

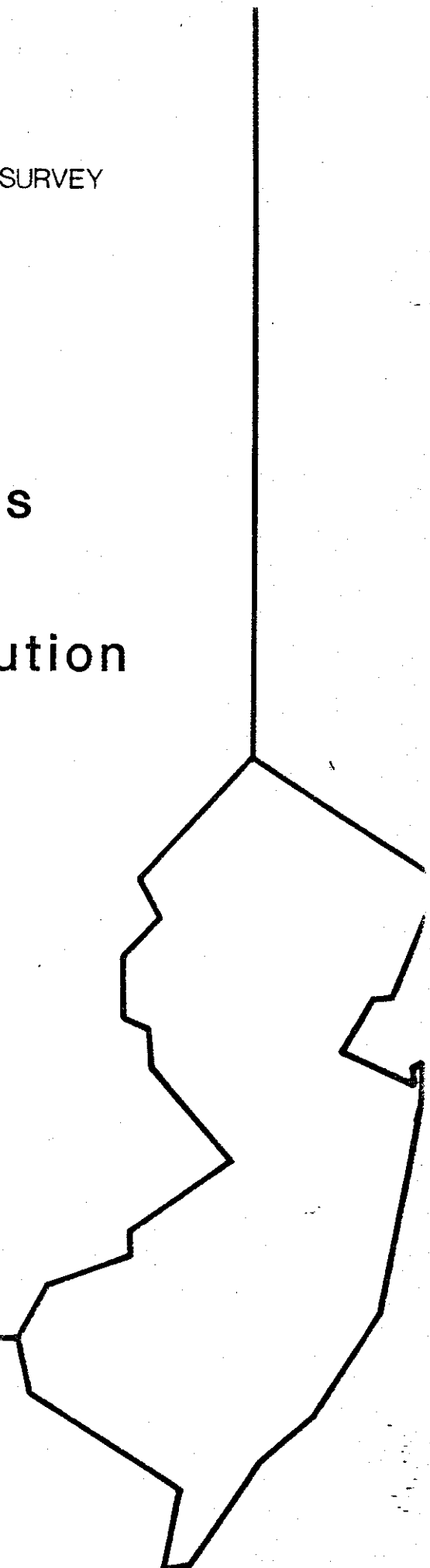


NEW JERSEY GEOLOGICAL SURVEY
TECHNICAL MEMORANDUM

**A Set of SAS Programs
for Ground Water Pollution
Site Management Data**

Department of Environmental Protection
Division of Water Resources

1985



A SET OF SAS PROGRAMS FOR GROUND
WATER POLLUTION SITE MANAGEMENT DATA

The New Jersey Department of Environmental Protection
The Division of Water Resources
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I. Abstract

A vast amount of management information is needed to efficiently conduct and monitor the investigation of hundreds of ground-water pollution sites. A computerized data base has been developed to summarize the data and provide a template for the systematic collection of management data for each site. The data base is accessed through a series of SAS programs and a variety of outputs are produced. This data base greatly simplifies the task of reviewing the progress on ground-water pollution cases. The data base is also used to provide data for state maps of the locations of ground-water pollution cases. This report presents a brief description of the data necessary for such a computerized data base, describes some outputs, and lists a series of programs developed to access the ground-water pollution data base of the New Jersey Geological Survey.

II. Purpose

The New Jersey Geological Survey (NJGS) is currently involved in several hundred active ground-water pollution case investigations. Overseeing a workload of this magnitude requires a great deal of "management data." Management data consist of the following information: 1) who is assigned to each case; 2) the location of the site; 3) type of pollution; 4) date on which case was opened, etc. A complete list of the variables that make up this management data is given in the next section.

These data are required for many summary reports; such as number of cases per geologist, the number of cases per county, number of cases with a certain contaminant, etc. Compiling this information by hand is a repetitive process prone to errors.

Computerizing these data has provided several advantages. First, the compilation of management data is much easier. Several times a year, a complete printout of the data is prepared. These printouts are bound together providing a summary of the data, sorted and collated many different ways. Second, when a new summary is needed it is a very simple matter to access the computer data base and request a new printout. And third, the fact that the data must be entered into the computer requires each geologist to review his/her cases and determine if the basic facts required to assess and manage a ground-water pollution case have been considered. (Note: this last feature is often unappreciated by the geologists who have enough to do already.)

This data base has proven to be very adaptable to new requests. Programs 1-6 (described in Section IV) were part of the initial implementation of the data base. Program #7 (a summary document) was added 6 months later and program #8 (a shortened list sorted

by geologist) one year after initial use. It is expected that future programs will be added as necessary.

Another changing parameter is the codes shown in Appendix B. The staff list is changing constantly, while new contaminants are being added as necessary. Also, the geological breakdown of New Jersey formations, while agreed upon overall, may be slightly changed at some future time.

III. Inputs

The data necessary for the Ground-Water Pollution Index are briefly described in figure 2. Figure 1 shows a sample data input sheet used by the NJGS for this pollution index. The first item is the number of the site. This is a letter followed by a hyphen and then a three digit number. The initial letter is based on what type of pollution is at the site; such as 'A' for an accidental spill, 'D' for an illegal dump, 'I' for an industrial site, 'S' for a septic tank, and 'L' for a sanitary landfill.

The second variable is the name of the site which can be up to 72 characters long. The third variable is a four-digit code which specifies the county and township the spill is located in. The allowable codes for all variables are found in Appendix B. The fourth variable is the enforcement region in which the site is located. The Division of Water Resources divides the state into four (4) regions, Northern, Central, Southern, and Metro. The fifth variable is a two-digit code describing the major contaminant at the site.

The next variable is the date on which the case for that site was initiated. This is followed by the date the case was closed. For an ongoing investigation the date closed will be omitted. The next two variables, the latitude and longitude of the site, are usually determined from a USGS 7 1/2 minute quadrangle sheet.

The next variable is the number of the aerial photo that shows the site. Aerial photographs of the entire State were obtained in 1979 and copies of the photos are on file with the NJGS. This is followed by a three-digit code describing on which USGS quadrangle the site is located. The quadrangle code is followed by two (2) aquifer codes. The first describes the primary formation endangered by the site and the second is for another formation. In cases with multiple formations the geologist must use professional judgement as to which is most threatened.

The next variable is the three initials of the geologist assigned to the case. This is followed by a four-digit accounting code used by the DEP to assign monies. The last variable is a relative ranking, a "GWPPS" number, of the site based upon "A Ground Water Pollution Priority System" by Hutchinson and Hoffman, 1983, New Jersey Geological Survey Open file report 83-4.

Figure 1. Sample Data Input Sheet

DWR-165
6/83

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
GEOLOGICAL SURVEY - GROUND WATER POLLUTION INDEX

	-			
--	---	--	--	--

1 5

7

72

LOCATION

--	--	--	--	--

1 4

REGION

--

6

CONTAMINANT

--	--

8 9

DATE OPEN

--	--	--	--

11 12 13 14

DATE CLOSE

--	--	--	--

16 17 18 19

STATUS

--

21

LATITUDE

--	--	--	--	--	--

23 24 25 26 27 28

LONGITUDE

--	--	--	--	--	--

30 31 32 33 34 35

PHOTO

--	--	--	--	--	--

37 38 40 44

QUAD

--	--	--

46 48

PRIMARY FORMATION

--	--	--	--

50 53

SECONDARY FORMATION

--	--	--	--

55 58

GEOLOGIST INITIALS

--	--	--

60 62

PROJECT ACTIVITY CODE

--	--	--	--

64 67

GWPPS

--	--	--	--

69 72

Figure 2. Description of Variables

<u>variable</u>	<u>description</u>
1 num	pollution index reference number
2 name	name of site
3 locate	code for site location
4 region	DEF/DWR enforcement region of site
5 contam	code for contamination at site
6 date opened	date case opened
7 date closed	date case closed
8 status	code for current status of site
9 latitude	site latitude: degrees,minutes,seconds
10 longitude	site longitude: degrees,minutes,seconds
11 photo	number of aerial photo, 1979 series
12 quad	code for USGS quadrangle for site
13 aqcode1	code for primary formation
14 aqcode2	code for secondary formation
15 initials	initials of geologist assigned
16 project	project accounting code
17 gwpps	rating factor for site's severity

IV. Outputs

Figure 3 briefly summarizes the printouts. They are more fully described here. Figure 4 summarizes which variables are displayed on each printout and what sorts are performed.

#1. ABCSORT

This printout sorts all cases alphabetically by the variable NAME and prints out a shortened data list on each.

#2. PINDEX

This printout displays all of the data in the computer data base. The information is not sorted at all, the output order is the same as the order of the data in the data base.

#3. INITSORT

This printout shows all information in the computer data base on non-closed cases. It is first sorted by geologist and then by county.

#4. GWPSORT

This printout shows an abbreviated version of the non-closed sites in the data base sorted by the relative ranking value (the GWPPS variable).

#5. CNTYSORT

This printout shows the non-closed cases sorted by county. A shortened data set is displayed.

#6. QUADSORT

This printout shows all cases sorted by quad sheet and then alphabetically. An abbreviated version of the data is shown.

#7. STATSORT

This printout shows all sites sorted by status and then alphabetically by their names. It produces a shortened version of the total data base.

#8. SUMMARY

This printout doesn't show any data per se but is a summary of all the data. It shows tables detailing how the cases are spread among the geologists, counties, statuses, type, and region. It also produces bar charts of types, GWPPS, staff, and status.

#9. GEOLOGIS

This is very similar to program #3 except that instead of showing all information it only displays the site number, name, project accounting number, GWPPS number, and location for all non-closed cases. This printout is sorted by geologist name and GWPPS value.

Figure 3. Brief description of outputs

#	output name	brief description
1	ABCSORT	sort cases alphabetically
2	PINDEX	list all information, sorted by index #
3	INITSORT	list all information, sorted by geologist
4	GWPSORT	sort by GWPPS value
5	CNTYSORT	sort by county
6	QUADSORT	sort by USGS quad
7	STATSORT	sort by status
8	SUMMARY	create a summary document of management info.
9	GEOLOGIS	sort by geologist, partial data dump

Figure 4. Summary of Variables in each output

variable \ program #	1	2	3	4	5	6	7	8	9
num	X	1	X	X	X	X	X		X
name	1	X	3	X	2	2	2		X
locate		X	2		1				X
region		X	X						
contam		X	X		X		X		
open+close dates		X	X						
status	X	X	X				1		
latitude		X	X			X			
longitude		X	X						
photo #		X	X						
quad		X	X			1			
formations		X	X						
geologist	X	X	1	X	X		X		1
project #		X	X						X
gwpps #		X	X	1					2
all sites	X	X				X	X	X	
only active sites			X	X	X				X

'X' indicates the variable is shown on that printout.

A number indicates the printout is sorted by that variable with "1" being the primary sort, '2' the secondary sort variable, and so on.

The last two rows refer to whether the printout covers all sites (active and closed) or only non-closed sites.

Appendix A. Program Listing

1. ABCSORT

```
OPTIONS DATE PAGESIZE = 60 LINESIZE = 132;
CMS FILEDEF PDATA DISK POLUTE INDEX A;
DATA POLUTE;
INFILE PDATA;
INPUT NUM $ 1-5 NAME & $ 6-80
#2 LOCATE 1-4 STATUS $ 21 INITIALS $ 60-62;
FORMAT STATUS $STATCODE. INITIALS INITCODE.;
PROC SORT DATA=POLUTE;
BY NAME;
DATA _NULL_;
SET POLUTE;
BY NAME;
FILE PRINT HEADER = NEWPAGE;
PUT @2 NUM @8 NAME @80 STATUS @110 INITIALS;
RETURN;
NEWPAGE:
    PUT @6 'GROUND WATER POLLUTION INDEX --- '
        @39 'ALL CASES SORTED ALPHABETICALLY' /;
RETURN;
RUN;
```

2. PINDEX

```
OPTIONS DATE PAGESIZE = 60 LINESIZE = 132;
CMS FILEDEF PDATA DISK POLUTE INDEX A;
DATA POLUTE;
INFILE PDATA;
INPUT NUM $ 1-5 NAME & $ 6-80
#2 LOCATE 1-4 REGION $ 6 CONTAM 8-9 MNTHOPEN $ 11-12 YEAROPEN $ 13-14
MNTNCLSE $ 16-17 YEARCLSE $ 18-19 STATUS $ 21 LAD 23-24 LAM 25-26
LAS 27-28 LOD 30-31 LOM 32-33 LOS 34-35 PHOTO $ 37-44 QUAD $ 46-48
AQCODE1 50-53 AQCODE2 55-58 INITIALS $ 60-62 PROJECT $ 64-67
GWPPS 69-72 COUNTY 1-2 GEOLERA1 50-51 GEOLERA2;
DATA _NULL_;
SET POLUTE;
FILE PRINT HEADER = NEWPAGE;
FORMAT QUAD $QDCODE. AQCODE1 FMCODE. AQCODE2 FMCODE. CONTAM CONTCODE.
INITIALS $INITCODE. STATUS $STATCODE. LOCATE CPCODES. REGION $REGCODE.
GEOLERA1 GEOLCODE. GEOLERA2 GEOLCODE. COUNTY CNTYCODE.;
PUT @2 NUM @8 NAME @115 'PAC:' @120 PROJECT/
    @8 'DATES:' @18 MNTHOPEN @20 '/' @21 YEAROPEN @24 '-'
    @26 MNTNCLSE @28 '/' @29 YEARCLSE @60 'LAT:' @67 LAD
    @69 '-' @70 LAM @72 '-' @73 LAS @85 'GEOLOGIST:' @96 INITIALS
```

```

    @125 GWPPS /
    @8 'STATUS:' @18 STATUS @60 'LONG:' @67 LOD @69 '-' @70 LOM
    @72 '-' @73 LOS @85 'QUAD:' @91 QUAD /
    @8 'CONTAM.:' @18 CONTAM @60 'PHOTO:' @67 PHOTO
    @85 '1ST FORMATION:' @100 AQCODE1 /
    @8 'LOCATION:' @18 LOCATE @60 'REGION:' @67 REGION
    @85 '2ND FORMATION:' @100 AQCODE2/;
RETURN;
NEWPAGE:
    PUT @ 6 'GROUND WATER POLLUTION INDEX ----'
    @39 'ALL CASES SORTED BY INDEX NUMBER';
RETURN;
RUN;

```

3. INITSORT

```

OPTIONS DATE PAGESIZE = 60 LINESIZE = 132;
CMS FILEDEF PDATA DISK POLUTE INDEX A;
DATA POLUTE;
INFILE PDATA;
INPUT NUM $ 1-5 NAME & $ 6-80
#2 LOCATE 1-4 REGION $ 6 CONTAM 8-9 MNTHOPEN $ 11-12 YEAROPEN $ 13-14
MNTCHLSE $ 16-17 YEARCLSE $ 18-19 STATUS $ 21 LAD 23-24 LAM 25-26
LAS 27-28 LOD 30-31 LOM 32-33 LOS 34-35 PHOTO $ 37-44 QUAD $ 46-48
AQCODE1 50-53 AQCODE2 55-58 INITIALS $ 60-62 PROJECT $ 64-67
GWPPS 69-72 COUNTY 1-2 GEOLERA1 50-51 GEOLERA2 55-56 FI $ 60 LI $ 62;
PROC SORT DATA=POLUTE;
BY LI FI COUNTY NAME;
DATA _NULL_;
SET POLUTE;
BY LI FI COUNTY NAME;
FILE PRINT HEADER = NEWPAGE;
FORMAT QUAD $QDCODE. AQCODE1 FMCODE. AQCODE2 FMCODE. CONTAM CONTCODE.
INITIALS $INITCODE. STATUS $STATCODE. LOCATE CPCODES. REGION $REGCODE.
GEOLERA1 GEOLCODE. GEOLERA2 GEOLCODE. COUNTY CNTYCODE.;
IF (FIRST.LI) THEN A=2;
IF (FIRST.FI) THEN PUT _PAGE_;
IF (FIRST.FI) THEN PUT //@5 INITIALS;
IF (FIRST.COUNTY) THEN PUT //@2 COUNTY;
IF STATUS='6' THEN RETURN;
PUT @2 NUM @8 NAME @115 'PAC:' @120 PROJECT/
    @8 'DATES:' @18 MNTHOPEN @20 '/' @21 YEAROPEN @24 '-'
    @26 MNTCHLSE @28 '/' @29 YEARCLSE @60 'LAT:' @67 LAD
    @69 '-' @70 LAM @72 '-' @73 LAS @85 'GEOLOGIST:' @96 INITIALS
    @125 GWPPS /
    @8 'STATUS:' @18 STATUS @60 'LONG:' @67 LOD @69 '-' @70 LOM
    @72 '-' @73 LOS @85 'QUAD:' @91 QUAD /
    @8 'CONTAM.:' @18 CONTAM @60 'PHOTO:' @67 PHOTO
    @85 '1ST FORMATION:' @100 AQCODE1 /
    @8 'LOCATION:' @18 LOCATE @60 'REGION:' @67 REGION
    @85 '2ND FORMATION:' @100 AQCODE2/;

```

```

RETURN;
NEWPAGE;
  PUT @ 6 'GROUND WATER POLLUTION INDEX ----'
    @39 'ALL ACTIVE CASES SORTED BY GEOLOGIST';
RETURN;
RUN;

```

4. GWPSORT

```

OPTIONS DATE PAGESIZE = 60 LINESIZE = 132;
CMS FILEDEF PDATA DISK POLUTE INDEX A;
DATA POLUTE;
INFILE PDATA;
INPUT NUM # 1-5 NAME & # 6-80
#2 STATUS # 21 INITIALS # 60-62 GWPPS 69-72;
FORMAT INITIALS #INITCODE.;
PROC SORT DATA=POLUTE;
BY GWPPS;
DATA _NULL_;
SET POLUTE;
BY GWPPS;
FILE PRINT HEADER = NEWPAGE;
IF STATUS='6' THEN RETURN;
PUT @2 NUM @8 NAME @86 GWPPS @95 INITIALS;
RETURN;
NEWPAGE;
  PUT @ 6 'GROUND WATER POLLUTION INDEX ----'
    @39 'ALL ACTIVE CASES SORTED BY GWPPS';
RETURN;
RUN;

```

5. CNTYSORT

```

OPTIONS DATE PAGESIZE = 60 LINESIZE = 132;
CMS FILEDEF PDATA DISK POLUTE INDEX A;
DATA POLUTE;
INFILE PDATA;
INPUT NUM # 1-5 NAME & # 6-80
#2 COUNTY 1-2 CONTAM 8-9 STATUS # 21 INITIALS # 60-62;
FORMAT COUNTY CNTYCODE. CONTAM CONTCODE. INITIALS #INITCODE.;
PROC SORT DATA=POLUTE;
BY COUNTY NAME;
DATA _NULL_;
SET POLUTE;
BY COUNTY NAME;
FILE PRINT HEADER = NEWPAGE;
IF (FIRST.COUNTY) THEN PUT _PAGE_;
IF (FIRST.COUNTY) THEN PUT //@5 COUNTY;

```

```

IF STATUS='6' THEN RETURN;
PUT @2 NUM @8 NAME @77 INITIALS @95 CONTAM;
RETURN;
NEWPAGE:
  PUT @ 6 'GROUND WATER POLLUTION INDEX ----'
    @39 'ALL ACTIVE CASES SORTED BY COUNTY';
RETURN;
RUN;

```

6. QUADSORT

```

OPTIONS DATE PAGESIZE = 60 LINESIZE = 132;
CMS FILEDEF PDATA DISK POLUTE INDEX A;
DATA POLUTE;
INFILE PDATA;
INPUT NUM $ 1-5 NAME & $ 6-80
#2 LAD 23-24 LAM 25-26
LAS 27-28 LOD 30-31 LOM 32-33 LOS 34-35 QUAD $ 46-48 ;
PROC SORT DATA=POLUTE;
BY QUAD NAME;
DATA _NULL_;
SET POLUTE;
BY QUAD NAME;
FILE PRINT HEADER = NEWPAGE;
FORMAT QUAD $QDCODE.;
IF (FIRST.QUAD) THEN
PUT // @ 2 'QUAD: ' QUAD / @ 3 'NUM' @10 'NAME' @80 'LATITUDE' @95
'LONGITUDE';
PUT @2 NUM @8 NAME @80 LAD @82 '-' @83 LAM @85 '-' @86 LAS
@95 LOD @97 '-' @98 LOM @100 '-' @101 LOS;
RETURN;
NEWPAGE:
  PUT @ 6 'GROUND WATER POLLUTION INDEX ----'
    @39 'ALL CASES SORTED BY QUAD';
RETURN;
RUN;

```

7. STATSORT

```

OPTIONS DATE PAGESIZE = 60 LINESIZE = 132;
CMS FILEDEF PDATA DISK POLUTE INDEX A;
DATA POLUTE;
INFILE PDATA;
INPUT NUM $ 1-5 NAME & $ 6-80
#2 CONTAM 8-9 STATUS $ 21 INITIALS $ 60-62;
FORMAT CONTAM CONTCODE. INITIALS $INITCODE. STATUS $STATCODE. ;
PROC SORT DATA=POLUTE;
BY STATUS NAME;

```

```

DATA _NULL_;
SET POLUTE;
BY STATUS NAME;
FILE PRINT HEADER = NEWPAGE;
IF (FIRST.STATUS) THEN PUT _PAGE_;
IF (FIRST.STATUS) THEN PUT //@5 STATUS;
PUT @2 NUM @8 NAME @77 INITIALS @95 CONTAM;
RETURN;
NEWPAGE:
  PUT @ 6 'GROUND WATER POLLUTION INDEX ---'
    @39 'ALL CASES SORTED BY STATUS' /;
RETURN;
RUN;

```

8. SUMMARY

```

OPTIONS DATE PAGESIZE = 60 LINESIZE = 132;
CMS FILEDEF PDATA DISK POLUTE INDEX A;
DATA POLUTE;
INFILE PDATA;
INPUT NUM # 1-5 NAME & # 6-80 TYPE # 1
#2 LOCATE 1-4 REGION # 6 CONTAM 8-9 MNTHOPEN # 11-12 YEAROPEN # 13-14
MNTNCLSE # 16-17 YEARCLSE # 18-19 STATUS # 21 LAD 23-24 LAM 25-26
LAS 27-28 LOD 30-31 LOM 32-33 LOS 34-35 PHOTO # 37-44 QUAD # 46-48
AQCODE1 50-53 AQCODE2 55-58 STAFF # 60-62 PROJECT # 64-67
GWPPS 69-72 COUNTY 1-2 GEOLERA1 50-51 GEOLERA2;
FORMAT QUAD #QDCODE. AQCODE1 FMCODE. AQCODE2 FMCODE. CONTAM CONTCODE.
STAFF #INITCODE. LOCATE COCODES. REGION #REGCODE. STATUS #STATCODE.
GEOLERA1 GEOLCODE. GEOLERA2 GEOLCODE. COUNTY CNTYCODE.;
FILE PRINT;
PROC FREQ;
TABLES COUNTY*TYPE COUNTY*STATUS COUNTY*STAFF STAFF*TYPE
STAFF*REGION STAFF*STATUS TYPE*REGION STATUS*REGION /
NOROW NOCOL NOCUM;
PROC CHART;
VBAR TYPE;
VBAR GWPPS / MIDPOINTS = 10 TO 100 BY 10 SUBGROUP = TYPE;
VBAR STAFF / SUBGROUP = TYPE;
VBAR STATUS / SUBGROUP = TYPE;

```

9. GEOLOGIS

```

OPTIONS DATE PAGESIZE = 60 LINESIZE = 132;
CMS FILEDEF PDATA DISK POLUTE INDEX A;
DATA POLUTE;
INFILE PDATA;

```

```

INPUT NUM # 1-5  NAME & # 6-80
#2 LOCATE 1-4 REGION # 6  CONTAM  8-9 MNTHOPEN # 11-12 YEAROPEN # 13-14
MNTNCLSE # 16-17 YEARCLSE # 18-19 STATUS # 21 LAD 23-24 LAM 25-26
LAS 27-28 LOD 30-31 LOM 32-33 LOS 34-35 PHOTO # 37-44 QUAD # 46-48
AQCODE1  50-53 AQCODE2  55-58 INITIALS # 60-62 PROJECT # 64-67
GWPPS 69-72 COUNTY 1-2 GEOLERA1 50-51 GEOLERA2 55-56 FI # 60 LI # 62 MI # 6
PROC SORT DATA=POLUTE;
BY LI FI MI GWPPS;
DATA _NULL_;
SET POLUTE;
BY LI FI MI GWPPS;
FILE PRINT HEADER = NEWPAGE;
FORMAT QUAD #QDCODE. AQCODE1 FMCODE. AQCODE2 FMCODE. CONTAM CONTCODE.
INITIALS #INITCODE. STATUS #STATCODE. LOCATE CPCODES. REGION #REGCODE.
GEOLERA1 GEOLCODE. GEOLERA2 GEOLCODE. COUNTY CNTYCODE.;
IF ((FIRST.LI OR FIRST.MI) OR FIRST.FI) THEN PUT _PAGE_;
IF ((FIRST.LI) OR (FIRST.MI) OR (FIRST.FI)) THEN PUT //@5 INITIALS;
IF STATUS='6' THEN RETURN;
PUT @2 NUM @8 NAME @85 PROJECT @90 GWPPS @95 LOCATE;
RETURN;
NEWPAGE:
  PUT @ 6 'GROUND WATER POLLUTION INDEX ---'
  @39 'ALL ACTIVE CASES SORTED BY GEOLOGIST';
RETURN;
RUN;

```

Appendix B.1 Location Codes

0000 = NOT IDENTIFIED
 0100 = ATLANTIC CO
 0101 = ATLANTIC CO ABSECON CITY
 0102 = ATLANTIC CO ATLANTIC CITY
 0103 = ATLANTIC CO BRIGANTINE CITY
 0104 = ATLANTIC CO BUENA BORO
 0105 = ATLANTIC CO BUENA VISTA TWP
 0106 = ATLANTIC CO CORBIN CITY
 0107 = ATLANTIC CO EGG HARBOR CITY
 0108 = ATLANTIC CO EGG HARBOR TWP
 0109 = ATLANTIC CO ESTELL MANOR CITY
 0110 = ATLANTIC CO FOLSOM BORO
 0111 = ATLANTIC CO GALLOWAY TWP
 0112 = ATLANTIC CO HAMILTON TWP
 0113 = ATLANTIC CO HAMMONTON TOWN
 0114 = ATLANTIC CO LINWOOD CITY
 0115 = ATLANTIC CO LONGPORT BORO
 0116 = ATLANTIC CO MARGATE CITY
 0117 = ATLANTIC CO MULLICA TWP
 0118 = ATLANTIC CO NORTHFIELD CITY
 0119 = ATLANTIC CO PLEASANTVILLE CITY
 0120 = ATLANTIC CO PORT REPUBLIC CITY
 0121 = ATLANTIC CO SOMERS POINT CITY
 0122 = ATLANTIC CO VENTNOR CITY
 0123 = ATLANTIC CO WEYMOUTH TWP
 0200 = BERGEN CO
 0201 = BERGEN CO ALLENDALE BORO
 0202 = BERGEN CO ALPINE BORO
 0203 = BERGEN CO BERGENFIELD BORO
 0204 = BERGEN CO BOGOTA BORO
 0205 = BERGEN CO CARLSTADT BORO
 0206 = BERGEN CO CLIFFSIDE PARK BORO
 0207 = BERGEN CO CLOSTER BORO
 0208 = BERGEN CO CRESSKILL BORO
 0209 = BERGEN CO DEMAREST BORO
 0210 = BERGEN CO DUMONT BORO
 0211 = BERGEN CO ELMWOOD PARK BORO
 0212 = BERGEN CO EAST RUTHERFORD BORO
 0213 = BERGEN CO EDGEWATER BORO
 0214 = BERGEN CO EMERSON BORO
 0215 = BERGEN CO ENGLEWOOD CITY
 0216 = BERGEN CO ENGLEWOOD CLIFFS BORO
 0217 = BERGEN CO FAIR LAWN BORO
 0218 = BERGEN CO FAIRVIEW BORO
 0219 = BERGEN CO FORT LEE BORO
 0220 = BERGEN CO FRANKLIN LAKES BORO
 0221 = BERGEN CO GARFIELD CITY
 0222 = BERGEN CO GLEN ROCK BORO
 0223 = BERGEN CO HACKENSACK CITY
 0224 = BERGEN CO HARRINGTON PARK BORO
 0225 = BERGEN CO HASBROUCK HEIGHTS
 0226 = BERGEN CO HAWORTH BORO
 0227 = BERGEN CO HILLSDALE BORO
 0228 = BERGEN CO HOHOKUS BORO
 0229 = BERGEN CO LEONIA BORO

0230 = BERGEN CO LITTLE FERRY BORO
 0231 = BERGEN CO LODI BORO
 0232 = BERGEN CO LYNDHURST TWP
 0233 = BERGEN CO MAHWAH TWP
 0234 = BERGEN CO MAYWOOD BORO
 0235 = BERGEN CO MIDLAND PARK BORO
 0236 = BERGEN CO MONTVALE BORO
 0237 = BERGEN CO MOONACHIE BORO
 0238 = BERGEN CO NEW MILFORD BORO
 0239 = BERGEN CO NORTH ARLINGTON BORO
 0240 = BERGEN CO NORTHVALE BORO
 0241 = BERGEN CO NORWOOD BORO
 0242 = BERGEN CO OAKLAND BORO
 0243 = BERGEN CO OLD TAPPAN BORO
 0244 = BERGEN CO ORADELL BORO
 0245 = BERGEN CO PALISADES PARK BORO
 0246 = BERGEN CO PARAMUS BORO
 0247 = BERGEN CO PARK RIDGE BORO
 0248 = BERGEN CO RAMSEY BORO
 0249 = BERGEN CO RIDGEFIELD BORO
 0250 = BERGEN CO RIDGEFIELD PARK VILLAGE
 0251 = BERGEN CO RIDGEWOOD VILLAGE
 0252 = BERGEN CO RIVER EDGE BORO
 0253 = BERGEN CO RIVER VALE TWP
 0254 = BERGEN CO ROCHELLE PARK TWP
 0255 = BERGEN CO ROCKLEIGH BORO
 0256 = BERGEN CO RUTHERFORD BORO
 0257 = BERGEN CO SADDLE BROOK TWP
 0258 = BERGEN CO SADDLE RIVER BORO
 0259 = BERGEN CO SOUTH HACKENSACK TWP
 0260 = BERGEN CO TEANECK TWP
 0261 = BERGEN CO TENAFLY BORO
 0262 = BERGEN CO TETERBORO BORO
 0263 = BERGEN CO UPPER SADDLE RIVER
 0264 = BERGEN CO WALDWICK BORO
 0265 = BERGEN CO WALLINGTON BORO
 0266 = BERGEN CO WASHINGTON TWP
 0267 = BERGEN CO WESTWOOD BORO
 0268 = BERGEN CO WOODCLIFF LAKE BORO
 0269 = BERGEN CO WOOD RIDGE BORO
 0270 = BERGEN CO WYCKOFF TWP
 0300 = BURLINGTON CO
 0301 = BURLINGTON CO BASS RIVER TWP
 0302 = BURLINGTON CO BEVERLY CITY
 0303 = BURLINGTON CO BORDENTOWN CITY
 0304 = BURLINGTON CO BORDENTOWN TWP
 0305 = BURLINGTON CO BURLINGTON CITY
 0306 = BURLINGTON CO BURLINGTON TWP
 0307 = BURLINGTON CO CHESTERFIELD TWP
 0308 = BURLINGTON CO CINNAMINSON TWP
 0309 = BURLINGTON CO DELANCO TWP
 0310 = BURLINGTON CO DELRAN TWP
 0311 = BURLINGTON CO EASTAMPTON TWP
 0312 = BURLINGTON CO EDGEWATER PARK TWP
 0313 = BURLINGTON CO EVESHAM TWP

0314 = BURLINGTON CO FIELDSBORO BORO
 0315 = BURLINGTON CO FLORENCE TWP
 0316 = BURLINGTON CO HAINESPORT TWP
 0317 = BURLINGTON CO LUMBERTON TWP
 0318 = BURLINGTON CO MANSFIELD TWP
 0319 = BURLINGTON CO MAPLE SHADE TWP
 0320 = BURLINGTON CO MEDFORD TWP
 0321 = BURLINGTON CO MEDFORD LAKES BORO
 0322 = BURLINGTON CO MOORESTOWN TWP
 0323 = BURLINGTON CO MOUNT HOLLY TWP
 0324 = BURLINGTON CO MOUNT LAUREL TWP
 0325 = BURLINGTON CO NEW HANOVER TWP
 0326 = BURLINGTON CO NORTH HANOVER TWP
 0327 = BURLINGTON CO PALMYRA BORO
 0328 = BURLINGTON CO PEMBERTON BORO
 0329 = BURLINGTON CO PEMBERTON TWP
 0330 = BURLINGTON CO RIVERSIDE TWP
 0331 = BURLINGTON CO RIVERTON BORO
 0332 = BURLINGTON CO SHAMONG TWP
 0333 = BURLINGTON CO SOUTHAMPTON TWP
 0334 = BURLINGTON CO SPRINGFIELD TWP
 0335 = BURLINGTON CO TABERNACLE TWP
 0336 = BURLINGTON CO WASHINGTON TWP
 0337 = BURLINGTON CO WESTAMPTON TWP
 0338 = BURLINGTON CO WILLINGBORO TWP
 0339 = BURLINGTON CO WOODLAND TWP
 0340 = BURLINGTON CO WRIGHTSTOWN BORO
 0400 = CAMDEN CO
 0401 = CAMDEN CO AUDUBON BORO
 0402 = CAMDEN CO AUDUBON PARK BORO
 0403 = CAMDEN CO BARRINGTON BORO
 0404 = CAMDEN CO BELLMAWR BORO
 0405 = CAMDEN CO BERLIN BORO
 0406 = CAMDEN CO BERLIN TWP
 0407 = CAMDEN CO BROOKLAWN BORO
 0408 = CAMDEN CO CAMDEN CITY
 0409 = CAMDEN CO CHERRY HILL TWP
 0410 = CAMDEN CO CHESILHURST BORO
 0411 = CAMDEN CO CLEMENTON BORO
 0412 = CAMDEN CO COLLINGSWOOD BORO
 0413 = CAMDEN CO GIBBSBORO BORO
 0414 = CAMDEN CO GLOUCESTER CITY
 0415 = CAMDEN CO GLOUCESTER TWP
 0416 = CAMDEN CO HADDON TWP
 0417 = CAMDEN CO HADDONFIELD BORO
 0418 = CAMDEN CO HADDON HEIGHTS BORO
 0419 = CAMDEN CO HI NELLA BORO
 0420 = CAMDEN CO LAUREL SPRINGS BORO
 0421 = CAMDEN CO LAWNSIDE BORO
 0422 = CAMDEN CO LINDENWOLD BORO
 0423 = CAMDEN CO MAGNOLIA BORO
 0424 = CAMDEN CO MERCHANTVILLE BORO
 0425 = CAMDEN CO MOUNT EPHRAIM BORO
 0426 = CAMDEN CO OAKLYN BORO
 0427 = CAMDEN CO PENNSAUKEN TWP

0428 = CAMDEN CO PINE HILL BORO
 0429 = CAMDEN CO PINE VALLEY BORO
 0430 = CAMDEN CO RUNNEMEDE BORO
 0431 = CAMDEN CO SOMERDALE BORO
 0432 = CAMDEN CO STRATFORD BORO
 0433 = CAMDEN CO TAVISTOCK BORO
 0434 = CAMDEN CO VOORHEES TWP
 0435 = CAMDEN CO WATERFORD TWP
 0436 = CAMDEN CO WINSLOW TWP
 0437 = CAMDEN CO WOODLYNNE BORO
 0500 = CAPE MAY CO
 0501 = CAPE MAY CO AVALON BORO
 0502 = CAPE MAY CO CAPE MAY CITY
 0503 = CAPE MAY CO CAPE MAY POINT BORO
 0504 = CAPE MAY CO DENNIS TWP
 0505 = CAPE MAY CO LOWER TWP
 0506 = CAPE MAY CO MIDDLE TWP
 0507 = CAPE MAY CO NORTH WILDWOOD CITY
 0508 = CAPE MAY CO OCEAN CITY
 0509 = CAPE MAY CO SEA ISLE CITY
 0510 = CAPE MAY CO STONE HARBOR BORO
 0511 = CAPE MAY CO UPPER TWP
 0512 = CAPE MAY CO WEST CAPE MAY BORO
 0513 = CAPE MAY CO WEST WILDWOOD BORO
 0514 = CAPE MAY CO WILDWOOD CITY
 0515 = CAPE MAY CO WILDWOOD CREST BORO
 0516 = CAPE MAY CO WOODBINE BORO
 0600 = CUMBERLAND CO
 0601 = CUMBERLAND CO BRIDGETON CITY
 0602 = CUMBERLAND CO COMMERCIAL TWP
 0603 = CUMBERLAND CO DEERFIELD TWP
 0604 = CUMBERLAND CO DOWNE TWP
 0605 = CUMBERLAND CO FAIRFIELD TWP
 0606 = CUMBERLAND CO GREENWICH TWP
 0607 = CUMBERLAND CO HOPEWELL TWP
 0608 = CUMBERLAND CO LAWRENCE TWP
 0609 = CUMBERLAND CO MAURICE RIVER TWP
 0610 = CUMBERLAND CO MILLVILLE CITY
 0611 = CUMBERLAND CO SHILOH BORO
 0612 = CUMBERLAND CO STOW CREEK TWP
 0613 = CUMBERLAND CO UPPER DEERFIELD TWP
 0614 = CUMBERLAND CO VINELAND CITY
 0700 = ESSEX CO
 0701 = ESSEX CO BELLEVILLE TOWN
 0702 = ESSEX CO BLOOMFIELD TOWN
 0703 = ESSEX CO CALDWELL BORO
 0704 = ESSEX CO CEDAR GROVE TWP
 0705 = ESSEX CO EAST ORANGE CITY
 0706 = ESSEX CO ESSEX FELS BORO
 0707 = ESSEX CO FAIRFIELD BORO
 0708 = ESSEX CO GLEN RIDGE BORO
 0709 = ESSEX CO IRVINGTON TOWN
 0710 = ESSEX CO LIVINGSTON TWP
 0711 = ESSEX CO MAPLEWOOD TWP
 0712 = ESSEX CO MILLBURN TWP

0713 = ESSEX CO MONTCLAIR TOWN
 0714 = ESSEX CO NEWARK
 0715 = ESSEX CO NORTH CALDWELL BORO
 0716 = ESSEX CO NUTLEY TOWN
 0717 = ESSEX CO ORANGE CITY
 0718 = ESSEX CO ROSELAND BORO
 0719 = ESSEX CO SOUTH ORANGE VILLAGE
 0720 = ESSEX CO VERONA BORO
 0721 = ESSEX CO WEST CALDWELL BORO
 0722 = ESSEX CO WEST ORANGE TOWN
 0800 = GLOUCESTER CO
 0801 = GLOUCESTER CO CLAYTON BORO
 0802 = GLOUCESTER CO DEPTFORD TWP
 0803 = GLOUCESTER CO EAST GREENWICH TWP
 0804 = GLOUCESTER CO ELK TWP
 0805 = GLOUCESTER CO FRANKLIN TWP
 0806 = GLOUCESTER CO GLASSBORO BORO
 0807 = GLOUCESTER CO GREENWICH TWP
 0808 = GLOUCESTER CO HARRISON TWP
 0809 = GLOUCESTER CO LOGAN TWP
 0810 = GLOUCESTER CO MANTUA TWP
 0811 = GLOUCESTER CO MONROE TWP
 0812 = GLOUCESTER CO NATIONAL PARK BORO
 0813 = GLOUCESTER CO NEWFIELD BORO
 0814 = GLOUCESTER CO PAULSBORO BORO
 0815 = GLOUCESTER CO PITMAN BORO
 0816 = GLOUCESTER CO SOUTH HARRISON TWP
 0817 = GLOUCESTER CO SWEDESBORO BORO
 0818 = GLOUCESTER CO WASHINGTON TWP
 0819 = GLOUCESTER CO WENONAH BORO
 0820 = GLOUCESTER CO WEST DEPTFORD TWP
 0821 = GLOUCESTER CO WESTVILLE BORO
 0822 = GLOUCESTER CO WOODBURY CITY
 0823 = GLOUCESTER CO WOODBURY HEIGHTS BORO
 0824 = GLOUCESTER CO WOOLWICH TWP
 0900 = HUDSON CO
 0901 = HUDSON CO BAYONNE CITY
 0902 = HUDSON CO EAST NEWARK BORO
 0903 = HUDSON CO GUTTENBERG TOWN
 0904 = HUDSON CO HARRISON TOWN
 0905 = HUDSON CO HOBOKEN CITY
 0906 = HUDSON CO JERSEY CITY
 0907 = HUDSON CO KEARNY TOWN
 0908 = HUDSON CO NORTH BERGEN TWP
 0909 = HUDSON CO SECAUCUS TOWN
 0910 = HUDSON CO UNION CITY
 0911 = HUDSON CO WEEHAWKEN TWP
 0912 = HUDSON CO WEST NEW YORK TOWN
 1000 = HUNTERDON CO
 1001 = HUNTERDON CO ALEXANDRIA TWP
 1002 = HUNTERDON CO BETHLEHEM TWP
 1003 = HUNTERDON CO BLOOMSBURY BORO
 1004 = HUNTERDON CO CALIFON BORO
 1005 = HUNTERDON CO CLINTON TOWN
 1006 = HUNTERDON CO CLINTON TWP

1007 = HUNTERDON CO DELAWARE TWP
 1008 = HUNTERDON CO EAST AMWELL TWP
 1009 = HUNTERDON CO FLEMINGTON BORO
 1010 = HUNTERDON CO FRANKLIN TWP
 1011 = HUNTERDON CO FRENCHTOWN BORO
 1012 = HUNTERDON CO GLEN GARDNER BORO
 1013 = HUNTERDON CO HAMPTON BORO
 1014 = HUNTERDON CO HIGH BRIDGE BORO
 1015 = HUNTERDON CO HOLLAND TWP
 1016 = HUNTERDON CO KINGWOOD TWP
 1017 = HUNTERDON CO LAMBERTVILLE CITY
 1018 = HUNTERDON CO LEBANON BORO
 1019 = HUNTERDON CO LEBANON TWP
 1020 = HUNTERDON CO MILFORD BORO
 1021 = HUNTERDON CO RARITAN TWP
 1022 = HUNTERDON CO READINGTON TWP
 1023 = HUNTERDON CO STOCKTON BORO
 1024 = HUNTERDON CO TEWKSBURY TWP
 1025 = HUNTERDON CO UNION TWP
 1026 = HUNTERDON CO WEST AMWELL TWP
 1100 = MERCER CO
 1101 = MERCER CO EAST WINDSOR TWP
 1102 = MERCER CO EWING TWP
 1103 = MERCER CO HAMILTON TWP
 1104 = MERCER CO HIGHTSTOWN BORO
 1105 = MERCER CO HOPEWELL BORO
 1106 = MERCER CO HOPEWELL TWP
 1107 = MERCER CO LAWRENCE TWP
 1108 = MERCER CO PENNINGTON BORO
 1109 = MERCER CO PRINCETON BORO
 1110 = MERCER CO PRINCETON TWP
 1111 = MERCER CO TRENTON CITY
 1112 = MERCER CO WASHINGTON TWP
 1113 = MERCER CO WEST WINDSOR TWP
 1200 = MIDDLESEX CO
 1201 = MIDDLESEX CO CARTERET BORO
 1202 = MIDDLESEX CO CRANBURY TWP
 1203 = MIDDLESEX CO DUNELLEN BORO
 1204 = MIDDLESEX CO EAST BRUNSWICK TWP
 1205 = MIDDLESEX CO EDISON TWP
 1206 = MIDDLESEX CO HELMETTA BORO
 1207 = MIDDLESEX CO HIGHLAND PARK BORO
 1208 = MIDDLESEX CO JAMESBURG BORO
 1209 = MIDDLESEX CO OLD BRIDGE TWP
 1210 = MIDDLESEX CO METUCHEN BORO
 1211 = MIDDLESEX CO MIDDLESEX BORO
 1212 = MIDDLESEX CO MILLTOWN BORO
 1213 = MIDDLESEX CO MONROE TWP
 1214 = MIDDLESEX CO NEW BRUNSWICK CITY
 1215 = MIDDLESEX CO NORTH BRUNSWICK TWP
 1216 = MIDDLESEX CO PERTH AMBOY CITY
 1217 = MIDDLESEX CO PISCATAWAY TWP
 1218 = MIDDLESEX CO PLAINSBORO TWP
 1219 = MIDDLESEX CO SAYREVILLE BORO
 1220 = MIDDLESEX CO SOUTH AMBOY CITY

1221 = MIDDLESEX CO SOUTH BRUNSWICK TWP
1222 = MIDDLESEX CO SOUTH PLAINFIELD BORO
1223 = MIDDLESEX CO SOUTH RIVER BORO
1224 = MIDDLESEX CO SPOTSWOOD BORO
1225 = MIDDLESEX CO WOODBRIDGE TWP
1300 = MONMOUTH CO
1301 = MONMOUTH CO ALLENHURST BORO
1302 = MONMOUTH CO ALLENTOWN BORO
1303 = MONMOUTH CO ASBURY PARK CITY
1304 = MONMOUTH CO ATL HIGHLANDS BORO
1305 = MONMOUTH CO AVON BY THE SEA BORO
1306 = MONMOUTH CO BELMAR BORO
1307 = MONMOUTH CO BRADLEY BEACH BORO
1308 = MONMOUTH CO BRIELLE BORO
1309 = MONMOUTH CO COLTS NECK TWP
1310 = MONMOUTH CO DEAL BORO
1311 = MONMOUTH CO EATONTOWN BORO
1312 = MONMOUTH CO ENGLISHTOWN BORO
1313 = MONMOUTH CO FAIR HAVEN BORO
1314 = MONMOUTH CO FARMINGDALE BORO
1315 = MONMOUTH CO FREEHOLD BORO
1316 = MONMOUTH CO FREEHOLD TWP
1317 = MONMOUTH CO HIGHLANDS BORO
1318 = MONMOUTH CO HOLMDEL TWP
1319 = MONMOUTH CO HOWELL TWP
1320 = MONMOUTH CO INTERLAKEN BORO
1321 = MONMOUTH CO KEANSBURG BORO
1322 = MONMOUTH CO KEYPORT BORO
1323 = MONMOUTH CO LITTLE SILVER BORO
1324 = MONMOUTH CO LOCH ARBOUR VILLAGE
1325 = MONMOUTH CO LONG BRANCH CITY
1326 = MONMOUTH CO MANALAPAN TWP
1327 = MONMOUTH CO MANASQUAN BORO
1328 = MONMOUTH CO MARLBORO TWP
1329 = MONMOUTH CO MATAWAN BORO
1330 = MONMOUTH CO ABERDEEN TWP
1331 = MONMOUTH CO MIDDLETOWN TWP
1332 = MONMOUTH CO MILLSTONE TWP
1333 = MONMOUTH CO MONMOUTH BEACH BORO
1334 = MONMOUTH CO NEPTUNE TWP
1335 = MONMOUTH CO NEPTUNE CITY BORO
1336 = MONMOUTH CO TINTON FALLS BORO
1337 = MONMOUTH CO OCEAN TWP
1338 = MONMOUTH CO OCEANPORT BORO
1339 = MONMOUTH CO HAZLET TWP
1340 = MONMOUTH CO RED BANK BORO
1341 = MONMOUTH CO ROOSEVELT BORO
1342 = MONMOUTH CO RUMSON BORO
1343 = MONMOUTH CO SEA BRIGHT BORO
1344 = MONMOUTH CO SEA GIRT BORO
1345 = MONMOUTH CO SHREWSBURY BORO
1346 = MONMOUTH CO SHREWSBURY TWP
1347 = MONMOUTH CO SOUTH BELMAR BORO
1348 = MONMOUTH CO SPRING LAKE BORO
1349 = MONMOUTH CO SPRING L HEIGHTS BORO

1350 = MONMOUTH CO UNION BEACH BORO
1351 = MONMOUTH CO UPPER FREEHOLD TWP
1352 = MONMOUTH CO WALL TWP
1353 = MONMOUTH CO WEST LONG BRANCH BORO
1400 = MORRIS CO
1401 = MORRIS CO BOONTON TOWN
1402 = MORRIS CO BOONTON TWP
1403 = MORRIS CO BUTLER BORO
1404 = MORRIS CO CHATHAM BORO
1405 = MORRIS CO CHATHAM TWP
1406 = MORRIS CO CHESTER BORO
1407 = MORRIS CO CHESTER TWP
1408 = MORRIS CO DENVILLE TWP
1409 = MORRIS CO DOVER TOWN
1410 = MORRIS CO EAST HANOVER TWP
1411 = MORRIS CO FLORHAM PARK BORO
1412 = MORRIS CO HANOVER TWP
1413 = MORRIS CO HARDING TWP
1414 = MORRIS CO JEFFERSON TWP
1415 = MORRIS CO KINNELON BORO
1416 = MORRIS CO LINCOLN PARK BORO
1417 = MORRIS CO MADISON BORO
1418 = MORRIS CO MENDHAM BORO
1419 = MORRIS CO MENDHAM TWP
1420 = MORRIS CO MINE HILL TWP
1421 = MORRIS CO MONTVILLE TWP
1422 = MORRIS CO MORRIS TWP
1423 = MORRIS CO MORRIS PLAINS BORO
1424 = MORRIS CO MORRISTOWN TOWN
1425 = MORRIS CO MOUNTAIN LAKES BORO
1426 = MORRIS CO MOUNT ARLINGTON BORO
1427 = MORRIS CO MOUNT OLIVE TWP
1428 = MORRIS CO NETCONG BORO
1429 = MORRIS CO PARSIPPANY TROY HILLS
1430 = MORRIS CO PASSAIC TWP
1431 = MORRIS CO PEQUANNOCK TWP
1432 = MORRIS CO RANDOLPH TWP
1433 = MORRIS CO RIVERDALE BORO
1434 = MORRIS CO ROCKAWAY BORO
1435 = MORRIS CO ROCKAWAY TWP
1436 = MORRIS CO ROXBURY TWP
1437 = MORRIS CO VICTORY GARDENS BORO
1438 = MORRIS CO WASHINGTON TWP
1439 = MORRIS CO WHARTON BORO
1500 = OCEAN CO
1501 = OCEAN CO BARNEGAT LIGHT BORO
1502 = OCEAN CO BAY HEAD BORO
1503 = OCEAN CO BEACH HAVEN BORO
1504 = OCEAN CO BEACHWOOD BORO
1505 = OCEAN CO BERKELEY TWP
1506 = OCEAN CO BRICK TWP
1507 = OCEAN CO DOVER TWP
1508 = OCEAN CO EAGLESWOOD TWP
1509 = OCEAN CO HARVEY CEDARS BORO
1510 = OCEAN CO ISLAND HEIGHTS BORO

1511 = OCEAN CO JACKSON TWP
 1512 = OCEAN CO LACEY TWP
 1513 = OCEAN CO LAKEHURST BORO
 1514 = OCEAN CO LAKEWOOD TWP
 1515 = OCEAN CO LAVALETTE BORO
 1516 = OCEAN CO LITTLE EGG HARBOR
 1517 = OCEAN CO LONG BEACH TWP
 1518 = OCEAN CO MANCHESTER TWP
 1519 = OCEAN CO MANTALOKING BORO
 1520 = OCEAN CO OCEAN TWP
 1521 = OCEAN CO OCEAN GATE BORO
 1522 = OCEAN CO PINE BEACH BORO
 1523 = OCEAN CO PLUMSTEAD TWP
 1524 = OCEAN CO POINT PLEASANT BORO
 1525 = OCEAN CO POINT PLEAS BEACH BORO
 1526 = OCEAN CO SEASIDE HEIGHTS BORO
 1527 = OCEAN CO SEASIDE PARK BORO
 1528 = OCEAN CO SHIP BOTTOM BORO
 1529 = OCEAN CO SOUTH TOMS RIVER BORO
 1530 = OCEAN CO STAFFORD TWP
 1531 = OCEAN CO SURF CITY BORO
 1532 = OCEAN CO TUCKERTON BORO
 1533 = OCEAN CO BARNEGAT TWP
 1534 = OCEAN CO UNION TWP
 1600 = PASSAIC CO
 1601 = PASSAIC CO BLOOMINGDALE BORO
 1602 = PASSAIC CO CLIFTON CITY
 1603 = PASSAIC CO HALEDON BORO
 1604 = PASSAIC CO HAWTHORNE BORO
 1605 = PASSAIC CO LITTLE FALLS TWP
 1606 = PASSAIC CO NORTH HALEDON BORO
 1607 = PASSAIC CO PASSAIC CITY
 1608 = PASSAIC CO PATERSON CITY
 1609 = PASSAIC CO POMPTON LAKES BORO
 1610 = PASSAIC CO PROSPECT PARK BORO
 1611 = PASSAIC CO RINGWOOD BORO
 1612 = PASSAIC CO TOTOWA BORO
 1613 = PASSAIC CO WANAQUE BORO
 1614 = PASSAIC CO WAYNE TWP
 1615 = PASSAIC CO WEST MILFORD TWP
 1616 = PASSAIC CO WEST PATERSON BORO
 1700 = SALEM CO
 1701 = SALEM CO ALLOWAY TWP
 1702 = SALEM CO ELMER BORO
 1703 = SALEM CO ELSINBORO TWP
 1704 = SALEM CO LOWER ALLOWAYS CR
 1705 = SALEM CO MANNINGTON TWP
 1706 = SALEM CO OLDMANS TWP
 1707 = SALEM CO PENNS GROVE BORO
 1708 = SALEM CO PENNSVILLE TWP
 1709 = SALEM CO PILESGROVE TWP
 1710 = SALEM CO PITTSBORO TWP
 1711 = SALEM CO QUINTON TWP
 1712 = SALEM CO SALEM CITY
 1713 = SALEM CO CARNEYS POINT TWP

1714 = SALEM CO UPPER PITTSBORO TWP
1715 = SALEM CO WOODSTOWN BORO
1716 = SALEM CO UPPER PENNS NECK TWP
1800 = SOMERSET CO
1801 = SOMERSET CO BEDMINSTER TWP
1802 = SOMERSET CO BERNARDS TWP
1803 = SOMERSET CO BERNARDSVILLE BORO
1804 = SOMERSET CO BOUND BROOK BORO
1805 = SOMERSET CO BRANCBURG TWP
1806 = SOMERSET CO BRIDGEWATER TWP
1807 = SOMERSET CO FAR HILLS BORO
1808 = SOMERSET CO FRANKLIN TWP
1809 = SOMERSET CO GREEN BROOK TWP
1810 = SOMERSET CO HILLSBOROUGH TWP
1811 = SOMERSET CO MANVILLE BORO
1812 = SOMERSET CO MILLSTONE BORO
1813 = SOMERSET CO MONTGOMERY TWP
1814 = SOMERSET CO NORTH PLAINFIELD BORO
1815 = SOMERSET CO PEAPACK GLADSTONE
1816 = SOMERSET CO RARITAN BORO
1817 = SOMERSET CO ROCKY HILL BORO
1818 = SOMERSET CO SOMERVILLE BORO
1819 = SOMERSET CO SO BOUND BROOK BORO
1820 = SOMERSET CO WARREN TWP
1821 = SOMERSET CO WATCHUNG BORO
1900 = SUSSEX CO
1901 = SUSSEX CO ANDOVER BORO
1902 = SUSSEX CO ANDOVER TWP
1903 = SUSSEX CO BRANCHVILLE BORO
1904 = SUSSEX CO BYRAM TWP
1905 = SUSSEX CO FRANKFORD TWP
1906 = SUSSEX CO FRANKLIN BORO
1907 = SUSSEX CO FREDON TWP
1908 = SUSSEX CO GREEN TWP
1909 = SUSSEX CO HAMBURG BORO
1910 = SUSSEX CO HAMPTON TWP
1911 = SUSSEX CO HARDYSTON TWP
1912 = SUSSEX CO HOPATCONG BORO
1913 = SUSSEX CO LAFAYETTE TWP
1914 = SUSSEX CO MONTAGUE TWP
1915 = SUSSEX CO NEWTON TOWN
1916 = SUSSEX CO OGDENSBURG BORO
1917 = SUSSEX CO SANDYSTON TWP
1918 = SUSSEX CO SPARTA TWP
1919 = SUSSEX CO STANHOPE BORO
1920 = SUSSEX CO STILLWATER TWP
1921 = SUSSEX CO SUSSEX BORO
1922 = SUSSEX CO VERNON TWP
1923 = SUSSEX CO WALPACK TWP
1924 = SUSSEX CO WANTAGE TWP
2000 = UNION CO
2001 = UNION CO BERKELEY HEIGHTS TWP
2002 = UNION CO CLARK TWP
2003 = UNION CO CRANFORD TWP
2004 = UNION CO ELIZABETH CITY

2005 = UNION CO FANWOOD BORO
2006 = UNION CO GARWOOD BORO
2007 = UNION CO HILLSIDE TWP
2008 = UNION CO KENILWORTH BORO
2009 = UNION CO LINDEN CITY
2010 = UNION CO MOUNTAINSIDE BORO
2011 = UNION CO NEW PROVIDENCE BORO
2012 = UNION CO PLAINFIELD CITY
2013 = UNION CO RAHWAY CITY
2014 = UNION CO ROSELLE BORO
2015 = UNION CO ROSELLE PARK BORO
2016 = UNION CO SCOTCH PLAINS TWP
2017 = UNION CO SPRINGFIELD TWP
2018 = UNION CO SUMMIT CITY
2019 = UNION CO UNION TWP
2020 = UNION CO WESTFIELD TOWN
2021 = UNION CO WINFIELD TWP
2100 = WARREN CO
2101 = WARREN CO ALLAMUCHY TWP
2102 = WARREN CO ALPHA BORO
2103 = WARREN CO BELVIDERE TOWN
2104 = WARREN CO BLAIRSTOWN TWP
2105 = WARREN CO FRANKLIN TWP
2106 = WARREN CO FRELINGHUYSEN TWP
2107 = WARREN CO GREENWICH TWP
2108 = WARREN CO HACKETTSTOWN TOWN
2109 = WARREN CO HARDWICK TWP
2110 = WARREN CO HARMONY TWP
2111 = WARREN CO HOPE TWP
2112 = WARREN CO INDEPENDENCE TWP
2113 = WARREN CO KNOWLTON TWP
2114 = WARREN CO LIBERTY TWP
2115 = WARREN CO LOPATCONG TWP
2116 = WARREN CO MANSFIELD TWP
2117 = WARREN CO OXFORD TWP
2118 = WARREN CO PAHAQUARRY TWP
2119 = WARREN CO PHILLIPSBURG TOWN
2120 = WARREN CO POHATCONG TWP
2121 = WARREN CO WASHINGTON BORO
2122 = WARREN CO WASHINGTON TWP
2123 = WARREN CO WHITE TWP

B.2 Region Codes

M = METRO
C = CENTRAL
N = NORTHERN
S = SOUTHERN

B.3 Contamination Codes

00 = NOT SPECIFIED
01 = ORGANIC CHEMICALS
02 = CHLOROFORM
03 = '1,2 - DICHLOROETHANE'
04 = '1,1,1 - TRICHLOROETHANE'
05 = TETRACHLOROETHYLENE
06 = DICHLOROETHYLENE
07 = TRICHLOROETHYLENE
08 = CARBON TETRACHLORIDE
09 = METHYLENE CHLORIDE
10 = ACETONE
11 = BENZENE
12 = TOLUNE
13 = XYLENE
14 = METHYL ISOBUTYL KETONE
15 = ETHYLENE DICHLORIDE
16 = METHYL ETHYL KETONE
17 = TETRAHYDROFURAN
18 = '1,2 - DICHLOROETHENE'
19 = '1,1 - DICHLOROETHENE'
20 = '1,1 - DICHLOROETHANE'
21 = '1,1,2,2 - TETRACHLOROETHYLENE'
22 = '1,1,2,2 - TETRACHLOROETHANE'
23 = TRICHLOROFLUOROMETHANE
24 = CHLOROBENZENE
25 = ETHYLBENZENE
26 = '1,2 - DICHLOROBENZENE'
27 = DICHLOROFLUOROMETHANE
28 = STYRENE
29 = ISOPROPYL ALCOHOL
30 = VINYL CHLORIDE
31 = HEXANE
32 = HEPTANE
33 = PHENTANE
34 = PHENOLS
35 = METALS
36 = LEAD
37 = IRON
38 = MERCURY
39 = CHROMIUM
41 = ARSENIC
42 = CADMIUM
43 = CHLORIDE
44 = SODIUM
45 = NITRATE
46 = SULFATE
47 = PESTICIDES
48 = HERBICIDES
49 = NATURAL RADIOACTIVITY
50 = 'PCB'S'
51 = GASOLINE
52 = DIESEL FUEL
53 = FUEL OIL
54 = INORGANIC CHEMICALS
55 = GREASES AND FATS

56 = SLUDGE
57 = ACID
58 = LEACHATE
59 = METHANE GAS
60 = DYE
61 = IODINE
62 = EXPLOSIVES
63 = PETROLEUM PRODUCTS
64 = PHARMACEUTICALS
65 = SURFACTANTS
66 = SEPTIC
67 = RADIOACTIVE WASTE
68 = UNKNOWN
69 = TRICHLORETHYLENE
70 = COAL TAR
71 = ASBESTOS
72 = DIOXIN

B.4 Status Codes

Ø = UNKNOWN
1 = CONTINUING
2 = DECONTAMINATION CONTINUING
3 = PRODUCT RECOVERY CONTINUING
4 = MONITORING
5 = LITIGATION
6 = CLOSED
7 = OTHER
9 = PERMITTED
I = INACTIVE
T = TRANSFERRED TO PERMITS

B.5 Quadrangle Codes

A07 = MILFORD (A07)
A08 = PORT JERVIS SOUTH (A08)
A09 = UNIONVILLE (A09)
A10 = PINE ISLAND (A10)
B06 = LAKE MASKENOZHA (B06)
B07 = CULVERS GAP (B07)
B08 = BRANCHVILLE (B08)
B09 = HAMBURG (B09)
B10 = WAWAYANDA (B10)
B11 = GREENWOOD LAKE (B11)
B12 = SLOATSBURG (B12)
C05 = BUSHKILL (C05)
C06 = FLATBROOKVILLE (C06)
C07 = NEWTON WEST (C07)
C08 = NEWTON EAST (C08)
C09 = FRANKLIN (C09)
C10 = NEWFOUNDLAND (C10)
C11 = WANAQUE (C11)
C12 = RAMSEY (C12)
C13 = PARK RIDGE (C13)
C14 = NYACK (C14)
D04 = STROUDSBURG (D04)
D05 = PORTLAND (D05)
D06 = BLAIRSTOWN (D06)
D07 = TRANQUILITY (D07)
D08 = STANHOPE (D08)
D09 = DOVER (D09)
D10 = BOONTON (D10)
D11 = POMPTON PLAINS (D11)
D12 = PATERSON (D12)
D13 = HACKENSACK (D13)
D14 = YONKERS (D14)
E04 = BANGOR (E04)
E05 = BELVIDERE (E05)
E06 = WASHINGTON (E06)
E07 = HACKETTSTOWN (E07)
E08 = CHESTER (E08)
E09 = MENDHAM (E09)
E10 = MORRISTOWN (E10)
E11 = CALDWELL (E11)
E12 = ORANGE (E12)
E13 = WEEHAWKEN (E13)
E14 = CENTRAL PARK (E14)
F04 = EASTON (F04)
F05 = BLOOMSBURY (F05)
F06 = HIGH BRIDGE (F06)
F07 = CALIFON (F07)
F08 = GLADSTONE (F08)
F09 = BERNARDSVILLE (F09)
F10 = CHATHAM (F10)
F11 = ROSELLE (F11)
F12 = ELIZABETH (F12)
F13 = JERSEY CITY (F13)
G04 = RIEGELSVILLE (G04)
G05 = FRENCHTOWN (G05)

G06 = PITTSTOWN (G06)
G07 = FLEMINGTON (G07)
G08 = RARITAN (G08)
G09 = BOUNDBROOK (G09)
G10 = PLAINFIELD (G10)
G11 = PERTH AMBOY (G11)
G12 = ARTHUR KILL (G12)
H05 = LUMBERVILLE (H05)
H06 = STOCKTON (H06)
H07 = HOPEWELL (H07)
H08 = ROCKY HILL (H08)
H09 = MONMOUTH JUNCTION (H09)
H10 = NEW BRUNSWICK (H10)
H11 = SOUTH AMBOY (H11)
H12 = KEYPORT (H12)
H13 = SANDY HOOK (H13)
J06 = LAMBERTVILLE (J06)
J07 = PENNINGTON (J07)
J08 = PRINCETON (J08)
J09 = HIGHTSTOWN (J09)
J10 = JAMESBURG (J10)
J11 = FREEHOLD (J11)
J12 = MARLBORO (J12)
J13 = LONG BRANCH (J13)
K07 = TRENTON WEST (K07)
K08 = TRENTON EAST (K08)
K09 = ALLENTOWN (K09)
K10 = ROOSEVELT (K10)
K11 = ADELPHIA (K11)
K12 = FARMINGDALE (K12)
K13 = ASBURY PARK (K13)
L05 = FRANKFORD (L05)
L06 = BEVERLY (L06)
L07 = BRISTOL (L07)
L08 = COLUMBUS (L08)
L09 = NEW EGYPT (L09)
L10 = CASSVILLE (L10)
L11 = LAKEHURST (L11)
L12 = LAKEWOOD (L12)
L13 = POINT PLEASANT (L13)
M04 = PHILADELPHIA (M04)
M05 = CAMDEN (M05)
M06 = MOORESTOWN (M06)
M07 = MOUNT HOLLY (M07)
M08 = PEMBERTON (M08)
M09 = BROWNS MILLS (M09)
M10 = WHITING (M10)
M11 = KESWICK GROVE (M11)
M12 = TOMS RIVER (M12)
M13 = SEASIDE PARK (M13)
N02 = MARCUS HOOK (N02)
N03 = BRIDGEPORT (N03)
N04 = WOODBURY (N04)
N05 = RUNNEMEDE (N05)
N06 = CLEMENTON (N06)

N07 = MEDFORD LAKES (N07)
N08 = INDIAN MILLS (N08)
N09 = CHATSWORTH (N09)
N10 = WOODMANSIE (N10)
N11 = BROOKVILLE (N11)
N12 = FORKED RIVER (N12)
N13 = BARNEGAT LIGHT (N13)
O01 = WILMINGTON (O01)
O02 = PENNS GROVE (O02)
O03 = WOODSTOWN (O03)
O04 = PITMAN WEST (O04)
O05 = PITMAN EAST (O05)
O06 = WILLIAMSTOWN (O06)
O07 = HAMMONTON (O07)
O08 = ATSION (O08)
O09 = JENKINS (O09)
O10 = OSWEGO LAKE (O10)
O11 = WEST CREEK (O11)
O12 = SHIP BOTTOM (O12)
O13 = LONG BEACH NE (O13)
P01 = DELAWARE CITY (P01)
P02 = SALEM (P02)
P03 = ALLOWAY (P03)
P04 = ELMER (P04)
P05 = NEWFIELD (P05)
P06 = BUENA (P06)
P07 = NEWTONVILLE (P07)
P08 = EGG HARBOR CITY (P08)
P09 = GREEN BANK (P09)
P10 = NEW GRETNA (P10)
P11 = TUCKERTON (P11)
P12 = BEACH HAVEN (P12)
Q01 = TAYLORS BRIDGE (Q01)
Q02 = CANTON (Q02)
Q03 = SHILOH (Q03)
Q04 = BRIDGETON (Q04)
Q05 = MILLVILLE (Q05)
Q06 = FIVE POINTS (Q06)
Q07 = DOROTHY (Q07)
Q08 = MAYS LANDING (Q08)
Q09 = PLEASANTVILLE (Q09)
Q10 = OCEANVILLE (Q10)
Q11 = BRIGANTINE INLET (Q11)
R02 = BOMBAY HOOK (R02)
R03 = BEN DAVIS POINT (R03)
R04 = CEDARVILLE (R04)
R05 = DIVIDING CREEK (R05)
R06 = PORT ELIZABETH (R06)
R07 = TUCKAHOE (R07)
R08 = MARMORA (R08)
R09 = OCEAN CITY (R09)
R10 = ATLANTIC CITY (R10)
S04 = FORTESCUE (S04)
S05 = PORT NORRIS (S05)
S06 = HEISLERVILLE (S06)

S07 = WOODBINE (S07)
S08 = SEA ISLE CITY (S08)
T06 = RIO GRANDE (T06)
T07 = STONE HARBOR (T07)
T08 = AVALON (T08)
U06 = CAPE MAY (U06)
U07 = WILDWOOD (U07)

B.6 Formation Codes

FORMATION/AQUIFER

STORET CODE TABLE FOR NEW JERSEY

XXXX = TFFM

M=O=Undifferentiated

T = Time Period

F = Formation

M = Member or Alternative Breakdown

<u>Time Period</u>	<u>STORET#</u>	<u>Fm. Name</u>	<u>Fm. Abbre.</u>
(Recent?)			
	0100		Q
	0101	Meadow Mat	Qmm
	0102	Alluvium	Qal
	0103	Fill	Qf
	0104	Beach Sand	Qbs
	0110	Glacial-undifferentiated	Qgu
	0120	Glacial-unstratified/till	Qgt
	0130	Stratified Drift	Qsd
	0140	Moraine	Qm
	0144	Terminal Moraine	Qtm
	0148	Recessional Moraine	Qrm
	0150	Bridgeton	Qbt
	0160	Cape May	Qcm
	0161	Holly Beach Member	Qchb
	0170	Pennsauken	Qps

<u>Time Period</u>	<u>STORET#</u>	<u>Fm. Name</u>	<u>Fm. Abbre.</u>	
Tertiary	1000		T	
	1010	Beacon Hill	Tbh	
	1020	Cohansey Sand	Tch	
	1025	Cohansey/Kirkwood	Tck	
	1030	Kirkwood Sand	Tkw	
	1031	Upper Member	Tkwu	
	1032	Lower Member	Tkw1	
	1033	Piney Point Member	Tkpp	
	1040	Shark River Marl	Tsr	
	1050	Manasquan Marl	Tmq	
	1060	Vincentown Sand	Tvt	
	1070	Hornerstown Marl	Tht	
	Cretaceous	2000		K
		2010	Red Bank and Tinton Sands	Krb
2020		Navesink Marl	Kns	
2030		Mt. Laurel/Wenonah Sands	Knw	
2034		Mount Laurel Sand	Kml	
2038		Wenonah Sand	Kwe	
2040		Marshalltown Formation	Knt	
2050		Englishtown Sand	Ket	
2060		Woodbury Clay	Kwb	
2070		Merchantville Clay	Kmv	
2080		Magothy/Raritan Formation	Kmr	
2081		Magothy/Raritan Upper Member	Kmru	
2084		Magothy/Raritan Middle Member	Kmrm	

<u>Time Period</u>	<u>STORET#</u>	<u>Fm. Name</u>	<u>Fm. Abbre.</u>
	2088	Magothy/Raritan Lower Member	Kmrl
	2090	Magothy Formation	Km
	2091	Amboy Stoneware Clay Member	Kras
	2092	Old Bridge Sand Member	Krob
	2093	South Amboy Fire Clay Member	Krsa
	2094	Sayreville Sand Member	Krss
	2095	Woodbridge Clay Member	Krwc
	2096	Farrington Sand Member	Krfs
	2097	Raritan Fire Clay Member	Krfc
Triassic/Jurassic	3000		TR/J
	3010	Boonton Formation	Jb
	3020	Basalt Undifferentiated	Jbs
	3021	Hook Mt. Basalt	Jhm
	3030	Towaco Formation	Jtw
	3022	Preakness Basalt	Jpr
	3040	Feltville Formation	Jft
	3023	Orange Mt. Basalt	Jom
	3050	Diabase	Jdb
(Hammer Creek)	3060	Conglomerate	Trcg
	3070	Brunswick Formation	Trb
	3080	Lokatong Formation	Trl
	3090	Stockton Formation	Trs

<u>Time Period</u>	<u>STORET#</u>	<u>Fm. Name</u>	<u>Fm. Abbre.</u>
Devonian	4000		D
	4010	Skunnemunk Cnglm	Dsk
	4020	Bellvale SS/Pequanac Shale	Dbp
	4030	Kanouse Sandstone	Dkn
	4040	Marcellus Shale	Dms
	4050	Onondaga Limestone	Dol
	4060	Esopus Grit	Des
	4070	Oriskany/Becraft Limestone	Dob
	4080	New Scotland/Coeymans	Dnc
Silurian	5000		S
	5010	Bossardville Limestone	Sbd
	5020	Decker Formation	Sd
	5030	Longwood Shale	Sl
	5040	Poxono Island	Sp
	5050	Greenpond Conglomerate	Sgp
	5060	High Falls	Shf
	5070	Shawangunk Conglomerate	Ssg
Ordovician	6000		O
	6010	Martinsburg Shale	Omb
	6011	Pen Argyl Member	Ombp
	6012	Ramseyburg Member	Ombr
	6013	Bushkill Member	Ombb

<u>Time Period</u>	<u>STORET#</u>	<u>Fm. Name</u>	<u>Fm. Abbre.</u>
	6020	Jacksonburg Limestone	Ojb
	6030	Ontleaunee Formation	Oo
	6031	Harmonyvale Member	Ooh
	6032	Beaver Run Member	Cobr
	6040	Epler Formation	Oe
	6041	Lafayette Member	Oel
	6042	Big Springs Member	Oebs
	6043	Branchville Member	Oebr
	6050	Rickenbach Dolomite	Or
	6060	Manhattan Schist	Oms
Cambro/Ordovician	7000		CO
	7010	Kittatinny Supergroup	COK
Cambrian	8000		C
	8010	Allentown Formation	Ca
	8011	Upper Member	Cau
	8012	Limeport Member	Cal
	8020	Leithsville Formation	Cl
	8021	Wallkill Member	Clw
	8022	Hamburg Member	Clh
	8023	Califon Member	Clc
	8030	Hardyston Sand	Ch

<u>Time Period</u>	<u>STORET#</u>	<u>Fm. Name</u>	<u>Fm. Abbre.</u>
Pre-Cambrian	9000		PC
	9010	granite	g
	9011	hornblende granite	gh
	9020	gneiss	gn
	9021	granite gneiss	gng
	9022	hornblende gneiss	gnh
	9023	quartz-oligoclase gneiss	gno
	9030	alaskite	ga
	9040	syenite	s
	9041	syenite gneiss	gns
	9050	pyroxene granite	gp
	9060	microcline gneiss	gnm
	9070	Franklin Limestone	fl
	9080	amphibolite	am
	9090	biotite gneiss	gnb
	9091	mixed gneiss	gnx

GC:T:GWM3

B.7 Initial Codes

XXX = NOT IDENTIFIED
WFA = ALTHOFF
RFD = DALTON
FJM = MARKEWICZ
SWJ = JOHNSON
WSS = SAMSEL
TSS = STONE
SES = SPAYD
TFS = SECKLER
DRT = TODER
TJH = HAYES
HMK = MCKENZIE
DMK = KAPLAN
PJS = SUGARMAN
BJC = CANACE
ASA = ANDRES
WRH = HUTCHINSON
JXF = FARNSWORTH
KMB = MCBRIDE
WRS = SAUNDERS
WXK = KRAMER
LAM = MIRMANESH
LMW = WELKOM
GJR = REUTER
RTP = PAULSEN
RPC = CERBONE
LCD = DIAZ
DXM = MUSCALO
RAG = GALLAGHER