	7.8	210	0.351	33	7500	51	2250	49	19130	-0.1	1.6	189	-0.001
3981	PE580	34.3232	77.7569	7.2	310	0.036	34	9000	.	.	114	12640	-0.1	0.1	157	-0.001
3982	PE581	34.3492	77.7243	6.9	450	0.017	15	13200	29	.	84	16890	-0.1	0.0	165	-0.001
3983	PE582	34.3839	77.7484	6.9	450	0.010	24	9500	.	2670	74	15200	-0.1	0.0	168	-0.001

CAPE FEAR 100K QUADRANGLE - GROUNDWATER

Lab #	County ID	Lat	Long	pH	Cond um/cm	U ppb	Br ppb	Cl ppb	F ppb	Mg ppb	Mn ppb	Na ppb	V ppb	U/cond x 1000	Al ppb	Dy ppb
729	BU553	33.9524	77.9923	7.5	380	0.016	.	17200	104	1860	65	25900	-0.1	0.0	168	-0.001
3591	NH501	33.9606	77.9394	7.6	1180	0.051	556	236200	.	.	295	169450	-0.1	0.0	684	-0.001
3592	NH502	33.9707	77.9195	7.7	800	0.045	.	107700	.	21880	.	79880	-0.1	0.0	285	-0.001