

**STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION**

**EDI**

**ELECTRONIC DATA INTERCHANGE  
MANUAL**



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*Electronic Data Interchange Manual*

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# NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

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## ELECTRONIC DATA INTERCHANGE MANUAL

### A Guidance Document

### For

### Use by Entities Reporting Certain Data to the Department

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### **DISCLAIMER**

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*Furthermore, this document has not been promulgated by the department as a rule. Therefore, it does not have a rule's legal force and effect. If any difference is found between this document and the corresponding rules and/or forms package, the rules and the forms package in all cases and interpretations take precedence over this document.*

## **Introduction**

### **Background**

The Department of Environmental Protection (DEP), recognizing that Electronic Data Interchange (EDI) offers time and cost savings for both the department and the regulated community, is working to make EDI the cornerstone of its information exchange process.

This manual is a guidance document for using EDI with those departmental offices that currently have operational procedures for electronic interchange. It is designed to provide the regulated community with a single source of information that will minimize confusion and provide for quick access to information on specific programs or applications.

The DEP intends to develop, as much as possible, uniform methods for EDI. Use of the department's Electronic Bulletin Board as a common vehicle for data exchange has, in some cases, provided some degree of uniformity. In the earliest stages of EDI development, however, different offices within the department established a variety of independent methods. This guide will explain those methods.

As EDI use increases among existing programs and new programs become involved, the department expects that processes will become more uniform, providing multi-program users with a single methodology.

### **Organization of the Manual**

The manual consists of this introductory section followed by several self-contained sections devoted to individual programs which provide for EDI. The department's electronic Bulletin Board System and the Mapping and Digital Data Standards of its Geographic Information System are also treated separately. All sections are ordered alphabetically.

### **How to Get Copies of this Manual or Offer Comments/Suggestions**

Copies of this manual may be obtained by calling the DEP Public Access Center at (609) 777-DEP3 or by writing to the department at the following address:

*Department of Environmental Protection  
Office of Communications  
Public Access Center  
P.O. Box 402  
Trenton, New Jersey 08625-0402*

Copies may also be downloaded from the departmental Bulletin Board by dialing (609) 292-2006. See the Electronic Bulletin Board System section for a detailed description of the departmental Bulletin Board.

Comments and/or suggestions are encouraged and should be sent to the address listed above or to the Bulletin Board's System Operator (SYSOP).

## EDI Concept and Components

The problem with trying to define EDI is that this acronym is vague and often confused with many things, including electronic mail and fax document transmission. Some definitions attempt to be highly specialized, while others convey a broad concept.

For the purpose of this manual, the following definition applies: "EDI is the electronic transmission of standard business documents in predefined format from one company's business computer application to its trading partner's business computer application." There are five key components in this definition: 1) *electronic transmission*, 2) *standard business documents*, 3) *predefined format*, 4) *business application*, and 5) *trading partner*. The nuances of these phrases must be understood to fully comprehend the meaning of EDI.

Although its meaning is obvious, *electronic transmission* is central to the EDI concept. Since one of the primary purposes of EDI is to speed the communication of information, it is more efficient to do this electronically than manually through the post office or a messenger service. What is electronically transmitted are *standard business documents*, which would include periodic reports, permit or registration forms, surveys, plus any other related documents. Standard documents must be converted into a *predefined format* so they may be easily understood by each computer. This includes naming or identifying each field or data element with a standard name, specifying the length or maximum size of the data elements, identifying them as mandatory or optional, and sequencing the data elements in preestablished order. The phrase *business application* refers to the "computer application to computer application" transmission of information. Linking the two business applications helps avoid redundant data entry. The last key phrase, *trading partners*, is unique to EDI. In the definition listed above, a trading partner is another company, government agency or person with whom the company transacts business, including customers, suppliers, and specific government agencies.

## Benefits of Using EDI

Some of the obvious benefits to the department and the regulated community are:

- Cost savings (savings on materials, physical delivery and data entry)
- Time savings (applications and correspondence are received instantaneously)
- Reduced data entry errors (data is transmitted electronically which results in a reduced data entry error rate)
- Ecological benefits (reduced paper)
- Faster turn-around time for permits and other related documents
- Reduced idle time
- Improved administrative completeness checks if such checks are required for successful transmittal

- Improved working relationships (the department provides a friendlier face to the regulated community)

### **Transfer Mechanisms and File Formats and Protocols**

Transfer mechanisms are quite varied among individual departmental offices doing EDI. They include dial-up into the departmental BBS as well as diskette, tape and CD-ROM transfer.

Value Added Networks (VANs) are not used at the present time. The Internet is being considered.

File formats are varied as well, including ASCII, DBF, Lotus and various binaries.

*New Jersey Department of Environmental  
Protection's  
Electronic Bulletin Board System*



***NJDEP BBS***

*User Guide*

*ver.1.0*

*(609) 292-2006*

## **NJDEP BBS - User Guide**

### **What is a BBS?**

BBS stands for Bulletin Board System. A BBS is a system which enables a user to connect his or her computer through a modem to another computer using the phone line. The BBS then runs software that allows a user to perform certain commands from the remote computer or terminal.

### **What is the NJDEP BBS?**

The New Jersey Department of Environmental Protection's Electronic Bulletin Board System (NJDEP BBS) is a computerized bulletin board system to assist the Department in communications with the environmental community, regulated community, and the general public. The NJDEP BBS supports up to 4 dial-in sessions simultaneously.

### **Why a BBS?**

A BBS allows electronic communication. Some uses include:

- *Publishing without paper.* Catalogs, policies, technical manuals/papers, application forms, meeting schedules, etc., can be viewed online, or downloaded to a user's computer for later viewing, printing, etc.
- *Newsletters.* Instant updates to activities within the Department, hearing schedules, file locations, etc., can all be listed in a continually updated newsletter.
- *Electronic mail (Messaging).* Got a question? Send instant mail to the Department. Respond to a posted message. Instead of wasting time searching for the right person, just post a message on the BBS and wait for others to respond. Messaging helps everyone.

### **Why isn't this information on the Internet?**

The Department of Environmental Protection has a page on the World Wide Web, under the State of New Jersey Web Page (<http://www.nj.state.us>). However, the NJDEP BBS allows the Department to provide up-to-the-minute bulletins and newsletters, expanded file postings with search capabilities, message-response forums, and much greater flexibility in file storage. For the same type of service on a web page, additional File Transfer Protocol (FTP) sites for file access would be needed. To access the BBS from the Internet, Telnet access would be required. This is a feature we hope to provide in the near future. The Department is currently looking to provide some of the information currently on the BBS on its World Wide Web page.

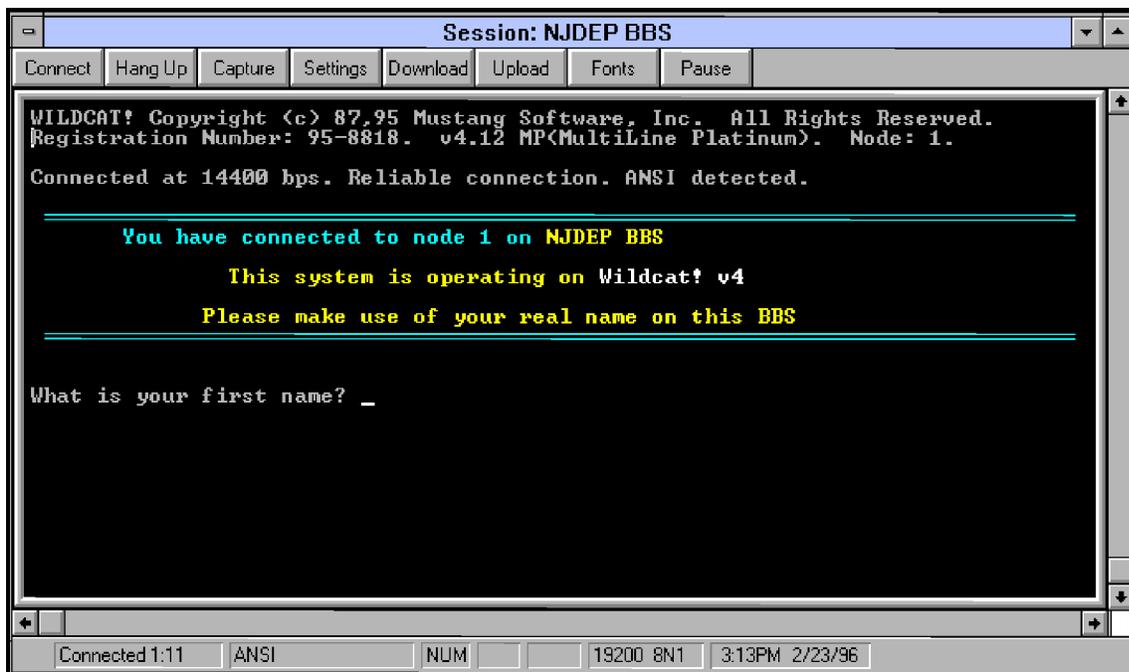
## What do I need to call the NJDEP BBS?

**System requirements:** a PC or Mac computer, a modem (1200 bps - 14,400 bps), and a communications software package.

**Modem settings:** 8 data bits, No parity, 1 stop bit, terminal emulation, ANSI (provided the ansi.sys driver is loaded in your config.sys) or RIP graphics (RIP supported communications software required), and a baud rate of up to 19,200 bps. Have your modem call **(609) 292-2006**.

## My modem connects to the NJDEP BBS, now what?

When your modem connects to the NJDEP BBS you will receive a screen telling you that you have connected. At this screen, you will be prompted to enter your name, select a new user password (or for existing users, the password you have previously selected), and fill in some basic user information. (See Figure 1). This will register you as a full user, and allow you to gain full access to the BBS and the loads of information that the system contains.

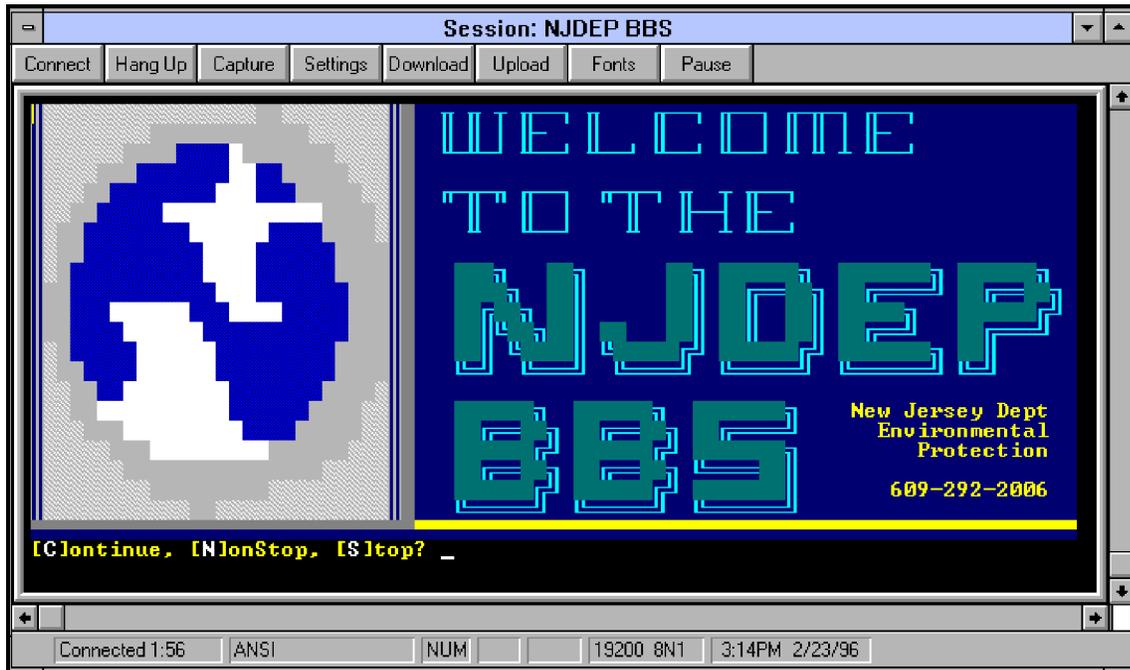


**Figure 1:** NJDEP BBS Initial Screen

***IMPORTANT:*** If you ever forget your password, call either Rich Hyjack or Vic Staniec at (609) 292-4860 to reset your status and password. Entering an invalid password may result in a user being locked out until reset.

## The NJDEP BBS Welcome Screen

After entering your basic user information, you will receive a screen welcoming you to the NJDEP BBS. (See Figure 2).



Figure

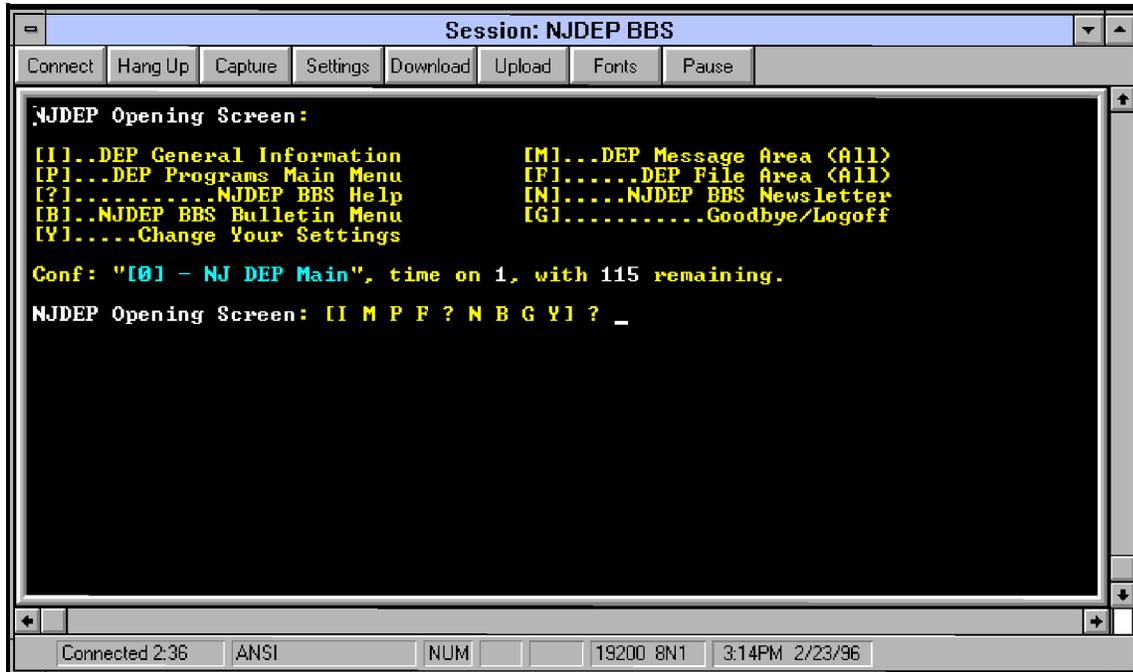
### 2: NJDEP BBS Welcome Screen

Immediately following this screen, you will receive any important BBS announcements. An example of such an announcement is:

*“The NJDEP BBS will be out of service from \_\_\_ till \_\_\_ due to maintenance, please be sure to log off by then.”*

*The system will then notify you if there are any new Bulletins to read or if the Main Newsletter has been updated. You can choose to read them (recommended), or bypass them by typing “S” for stop. This will bring you to the NJDEP BBS Opening Screen.*

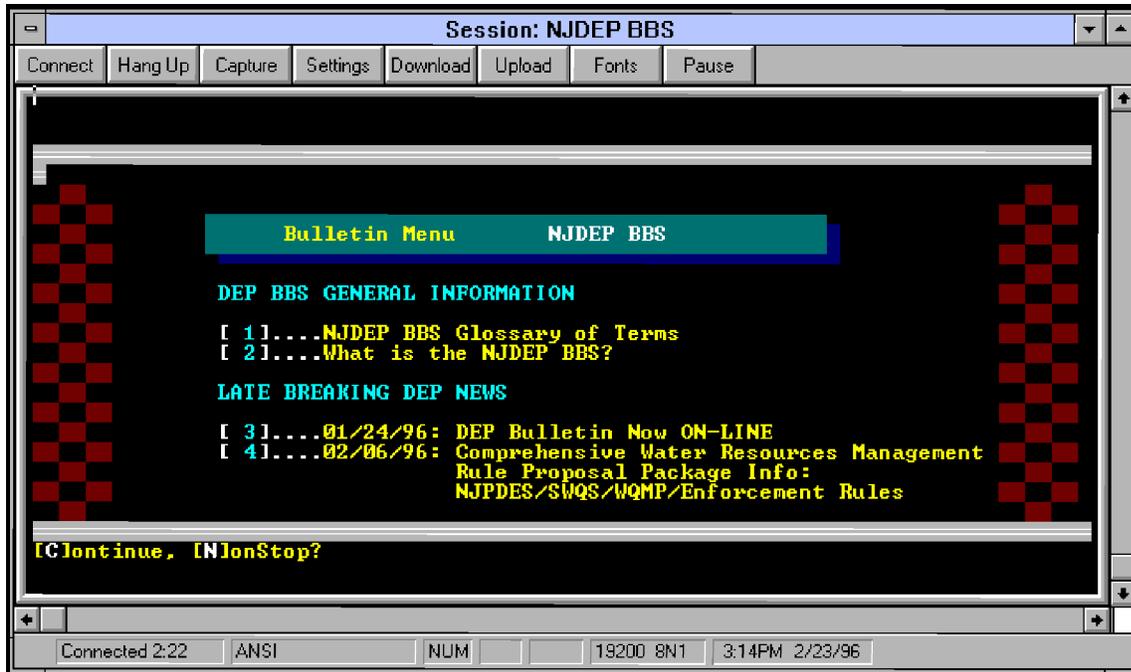
## The NJDEP BBS Opening Screen



**Figure 3:** NJDEP BBS Opening Screen

The NJDEP BBS Opening Screen contains a menu that, among other things, allows a user to access general information; enter the various Departmental programs such as Air, Water, and Site Remediation; read and enter general messages; or look up files. This is the connection point that gives a user access to all the information that the NJDEP BBS contains. You can also access online help by pressing the “?” button on the keyboard, which will give you a description of the different functions available on the menu. Help screens are available throughout the BBS. (See Figure 3).

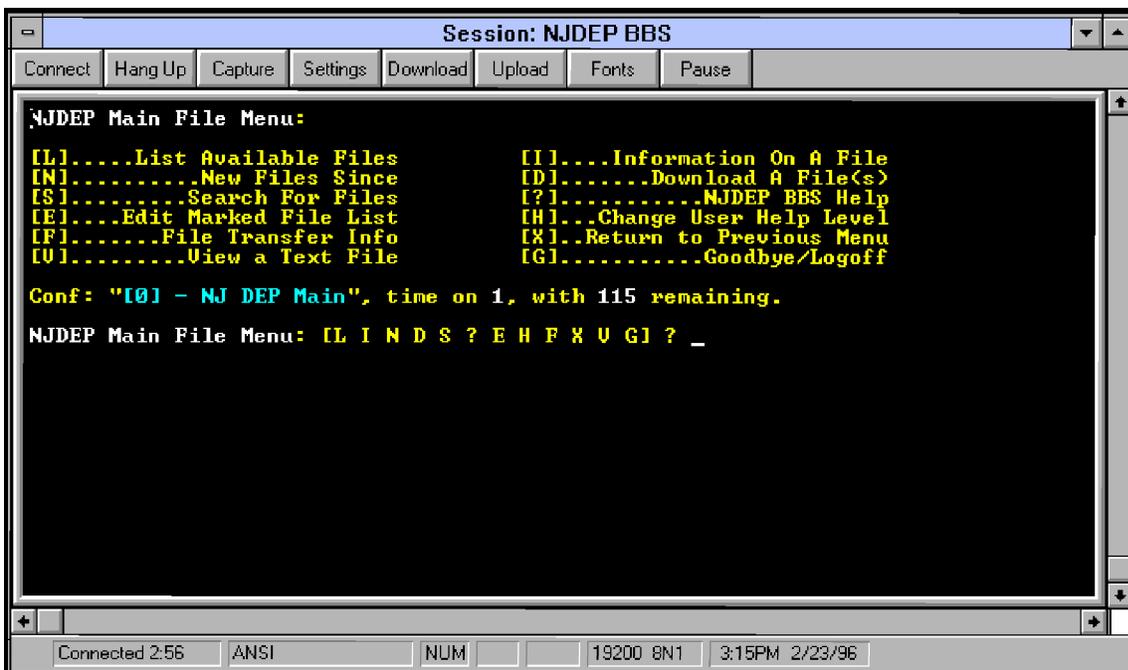
## The NJDEP BBS Bulletin Menu



**Figure 4:** NJDEP BBS Bulletin Menu Screen

The NJDEP BBS Bulletin Menu has bullets that highlight late-breaking information covering a broad range of topics and users. It is similar to a newsletter, except that the bulletin menu contains separate specific issues. The advantage to having a bulletin menu is that the bulletins are downloadable. The NJDEP BBS Bulletin Menu contains a Glossary of Terms and an explanation of what exactly the NJDEP BBS is. It also contains what we have entitled as Late Breaking DEP News. These issues are recommended reading since they are the topics that users have suggested are most important to them, or that the Department feels are important enough to be singled out (See Figure 4).

## The NJDEP Main File Menu



**Figure 5:** NJDEP BBS Main File Menu Screen

The NJDEP BBS Main File Menu allows you to transfer files to and from your PC, perform fast searches for specific files, read ASCII files and even view the contents of text files. (See Figure 5). While this information is being displayed to you, a number is associated with each file, allowing you to mark the file for download. This saves you from having to remember each individual file name at a later time. You then have the option of downloading the file(s) while still in the middle of your listing, searching, etc., or continuing on and saving it for a later download. Refer to the [M]ark command for additional information.

### NJDEP Main File Menu Options - Detailed Descriptions

Shown below are the various options available while at the Main File Menu.

#### [L]...List Available Files

This is the menu choice used to view the files available for download. The NJDEP Main File Menu, accessed from the Main Menu, shows all the files on the entire BBS, while individual program file menus, such as the Air Quality Regulation File Menu, will show only those files associated with the Air Program.

Additional help is available after selecting this command.

[N].....New Files Since [N]

This option is most commonly used to check for new files uploaded since the last time you were on the BBS, or more specifically, since the last time you used this function. Selecting this option displays a prompt similar to below:

New files, [L]ast new 05/21/92 19:20, [O]ther date, [D]ays old? [L]

Shown below is a description of the available options.

[L]ast new 05/21/92 19:20 -

The date and time stored in this option indicates the last time you used the [N]ew Files Since [N] option. Each time you use this option, the system automatically maintains this information in your user record. This is useful when checking for files that have been uploaded to the system (that you haven't seen before) since the last date and time indicated. This is the default response and the most commonly used.

[O]ther date -

This option allows you to specify the date from which you wish to start searching for new files. Selecting this option displays a prompt similar to below:  
Enter date to search from? [05/21/92]

Entering the desired date will then reset the previous value to the new date.

[D]ays old -

This feature is handy when you want the system to set the date search criteria back a specified number of days. This is useful in saving the number of keystrokes required and the mental thought process of figuring out valid days in a month. Selecting this option brings up the following prompt:

Enter number of days to search? [ ]

Specifying the number here will cause the system to calculate the number of days previous to the current date and start the search from that time. In other words, if the current date is 05/21/92 and you specify 15 days, the new date to search from will automatically be reset to 05/06/92.

Once the date has been specified using any of the above methods, the system will display the following sub-prompt:

File area [1-59], [L]ist, [H]elp, [Q]uit, [ENTER = All]?

From here, you specify the actual file area(s) through which the system will search. Additional information is available by selecting the [H]elp option.

[S].....Search for Files

The search function allows you to locate files on the BBS using a user specified set of search criteria. Files can be searched for matches on file name, description, uploader and so on. Additional information is available after selecting this option.

[E].....Edit Marked File List

This option is used to edit the list of files previously [M]arked for download. You can add, delete and clear the entire list of files selected. Information about transfer time for each file, and totals on Kbytes and transfer time are displayed. This list is maintained only for the current logon. If after marking files for download you decide not to download them and logoff, the list will automatically be cleared. Additional help is available after this command is chosen.

[F].....File Transfer Info

This option presents extensive information on various file transfer protocols available, including Xmodem, Ymodem, Zmodem, ASCII, and others. It can give you help on what protocols are fastest and which should be used in different situations.

[V]....View a text file

This option allows you to read any file stored in ASCII text while on-line. This option will allow you to read a file as long as it has one of the following extensions: DOC, TXT, ANS, ASC, SCR, or BAS.

[I].....Information on a File

This menu choice prompts you for the file name you're interested in. Depending on the system configuration, it's possible to leave out the file name's extension (.ZIP) and yet still select the desired file. This saves you from having to enter in the complete file name each and every time. The default file name extension can vary from system to system.

After checking for a valid file name, the system will then proceed to display information about the selected file in the Full/Detailed file description mode. This option is also available when listing files for download.

[D].....Download a File(s)

This option allows transferring files from the BBS system to your computer. There are a number of different methods of transferring files which are fully explained in the [F]ile Transfer Info option from this menu.

Following a request for download, you will be prompted for the name of the file (or files) to download if you haven't previously marked them. If you haven't previously defined a default file transfer protocol (see Main Menu option [Y]our Settings), you will be prompted to enter which one to use followed by a choice of whether or not to be automatically logged off after the transfer is complete.

When the BBS indicates it's "Ready to Send" you should begin your own local transfer procedures using the same protocol selected when the download was started.

The NJDEP BBS will allow you to download files using internal batch protocols such as Ymodem and Zmodem and selected external protocols like MobyZmodem and PUMA. Even using non-batch protocols like Xmodem, Xmodem/CRC, you can queue up to 99 files for repetitive auto-download. This is, of course, subject to the limitation imposed by the SysOp for your security level.

This option is also available when listing files for download. This makes for fast and easy downloading without having to return to the File Menu.

[?]......NJDEP BBS Help

Displays the help file.

[H]..Change User Help Level

The NJDEP BBS supports three different levels of menu prompts. Selecting this option presents the following sub-prompt:

Current help level is set at: NOVICE

[N]ovice : Complete menus, full command line.

[R]egular : No menus, command line only.

[E]xpert : No menus or command line.

Help level desired [N R E] ? ? [N]

Below is an explanation of the above options.

[N]ovice -

The first and default value for new users is the Novice level. At this level, the user is presented with full, dynamic monochrome or color menus, a command line prompt containing the name of current menu area (Main, Message, File) and the first character for a particular option in the current menu. The characters presented agree with the letter designator selected for that option.

[R]egular -

This is the second level. At this level, only the current conference number/description, time and command line option letter designators are displayed. No menus are displayed at this level. Shown below is a sample display prompt.

Conf: "[0] - Main Message Area", time on 1, with 59 left

MAIN MENU: [M F C B P I Q V Y S U O G H ? J W T] ? [ ]

[E]xpert -

The final and highest level is the Expert level. At this level, only the current conference number and description along with the menu name are displayed. Shown below is a sample display prompt.

General Message Area (0), MAIN MENU: ? [ ]

Selecting this level requires a reasonable understanding of all the options. It's primarily designed for speed. If at any time you forget what a certain option letter is, pressing [?] at any of the menus will present you with a HELP screen showing all the possible options.

The HELP LEVEL command is available in ALL major menus and the usage is exactly the same in each of them.

[X].Return to Previous Menu

Exits the Program File Menu and returns to the Program Main Menu.

[G].....Goodbye/Log-Off

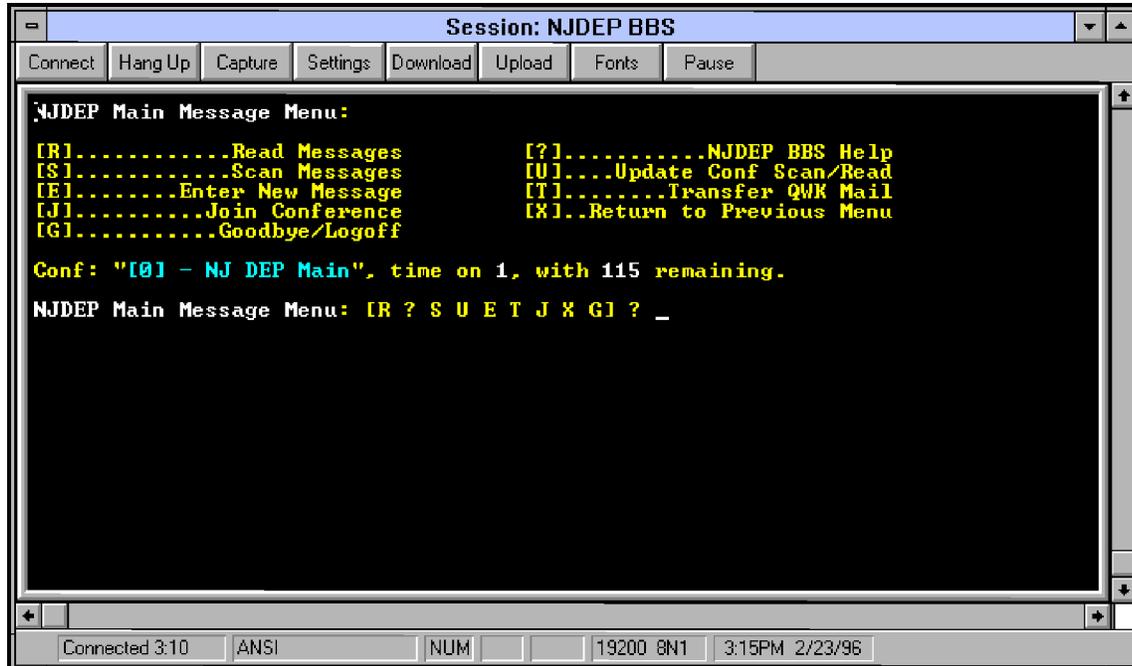
Terminates the current connection and disconnects. If your current Help level is set to the NOVICE mode, choosing this option gives you a way to back out of the command by displaying the following prompt:

Are you sure you wish to logoff? [Y]

If you respond with a Yes, then normal logoff procedures are begun. Otherwise, the BBS will assume the command has been entered in error, and will return you to the current menu.

If your current help level settings are set to REGULAR or EXPERT, this extra prompt will no longer be displayed as the BBS assumes that you know the commands well enough to deliberately wish to logoff. This command is available in ALL major menus and performs exactly the same in each of them.

## The NJDEP BBS Main Message Menu



**Figure 6:** NJDEP BBS Main Message Menu Screen

The NJDEP BBS Main Message Menu Screen allows you to read or post messages for different topics and to different users. (See Figure 6). It provides an easy and convenient way of communicating with the Department and others.

### NJDEP Main Message Menu Options - Detailed Description

[R].....Read Messages

This command allows you to select which messages you want to read, from what conferences and with any possible search conditions. You can read your previously unread personal mail and any messages entered as public in any of the available conferences. Reading can be done using a number of command line options, and extensive help information is available after selecting this option.

[?].....Command Help

Displays the Help screen.

[S].....Scan for Messages

This command allows you to scan messages in specified conferences for user-supplied information. Extensive matching capabilities exist with the wide range of searchable parameters. After messages are found, they are displayed in a line by line fashion and can be marked for easy retrieval when using the Read message function. Extensive help information is available after selecting this option.

[U].....Update Conf Scan/Read

This option updates the current conference to scan or read new messages.

[E].....Enter a New Message

Selecting this option allows you to enter a message to a specific user on the system or addressed to ALL. This message can be left in one of the local conferences or possibly in one of the Echomail or Netmail type conferences without having to join that conference first; merely select the desired conference number at the prompt.

Several type of editors are available to you including a full screen type editor. Carbon copies of this message can also be sent to other people at the same time. Additional help is available after selecting this option.

[T].....Transfer QWK Mail

This option runs a special program to create QWK compatible downloadable mail packets from the BBS. These packets usually contain a complete list of new files, recently updated bulletins, all your new mail from specific conferences and so on. This is used when you prefer to do your message reading and replying offline. This option saves you the online time when reading your mail, especially if you are calling the system long distance.

This option requires you to have a special offline message reader like OLX from Mustang Software Inc. to properly handle these special QWK mail packets. Additional information is available after selecting this option.

[J].....Join Conference

Selecting this option allows you to access all message areas, such as messages within the Air Quality Regulation Message Menu, from the Main Message Area.

[X].Return to Previous Menu

Exits the Message Menu and returns to the Previous Menu.

[F].....File Menu

Takes you directly to the current Program File Menu where file uploads and downloads are available.

[G].....Goodbye/Log-Off

Terminates the current connection and disconnects. If your current Help level is set to the NOVICE mode, choosing this option gives you a way to back out of the command by displaying the following prompt:

Are you sure you wish to logoff? [Y]

If you respond with a Yes, then normal logoff procedures are begun. Otherwise, the BBS will assume the command has been entered in error, and will return you to the current menu.

If your current help level settings are set to REGULAR or EXPERT, this extra prompt will no longer be displayed as the BBS assumes that you know the commands well enough to deliberately wish to logoff. This command is available in ALL major menus and performs exactly the same in each of them.

### **What if I have problems connecting to the NJDEP BBS?**

Problems connecting to the BBS can occur for several reasons. Before giving up, or calling the sysops, check the following to see if any of these apply to you:

- *Line noise:* There could be what is known as line noise, where the phone service in general has a lot of traffic and your modem is receiving incorrect information. Hang up and redial the BBS.
- *System busy:* All four incoming phone lines are busy. Keep trying to redial the BBS. Other much larger BBSs currently run at four incoming phone lines with little or no trouble, so the situation is probably only temporary.
- *System is down:* Yes, believe it or not, this system does occasionally go down. The NJDEP BBS currently resides on a departmental network server. If problems arise on that server, the problems may directly affect the operations of the BBS. Other problems have arisen due to maintenance on the BBS or because of a power outage in the building. Most of the situations are temporary, so it is recommended that you just periodically retry connecting to the system. If the system goes down over a weekend, chances are that it will be down until Monday. Be patient and try again Monday morning.
- *Incorrect modem settings:* Be sure that your modem is set at the settings listed earlier in this guide. Sometimes a modem is configured, but the user forgets to save the settings. Double-check the settings or consult your user manual.
- *Incorrect communications software configuration:* Check your users manual for your modem first. Your modem may not have been installed correctly.

If additional assistance is needed, please contact either Richard Hyjack or Victor Staniec, the NJDEP BBS sysops (system operators), at (609) 292-4860.

New Jersey Department of Environmental Protection  
Geographic Information System

Mapping the Present to Protect  
New Jersey's Future

Mapping and Digital Data  
Standards

Prepared by:

New Jersey Department of Environmental Protection  
Office of Information Resources Management  
Bureau of Geographic Information Analysis  
P.O. Box 428  
Trenton, NJ 08625-0428

July, 1997

## SUMMARY

The New Jersey Department of Environmental Protection (DEP) has developed a Geographic Information System (GIS) for use by the Department for the storage and analysis of cartographic (mapped) and related environmental scientific and regulatory database information. A GIS is a computer mapping system used in the analysis of geographic data and databases. By Administrative Order, Commissioner Shinn has required that mapped information be submitted to the DEP according to the standards of this document such that the data can be input to the DEP/GIS. This document details three important GIS concepts regarding the creation, capture and delivery of mapped information.

First, all basemaps regardless of scale must meet a definable standard, such as the United States National Map Accuracy Standard (NMAS) referenced in this document, or be of survey quality. This will guarantee true positional accuracy of data layers. The NJDEP has produced a series of photobase maps at quad (1:24000) and quarterquad (1:12000) scales which meet NMAS and which are available from DEP Maps and Publications; (609) 777-1039.

Secondly, geographic data shall be mapped in state plane coordinates (SPC). SPC means a geographic reference system in the horizontal plane describing the position of points or features with respect to other points in New Jersey. The official survey base of the state is known as the New Jersey State Plane Coordinate System whose geodetic positions have been adjusted on the North American Datum of 1983 (NAD83) as per Chapter 218, Laws of New Jersey 1989. Although this official survey base is defined in meters, the NJDEP will accept and prefers state plane coordinates in survey feet.

Thirdly, geographic data must be delivered to the DEP in digital format, as shown in Table 2 of this document. There are several different formats such as a simple space delimited ASCII file of coordinates, a .DWG file from AutoCad, or an Arc/Info export file, depending on the mapping requirements.

For more information concerning GIS, GIS standards, the user community in New Jersey, data availability, and Global Positioning System (GPS) the 1997 New Jersey GIS Resource Guide is available from DEP Maps and Publications, Trenton, NJ, (609) 777-1039, on CD-ROM. GIS digital Environmental Resource data on CD-ROM is also available from Maps and Publications.

Note: Rules, contracts and/or other regulatory documents from DEP programs may specify items required such as content, format or media.

MAPPING AND DIGITAL DATA STANDARDS  
FOR THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
GEOGRAPHIC INFORMATION SYSTEM

## 1.0 INTRODUCTION

Geographic Information System (GIS) technology has become a state-of-the-art tool for innovative efforts nationally to protect the natural environment and public health. The New Jersey Department of Environmental Protection (DEP) acquired GIS software (ARC/INFO) in 1987 to provide technical and analytical support to the DEP's decision-making process. To adequately protect the environment, the NJDEP must make decisions based on sound, accurate spatial data. This document details the basic standards for creating, converting and encoding analog spatial data into a digital form for use on a GIS.

The DEP/GIS is administered by the Bureau of Geographic Information and Analysis (BGIA). The BGIA is responsible for the day to day operations of the system, training, data base development, pilot applications, GIS research, and user support. In support of these roles, the BGIA has established a core set of standards for all data development and input for the DEP/GIS. Basic standards will ensure consistent data quality and documentation, provide for compatibility between data sets, facilitate interactive analysis and ensure the quality of results derived from the DEP/GIS. For more information concerning GIS, aerial photography, geodetic control, and global positioning (GPS), ask for the 1997 New Jersey GIS Resource Guide from Maps and Publications; (609) 777-1039 on CD-ROM. For digital GIS data, ask for the GIS Resource Data CD-ROMs also from Maps and Publications.

Geographic data must be delivered to the DEP in digital format, according to Table 2 of this document. This can be as simple as an ASCII file of coordinates, space delimited on 3.5' diskette, to a .DWG file from AutoCad, to an Arc/Info export file, depending on the mapping requirements.

## 2.0 BASEMAPS

Cartographic (locational) data input into the GIS must be derived from or mapped to georeferenced basemaps that meet or exceed National Map Accuracy Standards (NMAS) or be of survey quality. Recompiling data from sources which are not planimetric to georeferenced basemaps is always required. Basemaps at any scale should always meet NMAS at a minimum (Section 8.0). Data (point locations) derived from GPS technology must also meet a standard and be documented (Section 7.0).

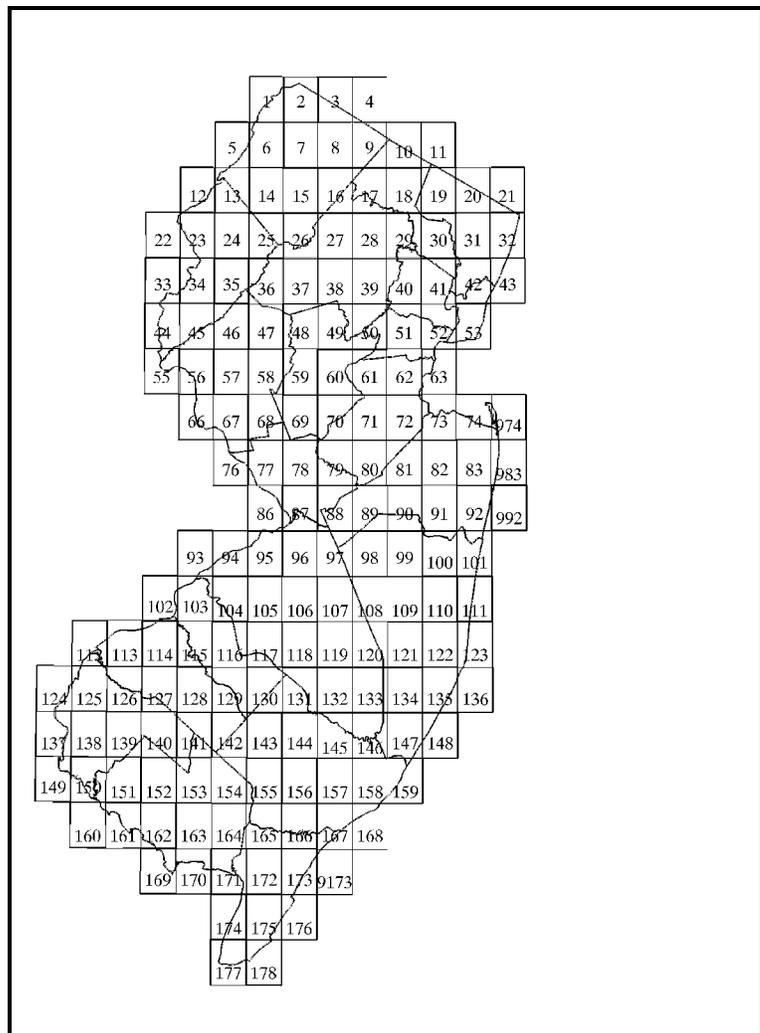
The concept of a stable base georeferenced basemap or overlay is referred to as "GIS compatible" throughout this document. Stable base site maps of large scale, produced by surveying, mapping or photogrammetric firms may qualify as GIS compatible if they contain a minimum of four registration tics in the New Jersey State Plane Coordinate System, North American Datum 1983 (NAD83), the official survey base of New Jersey.

Over the years the DEP has produced several series of quality basemaps which are GIS compatible. In several cases these maps are synoptic and statewide, such as the photo basemaps associated with the 1991 and 1986 overflights. In other cases the basemaps cover specific areas only, such as the 1977-78 Tidelands photo basemaps. The basemaps described here were produced on stable base mylar, are photo-images, and meet a definable mapping standard. These maps in mylar and paper are acceptable basemaps which should be used whenever possible to generate GIS compatible data and/or to use as a recompilation base. The various basemap sources are described below.

All the maps described herein with the exception of the 1991/92 products are referenced in NAD27. For this reason, the 1991 basemap quads (1:24000) and quarterquads (1:12000) series, referenced in NAD83, are highly recommended over all other sources listed for mapping at these scales (See Basemap Availability).

### 1991 Aerial Photographs and Basemaps

In February and March of 1991 the DEP and the United States Geological Survey (USGS) flew a joint high altitude aerial mission over New Jersey, producing a set of quarterquad centered color infrared (CIR) photos at 1:40000. These frames are available from the USGS National Earth Science Information Center; (703) 648-6045. The frames are available for review at the Tidelands Element, 9 Ewing Street, Trenton. The DEP then created a set of hardcopy chronoflex quarterquad (1:12000) and photoquad basemaps (1:24000) for the public and regulated community to meet the requirements of DEP mandated mapping (Figure 1, Table 1). This



**Figure 1: 1991 Photoquad Index**

series of maps is referenced in SPC in NAD83. Paper prints are available from Maps and Publications (see Basemap Availability). This series of maps represents the best maps at these two scales for mapping. Soft copy digital images of both quads and quarterquads are also available at both scales.

#### 1986 Freshwater Wetlands Quarterquad Maps (1:12000)

The passage of the Freshwater Wetlands Act of 1987 required the DEP to produce a composite map of the freshwater wetlands for the state. The Department recommended and subsequently produced a set of 624 chronoflex photo quarterquads for the entire state from the March 1986 overflight. The quarterquads meet NMAS. The maps represent a good source for both photo-interpretation and recompilation at a county, municipal or site level.

#### 1986 Photoquad Basemaps (1:24000)

The Department sponsored a statewide overflight in March 1986 and produced a complete set of stable base photoquads at 1:24000. The control for the production of these basemaps was the mylar USGS 7.5-Minute topoquads. The photoquads have been widely used both to create data layers and to recompile other data sources from paper or non-planimetric sources. Paper prints are available from Maps and Publications (see Basemap Availability).

#### 1977/78 Tidelands Basemaps (1:2400)

The DEP produced a series of 1:2400 base maps for the coastal zone that include all tidal areas in the state to delineate the State's claim to all tide-flowed lands. The series consists of 1,628 photo basemaps. These maps are rectified products which meet NMAS below the ten foot contour. The photo-image is late summer of 1977 and 1978.

#### USGS 7.5-Minute Series Topoquad Basemaps (1:24000)

The USGS has published an entire series of 172 topographic maps for the state at a scale of 1:24000. The base information ranged from the late 1940's to the 1980's with photo-updates into the 1990's. Because these maps vary in source date, and because the DEP has produced more accurate and current basemaps (1991), the USGS Topoquads series is not recommended except as reference.

| Table 1: Photoquad Number & |                       | Name                    |
|-----------------------------|-----------------------|-------------------------|
|                             |                       | 46 HIGH BRIDGE NJ       |
| 1                           | MILFORD PA-NJ         | 47 CALIFON NJ           |
| 2                           | PT. JERVIS S. NJ-NYPA | 48 GLADSTONE NJ         |
| 3                           | UNIONVILLE NY-NJ      | 49 BERNARDSVILLE NJ     |
| 4                           | PINE ISLAND NY-NJ     | 50 CHATHAM NJ           |
| 5                           | LAKE MASKENOZHA PA-NJ | 51 ROSELLE NJ           |
| 6                           | CULVERS GAP NJ-PA     | 52 ELIZABETH NJ-NY      |
| 7                           | BRANCHVILLE NJ        | 53 JERSEY CITY NJ-NY    |
| 8                           | HAMBURG NJ            | 55 RIEGELSVILLE PA-NJ   |
| 9                           | WAWAYANDA NJ-NY       | 56 FRENCHTOWN NJ-PA     |
| 10                          | GREENWOOD LAKE NY-NJ  | 57 PITTSTOWN NJ         |
| 11                          | SLOATSBURG NY-NJ      | 58 FLEMINGTON NJ        |
| 12                          | BUSHKILL PA-NJ        | 59 RARITAN NJ           |
| 13                          | FLATBROOKVILLE NJ-PA  | 60 BOUND BROOK NJ       |
| 14                          | NEWTON WEST NJ        | 61 PLAINFIELD NJ        |
| 15                          | NEWTON EAST NJ        | 62 PERTH AMBOY NJ-NY    |
| 16                          | FRANKLIN NJ           | 63 ARTHUR KILL NY-NJ    |
| 17                          | NEWFOUNDLAND NJ       | 66 LUMBERVILLE PA-NJ    |
| 18                          | WANAQUE NJ            | 67 STOCKTON NJ-PA       |
| 19                          | RAMSEY NJ-NY          | 68 HOPEWELL NJ          |
| 20                          | PARK RIDGE NJ-NY      | 69 ROCKY HILL NJ        |
| 21                          | NYACK NY-NJ           | 70 MONMOUTH JUNCTION NJ |
| 22                          | STROUDSBURG PA-NJ     | 71 NEW BRUNSWICK NJ     |
| 23                          | PORTLAND NJ-PA        | 72 SOUTH AMBOY NJ-NY    |
| 24                          | BLAIRSTOWN NJ         | 73 KEYPORT NJ-NY        |
| 25                          | TRANQUILITY NJ        | 74 SANDY HOOK NJ-NY     |
| 26                          | STANHOPE NJ           | 76 LAMBERTVILLE PA-NJ   |
| 27                          | DOVER NJ              | 77 PENNINGTON NJ-PA     |
| 28                          | BOONTON NJ            | 78 PRINCETON NJ         |
| 29                          | POMPTON PLAINS NJ     | 79 HIGHTSTOWN NJ        |
| 30                          | PATERSON NJ           | 80 JAMESBURG NJ         |
| 31                          | HACKENSACK NJ         | 81 FREEHOLD NJ          |
| 32                          | YONKERS NJ-NY         | 82 MARLBORO NJ          |
| 33                          | BANGOR PA-NJ          | 83 LONG BRANCH NJ       |
| 34                          | BELVIDERE NJ-PA       | 86 TRENTON WEST PA-NJ   |
| 35                          | WASHINGTON NJ         | 87 TRENTON EAST NJ-PA   |
| 36                          | HACKETTSTOWN NJ       | 88 ALLENTOWN NJ         |
| 37                          | CHESTER NJ            | 89 ROOSEVELT NJ         |
| 38                          | MENDHAM NJ            | 90 ADELPHIA NJ          |
| 39                          | MORRISTOWN            |                         |
| 40                          | CALDWELL NJ           |                         |
| 41                          | ORANGE NJ             |                         |
| 42                          | WEEHAWKEN NJ-NY       |                         |
| 43                          | CENTRAL PARK NY-NJ    |                         |
| 44                          | EASTON NJ-PA          |                         |
| 45                          | BLOOMSBURY NJ         |                         |

Table 1: Continued

|     |                       |      |                       |
|-----|-----------------------|------|-----------------------|
| 91  | FARMINGDALE NJ        | 136  | LONG BEACH NE NJ      |
| 92  | ASBURY PARK NJ        | 137  | DELAWARE CITY DEL-NJ  |
| 93  | FRANKFORD PA-NJ       | 138  | SALEM NJ              |
| 94  | BEVERLY PA-NJ         | 139  | ALLOWAY NJ            |
| 95  | BRISTOL PA-NJ         | 140  | ELMER NJ              |
| 96  | COLUMBUS NJ           | 141  | NEWFIELD NJ           |
| 97  | NEW EGYPT NJ          | 142  | BUENA NJ              |
| 98  | CASSVILLE NJ          | 143  | NEWTONVILLE NJ        |
| 99  | LAKEHURST NJ          | 144  | EGG HARBOR CITY NJ    |
| 100 | LAKESWOOD NJ          | 145  | GREEN BANK NJ         |
| 101 | POINT PLEASANT NJ     | 146  | NEW GRETN NJ          |
| 102 | PHILADELPHIA PA-NJ    | 147  | TUCKERTON NJ          |
| 103 | CAMDEN NJ-PA          | 148  | BEACH HAVEN NJ        |
| 104 | MOORESTOWN NJ         | 149  | TAYLORS BRIDGE DEL-NJ |
| 105 | MOUNT HOLLY NJ        | 150  | CANTON NJ-DEL         |
| 106 | PEMBERTON NJ          | 151  | SHILOH NJ             |
| 107 | BROWNS MILLS NJ       | 152  | BRIDGETON NJ          |
| 108 | WHITING NJ            | 153  | MILLVILLE NJ          |
| 109 | KESWICK GROVE NJ      | 154  | FIVE POINTS NJ        |
| 110 | TOMS RIVER NJ         | 155  | DOROTHY NJ            |
| 111 | SEASIDE PARK NJ       | 156  | MAYS LANDING NJ       |
| 112 | MARCUS HOOK PA-NJ-DEL | 157  | PLEASANTVILLE NJ      |
| 113 | BRIDGEPORT NJ-PA      | 158  | OCEANVILLE NJ         |
| 114 | WOODBURY              | 159  | BRIGANTINE INLET NJ   |
| 115 | RUNNEMEDE NJ          | 160  | BOMBAY HOOK DEL-NJ    |
| 116 | CLEMENTON NJ          | 161  | BEN DAVIS PT. NJ-DEL  |
| 117 | MEDFORD LAKES NJ      | 162  | CEDARVILLE NJ         |
| 118 | INDIAN MILLS NJ       | 163  | DIVIDING CREEK NJ     |
| 119 | CHATSWORTH NJ         | 164  | PORT ELIZABETH NJ     |
| 120 | WOODMANSIE NJ         | 165  | TUCKAHOE NJ           |
| 121 | BROOKVILLE NJ         | 166  | MARMORA NJ            |
| 122 | FORKED RIVER NJ       | 167  | OCEAN CITY NJ         |
| 123 | BARNEGAT LIGHT NJ     | 168  | ATLANTIC CITY NJ      |
| 124 | WILMINGTON S. DEL-NJ  | 169  | FORTESCUE NJ          |
| 125 | PENNS GROVE NJ-DEL    | 170  | PORT NORRIS NJ        |
| 126 | WOODSTOWN NJ          | 171  | HEISLERVILLE NJ       |
| 127 | PITMAN WEST NJ        | 172  | WOODBINE NJ           |
| 128 | PITMAN EAST NJ        | 173  | SEA ISLE CITY NJ      |
| 129 | WILLIAMSTOWN NJ       | 174  | RIO GRANDE NJ         |
| 130 | HAMMONTON NJ          | 175  | STONE HARBOR NJ       |
| 131 | ATSION NJ             | 176  | AVALON NJ             |
| 132 | JENKINS NJ            | 177  | CAPE MAY NJ           |
| 133 | OSWEGO LAKE NJ        | 178  | WILDWOOD NJ           |
| 134 | WEST CREEK NJ         | 974  | SANDY HOOK EAST       |
| 135 | SHIP BOTTOM NJ        | 983  | LONG BRANCH EAST      |
|     |                       | 992  | ASBURY PARK EAST      |
|     |                       | 9173 | SEA ISLE CITY EAST    |

Paper prints of 1986 and 1991 photo basemaps may be obtained from the NJDEP Maps and Publications; (609) 777-1039, as well as paper prints of most USGS quadrangles. Paper prints from the 1977/78 series are available from the Tidelands Element (609) 292-2573. Other basemaps that meet NMAS may be available from the private sector.

Mylar photo basemaps from 1991, 1986 and 1977/78 and the digital imagery from 1991 may be obtained from the DEP contractor, MARKHURD, Minneapolis, MN (1-800-MAP-HURD).

### Digital Imagery

The NJDEP produced digital imagery from the 1991 overflight which is available at cost from Markhurd Corp., Minneapolis, MN (1-800-MAP-HURD). The data can be obtained at 5 ft (quarter quad tile) resolution or 10 ft (quad tile) resolution as black and white CIR digital files.

The State Mapping Advisory Committee, Aerial Photo Subcommittee, is producing a 1995/97 statewide digital imagery CIR product in partnership with the USGS, National Mapping Division. This imagery will meet the USGS standard of quarterquad tiles, CIR (3 bands), 1 meter resolution, in NAD83 in meters and will be available sometime in late 1997 or early 1998, through the EROS Center, National Archive. Aerial photography of the state will also be available from the Eros Data Center. Some of the 1995 photos are available now.

## 3.0 MAP COMPILATION

Mapped information comes from a variety of sources which are not always GIS compatible. Consequently, each source must be evaluated to determine whether redrafting is necessary to prepare the data for entry into the GIS. Much of the data required for the GIS can be derived directly from the photo-interpretation of aerial photos to rectified photo basemaps.

### 3.1 PHOTO -INTERPRETATION

Today's GIS data development efforts rely to a large degree on the derivation of themes from the stereoscopic interpretation of aerial photos. The DEP has used this technique in conjunction with various photo basemaps to produce land use/land cover and freshwater wetland coverages, for instance. The DEP maintains an extensive library of current and historical color infrared, color and panchromatic photographs from the 1930's to the present. The bulk of this photography is held by the Tidelands Management Program (TMP). The TMP offers light tables, photo basemaps and stereoscopes as well as some instruction on set up to assist the public and regulated community. This service is available at a modest fee and is well worth the effort, particularly if the data are to be captured in the GIS.

Delineators should be intimately familiar with the classification system being employed prior to producing data for input into the GIS. Care should be taken in choosing an appropriate standard classification system. If non-standard classification systems are used, the contractor shall fully describe the system.

### 3.2 RECOMPILATION

Recompilation involves the redrafting of features from one source to a more accurate, planimetric source based on identifiable features. This method is commonly used to give more accuracy to data which has been delineated on sources of unknown or unspecified quality or paper manuscripts. It is also commonly used to transfer data delineated on or to unrectified photography to a rectified or orthophoto basemap based on a series of local fits of common photo-identifiable features, such as roads.

To date, this technique has been employed to redraft the USDA, Natural Resource Conservation Service (NRCS) soils data from the soil survey atlas sheets to orthophotoquads. The technique for accomplishing this is detailed in Photobase Map Compilation (USDA, 1984). This manuscript is an excellent technical guide for recompilation.

Other data sources without photo-images may be recompiled to planimetric sources by using other coincident features. For instance, grids on source data may be generated and plotted to planimetric basemaps and used as a guide for the redrafting of information which would otherwise not be usable in a digital form. This has been used to draft historical surveyor boundaries from old atlas sheets to the photoquads, for instance. Whatever the technique, a data dictionary form must be completed describing the recompilation techniques employed.

#### 4.0 DATA AUTOMATION

The conversion of analog data to digital data is a critical step in the creation of a digital database in the GIS. GPS derived points are captured digitally and do not require automation (Section 7.0). Tablet digitizing is the most common method, however, scanning is gaining popularity particularly when large data development projects are involved. For tablet digitizing, a manuscript's lines should be clear and complete with no gaps or shortfalls. Operators should not interpret and digitize at the same time. The digitizer should concentrate solely on capturing the exact nature of the linework. All maps shall be edge matched prior to digitization to eliminate cartographic errors and reduce digital problems.

Heads up digitizing is a new digitizing technique which is useful for capturing data or updates from digital imagery. The BGIA is currently evaluating this technique and will issue standards in the near future.

Digital accuracy shall be evaluated by proof plotting the digital data to the base at the same scale as the manuscript and overlaying the data to the original map. The linework should be digitized in such a way as to create a digital copy which is within +/- one line width of the original. Edits can be flagged and corrected such that the standard is met.

The coding of features should follow an approved classification system as adopted by state and federal agencies. These codes follow specifications of organizations responsible for deriving and maintaining the data. For example, the DEP uses the Cowardin *et al.* (1979) system for the Classification of Wetland and Subaqueous Lands in the United States as adopted by the National Wetlands Inventory of the U.S. Fish and Wildlife Service. In addition the Department supports a modified version of Anderson *et al.* (1976), USGS, for classifying land use/land cover. For prototype classification schemes, clear concise documentation describing the classes is required.

All attribute coding shall be 100% correctly coded. Code sheets shall also be provided, listing

the code and full description of each code. All documentation shall be delivered in hard copy and on diskette. Codes shall also be described in the Data Dictionary (Section 9.0).

## 5.0 DATA TRANSFER

At a minimum, for the delivery of coordinates and simple database, data shall be submitted in an ASCII flat file format on 3.5 diskette. For instance, data from a word processor can be saved to an ASCII text file for delivery.

For GIS binary files (coverages) the digital format shall be an export format compatible with the DEP/GIS according to Table 2. The NJDEP GIS is ARC/INFO and ARCVIEW 3.X running on a UNIX based SUN network with a SUN 1000 server. ARCVIEW 3.X is also supported on PC platforms. For submittal to the Department, please use any of formats in Table 2, listed here in order of preference (Arc/Info Export, ArcView 3.X shapefiles, DWG, .DGN, DXF, flat ASCII). In the future, the Department will support the federal FGDC universal standard.

Large cartographic digital data sets shall be delivered on 8mm exabyte tape or 150 mb 1/4" tapes in UNIX format using tar or cpio (high or low density, please specify) or on CD-ROM. DOS formatted data can be delivered on QIC120 mb tapes or CD-R. Small data sets may be delivered on 3 1/2" (1.4 mb format) diskette in the format specified (DOS or UNIX). For diskettes with text or files, the data shall be on a DOS formatted disk, in space delimited format file (SDF, no delimiters). Please send all files uncompressed unless decompression software is supplied.

TABLE 2: NJDEP COMPATIBLE CONFIGURATIONS

| <i>PLATFORM</i> | <i>SUN SPARC STATION</i> | <i>PC</i> |
|-----------------|--------------------------|-----------|
|-----------------|--------------------------|-----------|

|                         |   |   |
|-------------------------|---|---|
| <i>OPERATING SYSTEM</i> | UNIX  | DOS   |
| <i>FORMAT</i>           | ARC/INFO      *IMPORT<br>*EXPORT<br>ARCVIEW 3.X shapefiles<br>DXF | FLAT ASCII (SDF)<br><br>ARC INFO   *IMPORT<br>*EXPORT<br>ARCVIEW 3.X shapefiles<br>DWG (AutoCad)<br>DGN (Microstation)<br>DXF |
| <i>SOFTWARE</i>         | TAR<br><br>CPIO   | VARIOUS   |
| <i>MEDIA</i>            | 150 MB TAPE<br><br>3 1/2" HD 1.44MB<br><br>CD-ROM<br><br>EXABYTE  | 3 1/2" HD 1.44MB<br><br>CD-ROM<br><br>120/250MB QIC120<br>*COLORADO<br>*MAYNARD   |

## 6.0 DOCUMENTATION

Each digital data layer must be fully documented by the producer (Section 9.0). Associated text files which describe details of the coverage are stored as readme files associated with the Dictionary files and coverage. Contractors must describe the data in detail with the submission and include aspects of the DEP Data Dictionary at a minimum.

## 7.0 GLOBAL POSITIONING SYSTEM

The NAVSTAR Global Positioning System (GPS) has become an accepted and widespread technology for capturing mappable features digitally for use in a GIS, particularly for points (wells, outfalls, etc.) and lines (trails, site boundaries, etc.). The system is based on a constellation of orbiting satellites that enables users with GPS receivers to determine 3D positions anywhere on or near the earth's surface. A GPS receiver must be able to "see" 4 or more GPS satellites in order to

determine positions. GPS is a useful tool in capturing data digitally with the ability of outputting the data in NAD83 in State Plane Coordinate feet which can then be loaded directly into a GIS system. The following description is provided for those unfamiliar with GPS but who are considering this technology to meet the digital standards of NJDEP.

The range of accuracy afforded by GPS is +/- 100 meters to sub-centimeter. The accuracy of any coordinates collected with GPS will depend on several factors: Receiver type (carrier phase vs. code based), the GPS conditions under which the coordinate data is collected (number of satellites and satellite geometry), whether the quality of the locations are enhanced through differential processing, and the data collection technique (field procedures) by the GPS receiver operator. GPS accuracies are not expressed in absolute terms. Rather they are expressed as a value such as 5 meters 2dRMS. What this really means is that roughly 95% of the horizontal (x,y) values are within 5 meters of truth.

### Receiver Classes and Accuracy Capabilities

The two general classes of GPS receivers provide two very different methods by which GPS signals are processed and, therefore, different accuracy capabilities. Carrier phase receivers use characteristics of the GPS signal (i.e., wavelength) to determine positions, while code based (C/A code) receivers rely on information imbedded in the signal.

Using correct GPS survey techniques and under the right conditions, carrier phase receivers can produce extremely accurate locations (even to a few millimeters 2dRMS). Carrier phase receivers should be used for determining locations that require a high level of accuracy. For a GIS, carrier phase receivers should be used for establishing a very accurate geodetic control network on which very accurate base maps could be generated. GIS feature locations can be determined with carrier phase receivers if the mapping project requires features to be mapped to a very high degree of accuracy (to within 1 meter). Carrier phase GPS operation is more difficult and sometimes impossible in areas that are less GPS friendly. These would include areas with significant obstructions (buildings and tree canopy) that might block or weaken GPS signals.

In most cases, feature mapping for a GIS can be accomplished with data collected with a code based GPS receiver. The DEP recommends that code based GPS receivers for GIS data collection be 6 or more channels (enabling better performance under adverse conditions), and be capable of storing position fix data (allowing post processed differential corrections). All GPS data collected for NJDEP's GIS must be differentially corrected, either in a post process step or in real time. If correct procedures and proper techniques are employed, code based receivers should provide a degree of horizontal accuracy acceptable for most mapping applications (to within 5 meters 2dRMS). Code based receivers cannot be relied upon for accurate elevation data. Elevation values derived by code based GPS receivers may be in error 2 to 4 times the error of the horizontal measurement.

For point features (well locations, sampling stations, pollution sources, etc.) a sample of 200 position fixes must be collected with PDOP  $\leq 6$ . Linear features (trails, shoreline boundaries, etc.) may also be mapped using GPS by storing position fixes while tracing the feature on foot or in vehicle.

### Sources of GPS Base Data

There are several sources of GPS base data in New Jersey. This reference data is necessary for differential GPS. For greater accuracy, users should obtain base data from the source nearest the project area.

The DEP/BGIA operates a Trimble Navigation Pathfinder Community Base Station in Trenton. This station stores GPS base data and makes the files available through an electronic bulletin board system (BBS). The phone number to access the BBS is (609) 633-0511. The logging hours of the receiver are Monday through Friday, 7 am to 7 pm. The BBS is operational seven days a week, 24 hours a day. The base data collected by this station can only be used to differentially correct data from Trimble code based receivers (Pathfinder series). In order for the data to be compatible with other GPS receiver manufacturer's (such as Magellan, or Garmin) file formats, the Trimble file format must be converted to RINEX format. DEP does not provide RINEX base files.

The U.S. Environmental Protection Agency's Region II office located in Edison operates a similar station. The phone number to access the BBS is (908) 321-6663. The logging hours of the station are seven days a week, 7 am to 7 pm. The BBS is operational seven days a week, 24 hours a day.

The National Oceanic and Atmospheric Administration (NOAA) operates a Continuously Operating Reference Station (CORS) at Sandy Hook, as part of a network of stations to support post processing applications. This station provides code range and carrier phase GPS data in the RINEX format. Data can be obtained via the INTERNET (<ftp://proton.ngs.noaa.gov>) and is available for 21 days. This station also broadcasts differential GPS corrections to support real-time positioning and navigation applications. For more information contact the National Geodetic Survey at (301) 731-3208.

For more information refer to the [1997 New Jersey GIS Resource Guide](#).

## 8.0 NATIONAL MAP ACCURACY STANDARDS

United States National Map Accuracy Standards  
U.S. Bureau of the Budget, Revised June 17, 1947

With a view to the utmost economy and expedition in producing maps which fulfill not only the broad needs for standard or principal maps, but also the reasonable particular needs of individual agencies, standards of accuracy for published maps are defined as follows.

1. Horizontal accuracy. For maps on publication scales larger than 1:20,000, not more than 10% of the points tested shall be in error by more than 1/30 inch. These limits of accuracy shall apply in all cases to positions of well-defined points only. Well-defined points are those that are easily visible or recoverable on the ground, such as the following: monuments or markers, such as bench marks, property boundary monuments; intersections of roads, railroads, etc.; corners of large buildings or structures (or center points of small buildings); etc. In general what is well-defined will also be determined by what is plottable on the scale of the map within 1/100 inch. Thus, while the intersection of two road or property lines meeting at right angles would come within a sensible interpretation, identification of the intersection of such lines meeting at an acute angle would

obviously not be practicable within 1/100 inch. Similarly, features not identifiable upon the ground within close limits are not to be considered as test points within the limits quoted, even though their positions may be scaled closely upon the map. In this class would come timber lines, soil boundaries, etc.

2. Vertical Accuracy, as applied to contour maps on all publication scales, shall be such that not more than 10 percent of the elevations tested shall be in error more than one-half the contour interval. In checking elevations taken from the map, the apparent vertical error may be decreased by assuming a horizontal displacement within the permissible horizontal error for a map of that scale.

3. The accuracy of any map may be tested by comparing the positions of points whose locations or elevations are shown upon it with corresponding positions as determined by surveys of a higher accuracy. Tests shall be made by the producing agency, which shall also determine which of its maps are to be tested, and the extent of such testing.

4. Published maps meeting these accuracy requirements shall note this fact on their legends, as follows: "This map complies with National Map Accuracy Standards."

5. Published maps whose errors exceed those aforesaid shall omit from their legends all mention of standard accuracy.

6. When a published map is a considerable enlargement of a map drawing (manuscript) or of a published map, that fact shall be stated in the legend. For example, "This map is an enlargement of a 1:20000-scale map drawing," or "This map is an enlargement of a 1:24000-scale published map."

7. To facilitate ready interchange and use of basic information for map construction among all Federal mapmaking agencies, feasible and consistent with the uses to which the map is to be put, maps shall conform to latitude and longitude boundaries, being 15 minutes of latitude and longitude, or 7.5 minutes, or 3-3/4 minutes in size. (from Thompson, 1987).

## 9.0 DATA DICTIONARY

The following is a sample data dictionary for the Integrated Terrain Unit for Burlington County, NJ. In the future, DEP Data Dictionaries will conform with Federal Geographic Data Committee (FGDC) standards.

### DATA DICTIONARY

\*\*\*\*\*

COVERAGE NAME: buritum

DATA DESCRIPTION: Integrated Terrain Unit for Burlington County.

KEYWORDS: landuse, soils, burlington, geology, floodprone

### CONTACTS

\*\*\*\*\*

AGENCY: BGSA  
NAME: Larry Thornton/John Tyrawski  
ADDRESS: P.O. Box 428  
Trenton, NJ 08625-0428  
PHONE: 984-2243

### MANUSCRIPT MAP INFORMATION

\*\*\*\*\*

|                       |                                   |
|-----------------------|-----------------------------------|
| BASEMAP: Photo-Quad   | COORDINATE SYSTEM: NJ State Plane |
| MAP DATE: 1986        | DATUM: NAD27                      |
| SCALE: 24000          | MAP ACCURACY: NMAS                |
| PROJECTION: Polyconic | GEOGRAPHIC AREA: County           |
| MAP MEDIA: Mylar      | FEATURE TYPE: Poly                |

### MAPPING METHODOLOGY AND MAPPING SOURCES:

Land use/land cover interpreted from 1986 JSS CIR (1:58000) photos. Geology recompiled from 1906 (1:63360) Atlas Sheet. Soils recompiled from 1971 SCS Soil Survey. Floodprone areas recompiled from paper USGS flood maps (polys closed by contractor & coded as such).

### MAPPING CRITERIA:

Land use/land cover mapped using modified Anderson et al. (1976) classification system. Minimum mapping unit = 2.5 acres. Other sources rescaled to 1:24000 and recompiled to 1986 photoquads based on coincident features.

### MAPPING ACCURACY AND DATA LIMITATIONS:

Basemap (photoquad) feature positions are good to about +/- 60 feet or better. Delineated lines good to about +/- 20 feet from locations on manuscript. Freshwater wetlands and geology are general, more detail in FWW and Cogeomap coverages.

MAP AUTOMATION

\*\*\*\*\*

AUTOMATION DATE: June 1990      COORDINATE SYSTEM: NJ State Plane  
DATUM: NAD83

AUTOMATION METHODS: scan

PRODUCTION STAFF: ESRI & AIS, Redlands, CA

AUTOMATION STATUS: complete

DATA AVAILABILITY: QIC150, 8mm Exabyte tape in ARC/INFO, Export, DXF

CARTOGRAPHIC QUALITY:

Data has not been systematically plotted on mylar and checked to basemap. Node errors, label errors and slivers resolved. ###9 codes not field checked.

DISTRIBUTION RESTRICTIONS: Requires Data Distribution Agreement.

MAP AUTOMATION

\*\*\*\*\*

DATABASE: Info

| <u>ITEM NAME</u> | <u>DESCRIPTION</u>   |
|------------------|--|
| LAND-USE         | - Land use/land cover code (4 digit).                                      |
| PRIM-GEOL        | - Primary geology  |
| SEC-GEOL         | - Secondary geology  |
| SURFICIAL-GEOL   | - Surficial geology  |
| FLOODPRONE       | - Floodprone areas   |
| SOIL-INCLUSIONS  | - Soil inclusions for polys that had soil polygons of less than 2.5 acres. |
| SOIL-LABEL       | - SCS soil label   |
| SOIL-CAPS        | - SCS soil labels in capitals for reselects.                               |

LOOKUP AND/OR RELATED DATA FILES:

Lookup tables for land use/land cover, soils, geology and floodprone areas.

ATTRIBUTE QUALITY:

Frequencies run to check for valid attributes. Land use codes containing ###9 require field verification.

#### LOOKUP TABLE DESCRIPTIONS:

|                |                                       |
|----------------|---------------------------------------|
| BURBDRK.LUT    | Bedrock geology (primary, secondary). |
| BURSOILS.LUT   | Soils (consult the Soil Survey).      |
| BURFLOOD.LUT   | Floodprone areas.                     |
| BURSOILINC.LUT | Soil inclusions.                      |
| BURLU.LUT      | Land use/land cover.                  |
| BURSURF.LUT    | Surficial geology.                    |

#### 10.0 REFERENCES

Anderson, J.R., *et al.*, 1979, *A Land Use and Land Cover Classification System for Use with Remote Sensor Data*, U.S. Department of Interior, Geologic Survey Professional Paper 964. 28pp.

Cowardin, L.M., *et al.*, 1976, *Classification of Wetland and Deepwater Habitats of the United States*, U.S. Department of Interior, U.S. Fish and Wildlife Service, FWS/OBS-79/31. 103pp.

U.S. Department of Agriculture, Soil Conservation Service, 1984, *Photobase Map Compilation, Technical Specifications*, National Instruction No. 170-301. 30pp

## **Radon**

### **1.0 Introduction**

Radon Measurement Monthly Reports are used for the reporting of radon test results required as part of N.J.A.C. 7:28-27.28 (Certification of Radon Testers and Mitigators).

To simplify this reporting requirement, the department provides for the electronic submission of Radon Measurement monthly reports.

## **2.0 Electronic Submittal Requirements and Process for Radon Monthly Reports**

Help number (Radon Program): (609) 984-5425, (609) 984-5557 or toll-free within New Jersey at 1-800-648-0394.

Mailing address: DEP- Radon Section, P.O. Box 415, Trenton, NJ 08625-0415.

The following procedures for electronic submittal must be followed by a facility wishing to participate.

1. Facilities wishing to participate in electronic submittal should contact the Radon Program help number to coordinate test transmittals and to resolve problems. If requested, a copy of the regulations, the Measurement monthly report form, directions for completing the form, a copy of the field names and specifications, as well as a copy of the Local Names publication will be provided. The Local Names publication is very helpful in determining the incorporated name of the municipality (required on the report form) as well as the corresponding county name.
2. Radon Measurement Monthly Reports are due by the first day of the second month following the testing period (i.e., January measurements are to be reported by March 1), pursuant to N.J.A.C. 7:28-27.28(a). Failure to submit a Radon Measurement Monthly Report in compliance with the aforementioned regulation will result in an enforcement violation.
3. Data submissions must be on either a 3 ½ or a 5 1/4 diskette (high or low density), IBM compatible, and can be in the form of an ASCII (text) file, dBASE file, a Lotus file or a Symphony file.
4. A facility is required to submit, with its data diskette, a cover letter containing the name and address of its measurement business, name and phone number of the contact person, as well as the Measurement Specialist's signature, certifying the data contained on the diskette. A separate diskette must be submitted for each month. The diskette must be labeled with the name of the business, the business certification number, month the data is for and the name of the file contained on the diskette. If you would like to have the diskette returned after processing, please note this in the cover letter.
5. The format for reporting data is provided in the following Radon 1 table. Detailed instructions regarding the format are also provided in the Radon 1 table.

### **Table: Radon 1**

Listed below are the fields that must be contained on the data diskette. Fields must be reported in the same order as listed; do not omit any fields or report additional fields. If a dBASE file is submitted, the field types and widths must match those specified. If an ASCII test file is submitted, all character data must be surrounded by quotes and separated by a comma. If submitting data utilizing Lotus or Symphony, do not skip lines between records and do not report results as a less than (<) value. Less than values should be reported as the lowest detectable limit (i.e., <0.5 should

be reported as 0.5).

Please note that no abbreviations are to be used in the MUNICIPAL or CITY fields except Twp for township and Boro for borough. (These abbreviations are **not** followed by a period.) Data reported in the BLDG\_STRU field, the PURPOSE field and the TEST\_COND field must be separated by and end with a backslash (\) (i.e., B\C\ for basement and crawlspace, R\S\ for real estate and screening and CH\ for closed house).

Information for **each** test result **must** be in the order outlined below.

| Field | Field Name | Type      | Width | Dec | Description  |
|-------|------------|-----------|-------|-----|--|
| 1     | REFER_NUM  | Character | 9     |     | Your firm's internally assigned reference number (optional)  |
| 2     | LAST_NAME  | Character | 20    |     | Last name of homeowner   |
| 3     | FIRST_NAME | Character | 15    |     | First name of homeowner  |
| 4     | BLDG_TYPE  | Character | 1     |     | Building type Code:<br>N = Non-residential<br>R = Residential<br>S = School<br>U = Unknown                               |
| 5     | BLDG_STRU  | Character | 8     |     | Structural type of the building:<br>B\ = Basement<br>C\ = Crawlspace<br>S\ = Slab-on-grade<br>U\ = Unknown<br>O\ = Other |
| 6     | ADDRESS    | Character | 30    |     | Address where test was performed   |
| 7     | CITY       | Character | 20    |     | Postal city or town  |
| 8     | MUNICIPAL  | Character | 20    |     | Incorporated name of municipality  |
| 9     | COUNTY     | Character | 20    |     | County where test performed  |
| 10    | ZIP        | Character | 10    |     | Postal zip code for above address  |
| 11    | LEVEL      | Character | 1     |     | Floor tested:<br>0 for basement<br>1 for first floor, etc.<br>U for Unknown  |
| 12    | RADON      | Numeric   | 8     | 2   | Radon level in picoCuries per Liter (pCi/L) as #####.##  |
| 13    | PROGENY    | Numeric   | 7     | 3   | Radon progeny reading in working levels (WL) as ###.###  |

|    |         |           |   |  |
|----|---------|-----------|---|--|
| 14 | PURPOSE | Character | 7 | Test purpose:<br>R\ = Real Estate<br>S\ = Screening<br>F\ = Follow-up<br>D\ = Diagnostic<br>PRM\ = Pre-mitigation<br>POM\ = Post-mitigation<br>DP\ = Duplicate<br>BL\ = Blank<br>NO\ = Unknown |
|----|---------|-----------|---|--|

All Purpose codes **must** be followed by a "\"; if a test was a screening for a real estate transaction the Purpose code **must** be "S\R\".

|    |            |           |   |                      |
|----|------------|-----------|---|----------------------|
| 15 | START_D    | Character | 8 | Date testing began   |
| 16 | START_TIME | Character | 8 | Time testing began   |
| 17 | STOP_D     | Character | 8 | Date testing stopped |
| 18 | STOP_TIME  | Character | 8 | Time testing stopped |

Note: If either start/stop date or time is not known, please enter "N/A" in the appropriate fields.

|    |           |           |   |   |
|----|-----------|-----------|---|---|
| 19 | EQUIPMENT | Character | 2 | Type of equipment:<br><br>CC = Charcoal Canister<br>AT = Alpha Track<br>ES = Short term Electret<br>EL = Long term Electret<br>CR = Continuous Radon Monitor<br>CW = Continuous Working Level Monitor<br>GW = Grab sample - Working Level<br>GR = Grab sample - Radon |
|----|-----------|-----------|---|---|

|    |            |           |    |   |
|----|------------|-----------|----|---|
| 20 | TEST_COND  | Character | 3  | CH\ for Closed House<br>OH\ for Open House<br>NO\ for Unknown |
| 21 | ANALYZ_LAB | Character | 30 | Certified Radon Measurement Lab                               |
| 22 | COMMENTS   | Character | 50 | Any Comments  |

|    |         |           |    |  |
|----|---------|-----------|----|--|
| 23 | SAMPLER | Character | 11 | Last 5 digits of Certification number of individual performing test OR " <b>H</b> " for Homeowner. (If different certified individuals are placing and retrieving device, list both numbers separated by a slash.) |
|----|---------|-----------|----|--|

# Right to Know

## 1.0 Introduction

The Bureau of Chemical Release Information and Prevention (BCRIP) is responsible for administering the Community Right to Know (CRTK) Program. This program is mandated by the Worker and Community Right to Know Act (N.J.S.A. 34:5A) and the federal Emergency Planning and Community Right to Know Act (EPCRA), also known as Title III of the Superfund Amendments and Reauthorization Act (SARA). These laws require certain businesses to report hazardous substances used, stored or manufactured at, or released from, their facilities. Chemical inventory information is collected on the Community Right to Know survey form. The BCRIP currently collects chemical inventory information on the CRTK survey distributed to approximately 33,000 facilities.

To perform the regulatory activities in an efficient manner, the BCRIP has implemented a system for facilities to submit Community Right to Know surveys electronically. The system uses an executable file which allows users to download screens to input CRTK inventory data and electronically submit that data to the BCRIP.

In order to implement electronic submission, an executable file is available. In addition, facilities may use their own software.

The required procedures that use the executable file are described first, followed by a brief description of the requirements for submission for a facility using its own software.

## 2.0 Electronic Submittal Requirements and Process for the Community Right to Know Survey Using an Executable File

Help number: Bureau of Chemical Release Information and Prevention (609) 292-6714

The following procedure for electronic submittal must be used for facilities choosing to use the executable file developed by the department.

1. The facility staff must use the Community Right to Know Survey reporting instructions that are mailed to facilities required by state and federal law to report inventories of hazardous substances which are stored, produced or used at a place where business is conducted (facility) in New Jersey. Copies are available upon request to the agency help number.
2. The facility staff must use the Right to Know Public Access System Manual. Copies are circulated to facilities and are available upon request to the Agency Help number. In addition, the manual is available for downloading from the departmental Bulletin Board System.

See the Electronic Bulletin Board System section for a detailed description of the departmental Bulletin Board. For reference, some pertinent Bulletin Board information is as follows:

Bulletin Board number : (609) 292-2006

System Op number: (609) 292-4860

Communications parameters: 8 data bits, no parity, 1 stop bit (8, N, 1)

Modem Speed: 1200 - 14,400 bps

3. The facility staff must become familiar with the use of the communications software PC AnyWhere prior to downloading the executable file.

The PC AnyWhere use is described in the section “**PC AnyWhere Special Instruction and Use**” which appears as a separate section following these instructions.

4. The facility staff must log on to the RTKPAS using PC AnyWhere with the following parameters:

|                    |                |
|--------------------|----------------|
| Phone number:      | (609) 633-6099 |
| Terminal Emulation | VT-100         |
| Baud Rate:         | 9600/2400/1200 |
| Data Bits:         | 8              |
| Stop Bits:         | 1              |
| Parity:            | None           |
| File Transfer:     | XMODEM/CRC     |
| Echo:              | Off            |

5. Select the Download Software. The Right to Know Public Access System (RTKPAS) provides facility submission software to facilities to enter and remotely upload the Community Right to Know survey. Select "FacSub" from the main menu on the Right to Know Public Access System (RTKPAS). There are two submenu options, 1) Download Software and 2) Upload Survey.

When the download software option is selected, a message will display the approximate time required to download the software and the amount of disk space required on the receiving PC. At this point, the user may cancel or proceed with the download. The user will be prompted for the 11 digit EIN number and the facility name. If the employer's correct name and EIN number are entered, the software will retrieve the current facility information provided in the latest survey. The following information will be downloaded with the software: facility name and mailing address; facility location (if different from mailing address); number of employees; number of NJ facilities reported; facility emergency contact person, and phone number. If an employer's correct name and EIN number are not entered, only the software will be downloaded.

The software download includes an installation program, input fields to enter data required on the CRTK survey form and tables that provide the Environmental Hazardous Substance List (EHSL), container codes, inventory ranges, and storage condition codes for pressure and temperature.

6. Once the software has been downloaded, the user may disconnect from the RTKPAS and run the installation program to install the software on the facility PC. The software will allow the user to enter survey information into several data entry screens. Some of the information entered will be verified by comparison to data in tables which were downloaded with the software.

7. When the survey is completed, the information will be compressed into a file to be loaded to the RTKPAS. The user must complete the following steps in order to upload the survey to the Bureau of Chemical Release Information and Prevention:
  - a. Sign the certification that the information to be transmitted is true, accurate and complete.
  - b. Log on to the Right to Know Public Access System as described previously and use the "upload option" on the menu to send survey information. Enter the 11 digit employer identification number (EIN) and the company name as it appears on the current Community Right to Know survey form for the facility.
  - c. Verify that the survey was successfully uploaded by confirming that "The survey was uploaded successfully" is displayed on the screen. If that message does not appear, disconnect and try to resend the survey. If, again, the message does not appear, contact the agency help number.
  - d. Mail Part 1 of the survey with the signed certification to BCRIP. Include the eight (8) digit identifier (password) that you entered in the file. Include the date and time that appears on the last line of the upload survey screen and keep a copy for your records. This information is used to identify the data-set uploaded.

### **3.0 PC AnyWhere Special Instructions and Use**

PC AnyWhere, version 4.5, is the communication software to be used to enable multiple, simultaneous users dialing into the BCRIP's chatterbox communication server to download and upload information.

The employer or authorized representative must certify that electronically submitted data is true, accurate and complete. The certification, which will include the alpha-numeric identifier (password) used by the company when preparing the file, must be received by the Department before the data is accepted.

The following describes how to use and configure PC AnyWhere for DOS and Windows when downloading and uploading files.

PC AnyWhere for DOS:

PC AnyWhere for DOS downloads files to and uploads from the current directory. This means that before starting a PC AnyWhere session, the user should go to the directory where the files to be uploaded reside or where the files to be downloaded should be placed. Specifically, if a user wants to download the Facility Submission software, he/she should create a new directory for the Facility Submission software and go to that directory before using PC AnyWhere to dial into the Public Access System. The user should also be in the same directory before using PC AnyWhere to dial into the Right to Know Public Access System (RTKPAS) and uploading the completed survey. To run PC AnyWhere from this directory, the user should make sure the directory in which PC AnyWhere resides is in his/her default search path. For example, if the command `PATH=C:\AWLAN` were executed either manually or by the user's AUTOEXEC.BAT file, the user would be able to run PC AnyWhere from any directory on his/her C: drive.

PC AnyWhere for Windows:

PC AnyWhere for Windows downloads files to and uploads from the working directory defined by the Properties function of Program Manager. If a user wants to download the Facility Submission software and later upload the completed survey, he/she should create a new directory where the Facility Submission software and survey will reside. When PC AnyWhere is added as an item to a group within Windows, the user should select Properties and change the Working Directory to the new directory. The user may also activate PC AnyWhere and select Configuration and File Transfer and then select the Default Download Directory.

Printing in PC AnyWhere:

To set up PC AnyWhere to print to the user's own local printer, the user should perform the following steps:

- ▶ select Remote Operation and press Enter at the PC AnyWhere Main Menu;
- ▶ select Remote Preferences and press Enter at the Remote Operation Menu;
- ▶ select Remote Access Session and press Enter at the Remote Preferences Menu;
- ▶ select Print Destination and press Enter at the Remote Access Session Menu;
- ▶ select Print to Remote Only and press Enter at the Print Destination Menu;
- ▶ press Escape to exit Remote Access Session menu;
- ▶ select Yes and press Enter at the Save Changes prompt; press Escape to exit the Remote Preferences Menu and return to the Main Menu.

#### **4.0 Facility Submission Interface Specification**

Facilities using their own software to track facility and chemical information may electronically submit the information to the BCRIP by creating and uploading the databases described in the "Data Definition Document -Facility Information" and "Data Definition Document-Chemical Information" tables which follow this section.

Data Definition Document - Facility Information

Project Name: Public Access System

Database Name: VRKFACD.DBF

607 - Record Length 1 - Estimated # Records

| DB Fld | Field Name          | Start Pos | No. Chars | Type | Valid Values | Default Value | R/O | Comments  |
|--------|---------------------|-----------|-----------|------|--------------|---------------|-----|---|
| 1      | Facility ID         | 1         | 11        | C    |              |               | R   | NJEIN   |
| 2      | Previous ID         | 12        | 11        | C    |              |               | O   |   |
| 3      | SIC Code            | 23        | 4         | C    |              |               | R   |   |
| 4      | County/Muni Code    | 27        | 4         | C    |              |               | R   |   |
| 5      | Facility Status     | 31        | 1         | C    |              | A             | R   |   |
| 6      | # Employees         | 32        | 5         | N    |              | 0             | R   |   |
| 7      | # Facilities        | 37        | 5         | N    |              | 1             | R   |   |
| 8      | Facility Name 1     | 42        | 40        | C    |              |               | R   |   |
| 9      | Facility Name 2     | 82        | 40        | C    |              |               | O   |   |
| 10     | Mailing Street      | 122       | 40        | C    |              |               | R   |   |
| 11     | Mailing City        | 162       | 25        | C    |              |               | R   |   |
| 12     | Mailing State       | 187       | 2         | C    |              |               | R   |   |
| 13     | Mailing Zip         | 189       | 9         | C    |              |               | R   | 5 or 9 digits   |
| 14     | Facility Location   | 198       | 40        | C    |              |               | R   | Street, City  |
| 15     | Officer Name        | 238       | 21        | C    |              |               | R   |   |
| 16     | Officer Title       | 259       | 21        | C    |              |               | R   |   |
| 17     | Facility Phone #    | 280       | 10        | C    |              |               | R   |   |
| 18     | Police Dept Name    | 290       | 21        | C    |              |               | O   |   |
| 19     | Police Dept Phone # | 311       | 10        | C    |              |               | O   |   |
| 20     | Fire Dept Name      | 321       | 21        | C    |              |               | O   |   |
| 21     | Fire Dept Phone #   | 342       | 10        | C    |              |               | O   |   |
| 22     | Emergency Contact   | 352       | 21        | C    |              |               | R   |   |
| 23     | Emer ContactTitle   | 373       | 21        | C    |              |               | R   |   |
| 24     | Emergency Phone #   | 394       | 10        | C    |              |               | R   |   |
| 25     | Due Date            | 404       | 8         | Date |              | YYYY0301      | R   | March 3rd of the current year                           |
| 26     | Return Date         | 412       | 8         | Date |              | YYYY0301      | R   | March 3rd of the current year                           |
| 27     | Hazardous Sub User  | 420       | 1         | C    | U, N         | N             | R   | U if Hazardous Substances are Used, Stored, or Produced |
| 28     | Inspection Date     | 421       | 8         | Date |              |               | O   |   |

| DB Fld | Field Name          | Start Pos | No. Chars | Type | Valid Values | Default Value | R/O | Comments   |
|--------|---------------------|-----------|-----------|------|--------------|---------------|-----|--|
| 29     | Facility Fax #      | 429       | 10        | C    |              |               | O   |  |
| 30     | FEIN                | 439       | 12        | C    |              |               | O   |  |
| 31     | Lab #               | 451       | 5         | C    |              |               | O   | R&D lab exemption approval number  |
| 32     | EPCRA?              | 456       | 1         | C    | Y, N         | N             | R   | Y if reporting under EPCRA only  |
| 33     | Hazardous A?        | 457       | 1         | C    | Y, N         | Y             | R   | Y if Hazardous Substances are Used, Stored, or Produced in any quantity                              |
| 34     | Hazardous B?        | 458       | 1         | C    | Y, N         | Y             | R   | Y if Hazardous Substances are Used, Stored, or Produced at quantities exceeding regulated thresholds |
| 35     | Operations 1        | 459       | 70        | C    |              |               | R   | Operations/business conducted at facility  |
| 36     | Operations 2        | 529       | 70        | C    |              |               | O   |  |
| 37     | Information Changed | 599       | 1         | C    | Y, N         | N             | R   | Y if information changed since last submittal  |
| 38     | Password            | 600       | 8         | C    |              |               | R   | Password supplied with Survey Package  |

## Data Definition Document - Chemical Information

Project Name: Public Access System

Database Name: VRKSUB.DBF

159 - Record Length

- Estimated # Records

| DB Fld | Field Name           | Start Pos | No. Chars | Type | Valid Values  | Default Value | R/O | Comments   |
|--------|----------------------|-----------|-----------|------|---|---------------|-----|--|
| 1      | Transaction Code     | 1         | 1         | C    |   |               | O   |  |
| 2      | Facility ID          | 2         | 11        | C    |   |               | R   | Copy from VRKACL.DBF   |
| 3      | Company Name         | 13        | 10        | C    |   |               | R   | Copy first 20 characters of Facility Name 1 from VRKFACL.DBF |
| 4      | A                    | 23        | 1         | C    |   |               | O   |  |
| 5      | Survey Year          | 24        | 4         | C    |   | Current - 1   | R   |  |
| 6      | B                    | 28        | 1         | C    |   |               | O   |  |
| 7      | Survey Type          | 29        | 6         | C    | DEQ094  |               | R   |  |
| 8      | C                    | 35        | 1         | C    |   |               | O   |  |
| 9      | Substance #          | 36        | 8         | C    |   |               | O   |  |
| 10     | Substance Name       | 44        | 30        | C    |   |               | R   |  |
| 11     | CAS #                | 74        | 10        | C    |   |               | O   | Strip dashes   |
| 12     | DOT #                | 84        | 4         | C    |   |               | O   |  |
| 13     | Percent Mixture Code | 88        | 2         | C    | M-Mixture<br>P-Pure   | M             | R   |  |
| 14     | Physical State       | 90        | 1         | C    | S-Solid<br>L-Liquid<br>G-Gas  | L             | R   |  |
| 15     | Trade Secret         | 91        | 1         | C    | Y, blank  | blank         | O   |  |
| 16     | Hazard Code 1        | 92        | 2         | C    | 70-Fire<br>69-Pressure<br>68-Reactive<br>67-Acute<br>Health<br>66-Chronic<br>Health |               | O   |  |
| 17     | Hazard Code 2        | 94        | 2         | C    | Same as<br>Code 1   |               | O   |  |
| 18     | Hazard Code 3        | 96        | 2         | C    | Same as<br>Code 1   |               | O   |  |
| 19     | Hazard Code 4        | 98        | 2         | C    | Same as<br>Code 1   |               | O   |  |
| 20     | Hazard Code 5        | 100       | 2         | C    | Same as<br>Code 1   |               | O   |  |

| DB Fld | Field Name               | Start Pos | No. Chars | Type | Valid Values | Default Value | R/O | Comments |
|--------|--------------------------|-----------|-----------|------|--------------|---------------|-----|----------|
| 21     | Max Daily Inventory Code | 102       | 2         | C    |              |               | R   |          |
| 22     | Avg Daily Inventory Code | 104       | 2         | C    |              |               | R   |          |
| 23     | Days on Site             | 106       | 3         | C    | 1 - 365      |               | R   |          |
| 24     | Container Code           | 109       | 2         | C    |              |               | R   |          |
| 25     | Pressure Code            | 111       | 2         | C    |              |               | R   |          |
| 26     | Temperature Code         | 113       | 2         | C    |              |               | R   |          |
| 27     | Location                 | 115       | 45        | C    |              |               | R   |          |

# Site Remediation

## 1.0 Introduction

The Site Remediation Program (SRP) has adopted a process for Electronic Data Interchange (EDI) to facilitate data integration and thereby help the SRP make more informed cleanup decisions, respond accurately to questions, improve the quality and timeliness of data review, and efficiently perform its mandated functions.

The Technical Requirements for Site Remediation (N.J.A.C. 7:26E), herein called the Tech Rules, require electronic submittal of analytical results of environmental samples (see 3.13(c)3v). There are three ways to develop and submit the required information:

1. Use of the Hazardous Site Information Application (HazSite),
2. Submittal in a Lotus-compatible spreadsheet format,
3. Though not stated in Tech Rules, a .DBF (FoxPro, dBASE) file format is acceptable.

HazSite is a Windows-based, stand-alone database application created by the SRP. The Lotus-compatible spreadsheet format has been developed for the convenience of parties submitting electronic data who may be using other software to process their data. Submitting data using the spreadsheet option requires strict adherence to the format defined herein.

### **Availability of HazSite application:**

Through the department's Bulletin Board System ((609) 292-2006; file: HAZSITE4.ZIP).

Through the department's Home Page, <http://www.state.nj.us/dep/srp>. Select "Regulations and Guidance" topic.

By requesting a diskette copy from the SRP; (609) 633-1380.

### **Availability of Lotus-compatible spreadsheet format:**

Available in hard copy in this EDI Manual.

Through the department's Bulletin Board System ((609) 292-2006; file SRP-EDI).

Through the department's Home Page, <http://www.state.nj.us/dep/srp>. Select "Regulations and Guidance" topic.

By requesting a diskette copy of the SRP section of the EDI Manual; (609) 633-1380.

### **Availability of the .DBF file format:**

Through the department's Home Page, <http://www.state.nj.us/dep/srp>. Select "Regulations and Guidance" topic.

Available in hard copy in this EDI Manual.

The user may transmit the required data to SRP via diskette or through the department's Bulletin Board System. For more information, see **Section 4.0 Data Transmission** in this Manual.

Provided below are the requirements and processes for developing and submitting information via HazSite, the Lotus-compatible spreadsheet format, and the .DBF file structure. The data definitions are also provided in section **6.0 Discussion of Fields** of this manual.

Help number (Bureau of Planning and Systems): (609) 633-1380.

## 2.0 Electronic Submittal Requirements and Process for HazSite Option

The HazSite application is a user-friendly, Windows application. The application consists of three data tables: DTST, HZSAMPLE and HZRESULT, which are transparent to the user. The graphical user interface (GUI) guides the user through the application via pull down menus. Users choose to create a file/dataset, add/edit data, or report on data.

The “File” menu lets the user create a dataset management file for integration of files submitted through HazSite. It contains a directory field that designates the subdirectory for file storage. The “Data Entry” menu contains two options, “Sample” and “Results.” The Sample table contains sampling information: sample number, sampling date, sampling location, etc. It is required that each Sample data record is associated with one and only one sampling event. The Results table contains information about the sample analysis and results for each Sample record. The user will be able to error check data by using the “Reports” menu option, prior to transmitting the data to the SRP.

### The following requirements and procedures must be met for using the HazSite option.

- a. The facility’s computer must meet the following hardware and software requirements:

Hardware Requirements:     PC 386 DX, 40 MHz or better  
                                      8 Mb of RAM  
                                      10 Mb of available disk space

Software Requirements:     DOS 3.3 or higher  
                                      Microsoft Windows 3.1 or higher  
                                      Pkzip, see the following item.

- b. It is required that the data compression utility Pkzip be installed while running the HazSite application. This utility is used by the HazSite application to compress data. Pkzip is a shareware product and is available for compressing files from many sources. Please contact the department help number if unable to locate Pkzip.
- c. The HazSite application requires the user to “package” the data before sending it to SRP by selecting a few keystrokes. The packaging function places the sample and results tables for each sample into one file, for simplicity in transmittal to the department. For more information, see section **4.0 Data Transmission** in this Manual.
- d. For maximum visibility, it is recommended that the screen display setting is 640 x 480 pixels.
- e. Two copy functions are available to assist in data entry. The user may tab through a blank record to automatically bring up the field entry from the previous record. Revisions can be made there and saved. The second copy option is to use the copy button off the menu bar to bring up the entire previous record for modification. For either option, the sample number field, which must be unique, will be left blank.

The DTST, HZSAMPLE and HZRESULT file structures are defined and discussed below in Tables 2.1, 2.2 and 2.3, respectively. This information is provided to assist users who want to manipulate the data beyond the HazSite application, using another database or application, or if a user is interested in submitting data in a .DBF format. See section **6.0 Discussion of Fields** in this Manual for acceptable entries.

There are several mandatory fields required in the submission of data, which if not completed, will require re-submission of data by the user/interested party. These fields are marked with an asterisk (\*) in Tables 2.1, 2.2, and 2.3. Fields marked with a plus sign (+) indicate that either the complete Latitude and Longitude OR State Plane X,Y Coordinates are mandatory fields. Fields marked with a caret (^) indicate that either MDL OR Quant Type and Quant Level are mandatory fields.

TABLE 2.1 - FILE STRUCTURE FOR DTST.DBF

| Field# | Field Name | Field Type | Width | Decimal |
|--------|------------|------------|-------|---------|
| *1     | DIRECTORY  | Character  | 8     |         |
| 2      | DESC       | Character  | 40    |         |
| *3     | SRPID      | Character  | 16    |         |
| 4      | CONSULTANT | Character  | 40    |         |
| 5      | PHASE      | Character  | 12    |         |
| 6      | STATUS     | Character  | 10    |         |
| 7      | TRANSMIT   | Character  | 1     |         |
| *8     | SUBMITDATE | Date       | 8     |         |
| 9      | PACKNUM    | Numeric    | 2     |         |

TABLE 2.2 - FILE STRUCTURE FOR HZSAMPLE.DBF

| Field# | Field Name | Field Type | Width | Decimal |
|--------|------------|------------|-------|---------|
| *1     | SRPID      | Character  | 16    |         |
| *2     | SAMPDATE   | Date       | 8     |         |
| *3     | SAMPNUM    | Character  | 7     |         |
| 4      | SAMPTIME   | Character  | 5     |         |
| 5      | DUPSAMP    | Character  | 1     |         |
| *6     | MATRIX     | Character  | 15    |         |
| *7     | FIELDID    | Character  | 12    |         |
| 8      | AOCID      | Character  | 16    |         |
| +9     | LAT_DEGREE | Character  | 2     |         |
| +10    | LAT_MINUTE | Character  | 2     |         |
| +11    | LAT_SECOND | Character  | 7     | 4       |
| +12    | LON_DEGREE | Character  | 3     |         |
| +13    | LON_MINUTE | Character  | 2     |         |
| +14    | LON_SECOND | Character  | 7     | 4       |
| +15    | SP_X       | Character  | 14    |         |
| +16    | SP_Y       | Character  | 14    |         |
| *17    | DEPTH_TOP  | Character  | 6     |         |
| 18     | DEPTH_BOTM | Character  | 6     |         |
| 19     | GROUNDELEV | Character  | 6     |         |
| 20     | WELL_ELEV  | Character  | 6     |         |
| *21    | SAMPTYPE   | Character  | 15    |         |
| *22    | DATETOLAB  | Date       | 8     |         |
| 23     | SAMPMETHOD | Character  | 15    |         |
| 24     | SAMPNOTE   | Memo       | 10    |         |
| 25     | SUBMITDATE | Date       | 8     |         |
| 26     | QAQC       | Character  | 1     |         |

TABLE 2.3 - FILE STRUCTURE FOR HZRESULT.DBF

| Field# | Field Name | Field Type | Width | Decimal |
|--------|------------|------------|-------|---------|
| *1     | SRPID      | Character  | 16    |         |
| *2     | SAMPDATE   | Date       | 8     |         |
| *3     | SAMPNUM    | Character  | 7     |         |
| *4     | LABID      | Character  | 12    |         |
| *5     | DANALYZ    | Date       | 8     |         |
| 6      | LABNAME    | Character  | 20    |         |
| *7     | NJDLABCERT | Character  | 5     |         |
| *8     | RESULTTYPE | Character  | 1     |         |
| *9     | ANALTPARAM | Character  | 60    |         |
| 10     | CAS        | Character  | 15    |         |
| 11     | FILTUNFILT | Character  | 1     |         |
| *12    | CONC       | Character  | 12    |         |
| *13    | CONCUNITS  | Character  | 15    |         |
| 14     | QAQUAL     | Character  | 7     |         |
| ^15    | MDL        | Character  | 12    |         |
| ^16    | QUANTTYPE  | Character  | 8     |         |
| ^17    | QUANTLEVEL | Character  | 12    |         |
| *18    | ANLYS_MTHD | Character  | 15    |         |
| 19     | QAQC       | Character  | 1     |         |

### 3.0 Electronic Submittal Requirements and Process for Lotus-Compatible Spreadsheet Option

The interested party can choose to submit sample and result data in a Lotus .WK1 compatible spreadsheet format that conforms to the structure below. When completing the spreadsheet, one record should be entered per row, with the fields for each record laid out in the columns described below. Columns in the spreadsheet are identified by letter, while rows are identified by number. All data fields in the spreadsheet submission should be in the format MM/DD/YYYY. See section **6.0 Discussion of Fields** in this Manual for complete field descriptions and acceptable entries.

There are several mandatory fields required in the submission of data, which if not completed, will require re-submission of data by the user/interested party. These fields are marked with an asterisk (\*) in Spreadsheets 3.1, 3.2, and 3.3. Fields marked with a plus sign (+) indicate that either the complete Latitude and Longitude OR State Plane X,Y Coordinates are mandatory fields. Fields marked with a carat (^) indicate that either MDL OR Quant Type and Quant Level are mandatory fields.

#### Spreadsheet 3.1: DATASET file

| Column | Column Header | Column Description                      | Data Length and Type |              |
|--------|---------------|---|----------------------|--------------|
| *A)    | Directory     | Directory Name                          | 8                    | Alphanumeric |
| B)     | Desc          | Description                             | 40                   | Alphanumeric |
| *C)    | SRP ID        | Site Remediation Program Identification | 16                   | Alphanumeric |
| D)     | Consultant    | Consultant                              | 40                   | Alphanumeric |
| E)     | Phase         | Remedial Phase                          | 12                   | Alphanumeric |
| F)     | Status        | Status of Dataset                       | 10                   | Alphanumeric |
| G)     | Transmit      | Transmittal Method                      | 1                    | Alphanumeric |
| *H)    | Submit Date   | Submittal Date                          | 8                    | Date         |
| I)     | Pack Num      | Package Number                          | 2                    | Numeric      |

### Spreadsheet 3.2: SAMPLE file

| Column | Column Header | Column Description                        | Data Length | Data Type    |
|--------|---------------|---|-------------|--------------|
| *A)    | SRP ID        | Site Remediation Program Identification   | 16          | Alphanumeric |
| *B)    | Sample Date   | Sample collection date (MM/DD/YYYY)       | 8           | Date         |
| *C)    | Sample Number | Unique identification number for sample   | 7           | Alphanumeric |
| D)     | Sample Time   | Sample collection time                    | 5           | Alphanumeric |
| E)     | Duplicate     | Duplicate sample (Yes/No field)           | 1           | Alphanumeric |
| *F)    | Matrix        | Acceptable entries defined in section 6.0 | 15          | Alphanumeric |
| *G)    | Field ID      | Field Number for Sample                   | 12          | Alphanumeric |
| H)     | AOC ID        | Area of Concern (text or number)          | 16          | Alphanumeric |
| +I)    | Lat Degrees   | Latitude Degrees                          | 2           | Alphanumeric |
| +J)    | Lat Minutes   | Latitude Minutes                          | 2           | Alphanumeric |
| +K)    | Lat Seconds   | Latitude Seconds                          | 7           | Alphanumeric |
| +L)    | Lon Degrees   | Longitude Degrees                         | 3           | Alphanumeric |
| +M)    | Lon Minutes   | Longitude Minutes                         | 2           | Alphanumeric |
| +N)    | Lon Seconds   | Longitude Seconds                         | 7           | Alphanumeric |
| +O)    | SP X-Coord    | State Plane X Coordinate                  | 14          | Alphanumeric |
| +P)    | SP Y-Coord    | State Plane Y Coordinate                  | 14          | Alphanumeric |
| *Q)    | Depth Top     | Depth at top of sample (ft)               | 6           | Alphanumeric |
| R)     | Depth Botm    | Depth at bottom of sample (ft)            | 6           | Alphanumeric |
| S)     | Ground Elev   | Ground Elevation (ft)                     | 6           | Alphanumeric |
| T)     | Well Elev     | Well Elevation (ft)                       | 6           | Alphanumeric |
| *U)    | Sample Type   | Acceptable entries defined in section 6.0 | 15          | Alphanumeric |
| *V)    | Date to Lab   | Date sample was delivered to lab          | 8           | Date         |
| W)     | Sample Meth   | Field sampling method                     | 15          | Alphanumeric |
| X)     | Sample Note   | Notes about Sample Method or Type         | 10          | Memo         |
| Y)     | Submit Date   | Date samples submitted to Lab             | 8           | Date         |
| Z)     | QAQC          | Leave Blank, NJDEP use only               | 1           | Alphanumeric |

### Spreadsheet 3.3 for RESULTS file

| Column | Column Header | Column Description                          | Data Length | Data Type    |
|--------|---------------|---|-------------|--------------|
| *A)    | SRP ID        | Site Remediation Program Identification     | 16          | Alphanumeric |
| *B)    | Sample Date   | Sample Collection Date (MM/DD/YYYY)         | 8           | Date         |
| *C)    | Sample Number | Unique identification number for sample     | 15          | Alphanumeric |
| *D)    | Lab ID        | Lab Number for Sample                       | 12          | Alphanumeric |
| *E)    | Data Analy    | Laboratory Analysis Date                    | 8           | Date         |
| F)     | Lab Name      | Name of Lab performing analysis             | 20          | Alphanumeric |
| *G)    | Lab Cert Num  | NJDEP Lab Certification Number              | 5           | Alphanumeric |
| *H)    | Result Type   | A for Analyte, P for Parameter, T for TIC   | 1           | Alphanumeric |
| *I)    | AnaltParam    | Identify Analyte, Parameter or TIC name     | 60          | Alphanumeric |
| J)     | CAS           | CAS number for Analyte                      | 15          | Alphanumeric |
| K)     | Filt/Unfilt   | Indicate F for Filtered, U for Unfiltered   | 1           | Alphanumeric |
| *L)    | Conc          | Concentration resulting from Analysis       | 12          | Alphanumeric |
| *M)    | Units         | Concentration Units, ppm, ppb, or text      | 15          | Alphanumeric |
| N)     | QA Qualifier  | Quality Assurance qualifiers - See List 4.3 | 7           | Alphanumeric |
| ^O)    | MDL           | Method Detection Limit                      | 12          | Alphanumeric |
| ^P)    | Quant Type    | Quantitation Type (PQL, CRDL, CRQL)         | 8           | Alphanumeric |
| ^Q)    | Quant Level   | Value of PQL, CRDL, CRQL, etc.)             | 12          | Alphanumeric |
| *R)    | Analy Meth    | Analysis Method, EPA (or other)             | 15          | Alphanumeric |
| S)     | QAQC          | Leave blank, NJDEP use only                 | 1           | Alphanumeric |

#### 4.0 Data Transmission

All physical media sent to the department must be in an IBM-compatible format. Data from HazSite, the Lotus-compatible spreadsheet format, or .DBF files can be transmitted by either of the following methods:

1. on 3.5" 1.44 IBM formatted diskettes, or
2. uploaded to the SRP's bulletin board system (BBS).

If using method 1, the diskette option, the user should transmit the diskette to the department's representative for that site, (e.g., site manager or case manager) along with the other documents submitted as part of the required deliverables. A memo indicating the facts of the electronic data submittal must accompany the official hard copy submission. The memo should specify exactly what data is being submitted. The diskette should be labeled on its exterior as "Analytical Results" and also include the following information from the dataset database on the diskette:

Directory  
Description  
SRP ID  
Submit Date (Submittal Date)

(NOTE: The diskette containing analytical sample results must be separate from any diskette containing GIS-compatible maps submitted pursuant to N.J.A.C. 7:26E, sections 4.8(c)12 and 6.2(a)17iii regarding results of Ecological Evaluations and Classification Exception Areas maps, respectively.)

If using method 2, the BBS option, a memo indicating the facts of the electronic data submittal

must accompany the official hard copy submission, and must indicate to the site/case manager where the information is located (i.e., filename, date of BBS transmission, etc.). The memo should specify exactly what data is being submitted. The submission should be labeled as “Analytical Results” and also include the following information from the dataset database:

- Directory
- Description
- SRP ID
- Submit Date (Submittal Date)

For further information about access to the BBS, see the section in the NJDEP EDI Manual on the Electronic Bulletin Board System, or contact the Bureau of Planning & Systems at (609) 633-1380.

## 5.0 Data Compression

Data is to be submitted in a compressed format, using the Pkzip compression utility. Pkzip is a shareware product and is available for compressing files from many sources. Contact the Bureau of Planning & Systems at (609) 633-1380 if you are unable to locate Pkzip.

## 6.0 Discussion of Fields

This description of fields is organized by Table (DTST, HZSAMPLE, HZRESULT), and the field order corresponds to the field structure outlined in the Tables 2.1, 2.2 and 2.3. The field name in CAPS is the .DBF file structure field name from the HazSite application. The name of the column headers for the Lotus-compatible spreadsheet (.WK1) is provided in parentheses. When working in HazSites directly, it is suggested that the user refer to the Help menu for data definitions, as they more accurately correspond to the field name and order in the HazSite application.

There are several mandatory fields required in the submission of data, which if not completed, will require re-submission of data by the user/interested party. These fields are marked with an asterisk (\*) below. Fields marked with a plus sign (+) indicate that either the complete Latitude and Longitude OR State Plane X,Y Coordinates are mandatory fields. Fields marked with a caret (^) indicate that either MDL OR Quant Type and Quant Level are mandatory fields.

### DTST Table

- \* DIRECTORY (Directory)  
Designates the subdirectory for file storage.
- DESC (Desc)  
Description of the dataset being submitted, including site name.
- \* SRPID (SRP ID)  
This is the SRP identification number. For Responsible Party sites, it is commonly referred to as the Case Number. For Publicly Funded sites, it is the 16 digit number, usually the EPA ID, beginning with “NJ”.
- CONSULTANT (Consultant)  
Name of the primary consulting firm collecting samples and compiling reports.

**PHASE (Phase)**

The remedial phase (per Tech Rules) for which the samples are being collected.

**STATUS (Status)**

This field indicates the status of the dataset preparation, whether Active, Pending or Packaged. In HazSite this field will be automatically updated while the user enters data. For .WK1 and .DBF files, all datasets submitted should have a status of Packaged. Status Definitions follow: Active = The dataset is being worked on; it has not been packaged for submission to NJDEP. Pending = This dataset is not active and has not been packaged for submission to NJDEP. Packaged = This dataset has been formatted and is ready to be submitted to NJDEP.

**TRANSMIT (Transmit)**

This field indicates the method of data transmittal. In HazSites this field will be automatically updated when packaging. In .WK1 and .DBF files, indicate "A" for the A drive, "B" for the B drive, and "T" for other means of transfer, i.e. modem.

\* **SUBMITDATE (Submit Date)**

Date the dataset was submitted to SRP. In HazSite this field is automatically updated. For .WK1 and .DBF files, use the MM/DD/YYYY format.

**PACKNUM (Pack Num)**

A package (dataset) identification field. In HazSite, this field is automatically updated. For .WK1 and .DBF files, this may be left blank.

**HAZSAMPLE Table**

\* **SRPID (SRP ID)**

This is the SRP identification number. For Responsible Party sites, it is commonly referred to as the Case Number. For Publicly Funded sites, it is the 16 digit number, usually the EPA ID, beginning with "NJ".

\* **SAMPDATE (Sample Date)**

The date the sample was collected in the field. Required format is MM/DD/YYYY.

\* **SAMPNUM (Sample Number)**

Identification number for each distinct sample collected in the field, for a specific sampling day or episode. This field is used to relate samples in the Sample file to results in the Results file. There is a many to one relationship between Samples and Results. The sample number must match in the related results records. (Note distinction of the Sample Number from Field ID or Lab ID.)

**SAMPTIME (Sample Time)**

The time the sample was collected in the field. The required format is HH:MM, military time.

**DUPSAMP (Duplicate)**

Indicate if this is a duplicate sample. In HazSite, check off using check box

provided. In .WK1 or .DBF files, indicate “Y” for yes or “N” for no.

\* **MATRIX (Matrix)**

Indicate the matrix represented by the sample. Choose from the following:

Air  
Blank  
Ground Water  
Other (Specify in Sample Note)  
Sediment  
Soil  
Solid  
Surface Water  
Waste

\* **FIELDID (Field ID)**

The FIELDID is the commonly used identification of the sample location. For example, monitor well 1 may be identified as MW-1; soil sample 3 may be identified as SS-3. It is suggested that abbreviations correspond to the Sample Types field.

NOTE: The exact same FIELDID must be used for each sample taken at the same location. Other fields, such as Sample Number (SAMPNUM), will be used to distinguish samples with the same FIELDID.

**AOCID (AOC ID)**

Area of Concern identification (text designation or number).

+ **LAT\_DEGREE, LAT\_MINUTE, LAT\_SECOND (Lat Degrees, Minutes, Seconds)**

+ **LON\_DEGREE, LON\_MINUTE, LON\_SECOND (Lon Degrees, Minutes, Seconds)**

Latitude and longitude of each sample point. Each is a separate field, with a total of six fields represented here. Latitude Degree is a two-character field, while Longitude Degree is a three-character field. Latitude and Longitude Minutes are both two character fields. Latitude and Longitude seconds are both two character fields, followed by a decimal point up to the ten-thousandth, i.e. xx.xxxx.

+ **SP\_X, SP\_Y (SP X-Coord, SP Y-Coord)**

New Jersey X,Y Coordinate System location for each sample point.

NOTE: LATITUDE/LONGITUDE and STATE PLANE COORDINATES Datum must be obtained from NAD83. According to the Tech Rules, when data is submitted to the SRP, all sample locations are to be located using an absolute coordinate system, such as Latitude/Longitude and State Plane Coordinates. The Tech Rules also require that a NJ licensed surveyor locate all monitor well locations. Although all soil samples do not have to be surveyed, the coordinates of each sample must be a reasonable approximation to the actual location (within 5 feet of actual location). It is recommended that at least one sample point on a site be surveyed and a grid developed to locate all sample points in Latitude/Longitude or State Plane Coordinates.

NOTE: EITHER the Latitude/Longitude fields or the State Plane Coordinate fields are mandatory fields requiring data entry. The only exception to this rule at this time is if the sample being analyzed is a “blank,” and this must be noted in the Matrix field in the Sample file.

\* DEPTH\_TOP (Depth Top)

Depth (in feet) to the top of the sample, measured from the ground surface.

NOTE: For ground water sampling, use only the DEPTH\_TOP field. In this field, record the depth to the top of the static water level (after purging) from the ground surface (measured from outermost well casing and subtracting the distance to the ground surface).

NOTE: For ground water sampling, when taking a sample from the bottom of a well (i.e., DNAPL sampling), use the DEPTH\_TOP field to record the depth to the point where the sample was taken from the ground surface (measured from outermost well casing and subtracting the distance to the ground surface).

NOTE: For potable wells or other non-applicable instances, enter “N/A”.

DEPTH\_BOTM (Depth Botm)

Depth (in feet) to the bottom of the sample, measured from the ground surface.

NOTE: Subsurface soil sampling is usually conducted at specific intervals (i.e., .5-1.5 feet). Use the DEPTH\_TOP and DEPTH\_BOTM fields to record the interval at which the soil sample was taken. The reference for the sampling interval must be the ground surface. If the sample is a surface soil sample, record a "0" in both the DEPTH\_TOP and the DEPTH\_BOTM fields.

GROUNDELEV (Ground Elev)

The height of the sample point in feet above mean sea level (MSL). May be estimated based on a single surveyed reference point, such as a monitor well.

WELL\_ELEV (Well Elev)

Note the well elevation in feet above mean sea level (MSL).

\* SAMPTYPE (Sample Type)

Indicate the type of sample collected. Choose from the following:

|                |                                      |
|----------------|--------------------------------------|
| Air Stripper   | Monitor Well                         |
| Background     | Other (Specify in Sample Note field) |
| Blank          | Potable Well                         |
| Building Floor | Sanitary Sewer                       |
| Building Wall  | Septic System                        |
| Debris         | Sludge                               |
| Drum           | Standing Water                       |
| Effluent       | Storm Sewer                          |
| Flowing Water  | Subsurface Soil                      |
| Influent       | Surface Water                        |
| Injection Well | Test Pit                             |

## Leachate

- \* **DATETOLAB (Date to Lab)**  
Date the sample was delivered to the laboratory for analysis. Required format is MM/DD/YYYY.
  
- SAMPMETHOD (Sample Meth)**  
Sampling method or instrument by which the sample was physically obtained (i.e., hand auger, split spoon, etc.)
  
- SAMPNOTE (Sample Note)**  
Memo field. To be used for explanation of "Other" in the Sample Matrix and Sample Type fields. May also be used to further explain Sample Method.
  
- SUBMITDATE (Submit Date)**  
The date the package was submitted to SRP. In HazSite this field is automatically updated. For .WK1 and .DBF files, the required format is MM/DD/YYYY.
  
- QAQC (QAQC)**  
Internal field for NJDEP use only. HazSite users will not see this field. For .WK1 and .DBF, leave blank.

## **HZRESULT Table**

- \* **SRPID (SRP ID)**  
This is the SRP identification number. For Responsible Party sites, it is commonly referred to as the Case Number. For Publicly Funded sites, it is the 16 digit number, usually the EPA ID, beginning with "NJ".
  
- \* **SAMPDATE (Sample Date)**  
The date the sample was collected in the field. Required format is MM/DD/YYYY.
  
- \* **SAMPNUM (Sample Number)**  
Identification number for each distinct sample collected in the field, for a specific sampling day or episode. This field is used to relate samples in the Sample file to results in the Results file. There is a many to one relationship between Samples and Results. The sample number must match in the related results records. (Note distinction of the Sample Number from Field ID or Lab ID.)
  
- \* **LABID (Lab ID)**  
Identification number given to the specific sample by the laboratory.
  
- \* **DANALYZ (Date Analy)**  
Date the sample analysis was completed. Required format is MM/DD/YYYY.
  
- LABNAME (Lab Name)**  
Name of the laboratory performing the analysis.

- \* NJLABCERT (Lab Cert #)  
Indicate the NJ Laboratory Certification Number.
  - \* RESULTTYPE (Result Type)  
Indicate whether the item being measured or detected is an Analyte, Parameter or Tentatively Identified Compound. An analyte is defined as a specific chemical compound or group. A parameter is a physical or non-specific chemical measurement such as temperature or pH, etc. If unsure of proper entry, see the list in the next field. A TIC is a non-targeted analyte for a specific analytical method. For HazSite users, indicate Analyte, Parameter or TIC by using the radio button. If submitting results in .WK1 or .DBF format, enter "A", "P" or "T".
  - \* ANALTPARAM (AnaltParam)  
Indicate the Analyte or Parameter for which results are being presented. When submitting results for a TIC, add CAS, class, method, retention time.
- CAS (CAS)  
Chemical Abstract Service number. For HazSite users, this is a derived field, no data entry is required. For .WK1 and .DBF files, enter the CAS number.
- FILTUNFILT (Filt/Unfilt)  
If an aqueous sample was collected, indicate if the sample was filtered in the field. In HazSite, the default for aqueous samples is unfiltered. If submitting results in the .WK1 or .DBF format, enter "F" for filtered or "U" for unfiltered, and leave blank for non-aqueous samples.
- \* CONC (Conc)  
Concentration/value of analyte, parameter or TIC. Soils data is to be presented in parts per million (ppm); water data in parts per billion (ppb).
  - \* CONCUNITS (Units)  
Concentration units. The CONCUNITS field automatically defaults to ppm for soil and ppb for water. If entering the value for a parameter, enter the appropriate units for that parameter, or N/A if not appropriate.
- QAQUAL (QA Qualifier)  
Quality Assurance qualifiers. The standard qualifiers listed below shall be used when appropriate (extracted from NJDEP laboratory services contract). The field is not restricted to one qualifier. If a laboratory specific qualifier is used, the qualifier must be fully defined in the SAMPNOTE field.

Organic

U=Indicates the compound was analyzed for but not detected. Correct sample's method detection for dilution and percentage moisture where required by the specific analytical method.

J=Indicates an estimated value. Use this flag under the following circumstances:

1. When estimating the concentration for a tentatively identified compound (TIC) where a 1:1 response ratio is assumed, OR
2. When the mass spectral and retention time data indicate the presence of a compound that meets volatile and/or semi-volatile GC/MS identification criteria, and the result is less than the method detection limit but greater than

zero, OR 3. When the retention time data indicates the presence of a compound that meets the pesticide/Aroclor criteria and the result is less than the method detection limit but greater than zero. NOTE: The “J” reporting flag shall not be used, and the compound not reported as identified for pesticide/Aroclor results less than the method detection limit, if the technical judgment of the pesticide residue analysis specialist determines that the peak used for compound identification is from instrument noise or other interferences. The sample’s method detection limit corrected for dilution and percent moisture where required by the specific analytical method should be used.

N=Indicates presumptive evidence of a compound. Use only for tentatively identified compounds, where the identification is based on a mass spectral library search. Apply to all TIC results. Do not use for generic characterizations, such as “unknown chlorinated hydrocarbon.”

P=Use for pesticide/Aroclor target analytes with greater than 25% difference for detected concentrations between the two GC columns. Report the lower of the two values and flag with this code.

C=Use for pesticide identification confirmed by GC/MS analysis. If the attempted confirmation is unsuccessful do not use this flag. Use another flag defined by your laboratory for explanations.

B=Use if the analyte is found in the blank as well as the sample. It indicates probable blank contamination. It warns the data user to take appropriate actions. Use for both positively identified and tentatively identified target compounds.

E=Use for identification of compounds with concentrations exceeding the GC/MS calibration range for that specific analysis. Dilute the sample if one or more of the compounds has a response greater than full scale, and reanalyze. Flag such compounds with “E.” If the dilution of the extract caused any compound identified in the first analysis to fall below the calibration range in the second analysis, flag the results for the second analysis “D.” Affix the “DL” suffix to the sample number of the diluted sample and report both analyses.

D=Use for identification of compounds in an analysis at a secondary dilution factor. Flag if a sample or extract is reanalyzed at a higher dilution factor. Flag the reanalyzed sample or extract with “DL.” This alerts the user that there are discrepancies between reported concentrations possibly due to the dilution.

A=Indicates that the tentatively identified compound is a suspected aldol condensation product.

#### Inorganic

E=The reported value is estimated because of interference. Include an explanatory note in the nonconformance summary if the problem applies to all the samples, or in the individual form if it is an isolated problem.

M=Duplicate injection precision not met.

N=Spiked sample recovery not within control limits.

S=Reported value determined by the "Method of Standard Additions" (MSA).

W=Post digestion spike for Furnace AA analysis not within control limits, absorbance is less than 50% of the spike absorbance.

\*=Duplicate analysis not within control limits.

X=Ion chromatographic peaks outside the 5% acceptance window.

+ =Correlation coefficient for the MSA is less than 0.995.

#### ^ MDL (MDL)

Method Detection Limit (per N.J.A.C. 7:18 regarding laboratory certification). If entering data in this field for a common parameter and there is no applicable MDL, enter N/A.

#### ^ QUANTTYPE (Quant Type)

The lowest concentration above background noise level that an instrument can reliably detect. Acceptable entries, in order of preference, are the Practical Quantitation Level (PQL), the Contract Required Quantitation Level (CRQL), or the Contract Required Detection Limit (CRDL), etc. If entering data in this field for a common parameter and there is no applicable result, enter N/A.

^ QUANTLEVEL (Quant Level)

The value of the PQL, CRQL, CRDL, etc. If entering data in this field for a common parameter and there is no applicable quantitation level, enter N/A.

NOTE: Either the MDL or the QuantType/QuantLevel fields are mandatory fields requiring data entry for each Analyte or TIC for which results are being submitted. If results are submitted for a Parameter and there is no applicable MDL, Quant Type or Quant Level, enter N/A.

\* ANALYS\_MTHD (Analy Method)

This field identifies the analytical method used. The field must contain the method number/name preceded by the organization in which the test originated. If methods listed have been revised after date of publication of HazSites and this Manual, choose the most current version/update of the method. If entering data in this field for a common parameter and there is no applicable analytical method, add N/A.

QAQC (QAQC)

Internal field for NJDEP use only. HazSite users will not see this field. For .WK1 and .DBF, leave blank.