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Method for the Storage and Retrieval of RCRA Groundwater Monitoring Data on Storet

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METHODS FOR THE STORAGE AND RETRIEVAL OF RCRA GROUND-WATER MONITORING DATA ON STORET

Users Manual

March 20, 1985

REVISED OCTOBER, 1985

for the
Office of Solid Waste
U.S. Environmental Protection Agency
Washington, D.C.

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Preface

Some of the data items in this manual have been adapted from those found in the U.S. Geological Survey's WATSTORE Ground-Water Site Inventory (GWSI). At the time of printing of this manual, no final decision had been reached on the possible means of utilizing GWSI at EPA. Therefore, analogous parameters for those GWSI items identified as of major importance by potential RCRA/STORET users have been or are being made available STORET.

September, 1985

1.0 INTRODUCTION

1.0 INTRODUCTION

This is a manual for users to optimize the use of STORET for their RCRA ground-water monitoring data. It should also be useful for other ground-water data. The manual is organized into five sections. They are:

- Section 1, this introduction
- Section 2, a brief description of STORET and the special features of RCRA ground-water data
- Section 3, a discussion of how to access the system
- Section 4, a detailed discussion of the various special elements and conventions for RCRA ground-water monitoring data.
- Section 5, sample data retrievals.

1.1 Background and Purpose of this Manual

In 1983, EPA's Office of Solid Waste recommended the STORET System be the system for RCRA regulators to manage ground-water monitoring data. STORET was selected among other existing or potential systems because:

- STORET is a solid, established system with proven utility for storing and analyzing environmental monitoring data
- STORET is well known to many of the users who would be entering RCRA ground-water monitoring data in it
- There is ample STORET documentation and a well qualified user assistance team to aid users in system operation
- STORET has analytical software that would be very useful for RCRA data interpretation.

OSW expects that STORET will soon have new RCRA users. In order to provide those users with all their data storage and analytical needs, and to ensure that RCRA data in STORET is of uniform, high quality, OSW has developed a program-wide data management strategy. This manual is to assist RCRA/STORET users in implementing that strategy.

1.2 Audiences to be Addressed

This manual is meant for the following audiences:

- RCRA regulators, particularly States choosing to organize and store their ground-water monitoring data in STORET

- Agencies responsible for RCRA oversight, such as EPA Regional Offices

- STORET data users interested in RCRA ground-water monitoring data but who are not necessarily RCRA regulators, including other EPA program offices, and other Federal or local agencies

- Other persons who are interested in storing ground-water data in STORET.

1.3 Other Documentation

The following other documentation and manuals may be of help to RCRA/STORET users (the first is essential, and contains much information about STORET not duplicated here):

- The STORET Users Handbook (Volumes 1 and 2) -- The users manual for operation of the STORET System, explaining the details of how to operate the system for data storage and how to run retrieval programs, available from STORET User Assistance (automatically given to new STORET users; see Section 3.4 of this report)

  WCC WYLBUR Manuals -- Training course manual and reference guide that describe how to operate WYLBUR, a "text editing" language (one that allows users to write and edit programs, but not to run STORET retrievals) also available on the computer housing STORET; the two WYLBUR manuals are on-line and are accessed by users in the following manner:

  - WYLBUR Training Course Manual -- Upon logging on to OBS, in response to the COMMAND? prompt, enter:

    ```
    USE $JUSD.UTILITY.DATA(OBSCRSLS)
    ```

    hit the carriage return, and then, to the next COMMAND? prompt, enter:

```
RUN DEST LOCAL
```

and hit the carriage return again (the program to produce the WYLBUR Training Course documentation will then be run, and automatically mailed to you when ready)

WYLBUR Reference Manual -- To the COMMAND? prompt, enter:

```
USE $JUSD.UTILITY.DATA(OBSDOCLS)
```

hit carriage return, and then, to the next COMMAND? prompt, enter:

```
RUN DEST LOCAL
```

and hit the carriage return again (the program to produce the WYLBUR Reference Manual will then be run, and automatically mailed to you when completed).

WCC TSO Manual -- A manual describing Time Sharing Option, the system language that STORET users use on the IBM to get to STORET. This manual is on-line (i.e., is a system file that may be accessed by the user when operating the computer) and accessed in the following manner:

- The user enters "OBS" when logging on (see Section 3.0 of this manual for an explanation of logging on)

- In response to the COMMAND? prompt, the user enters:

```
USE $HP3JUSD.TSO
```

and hits the carriage return key to which the users responds with:

```
LIST OFFLINE M(your 3-letter user id)
```

and hits the carriage return again. The user will now be sent a copy of this on-line TSO manual.

Two other documents represent earlier strategies to manage RCRA data on STORET, and may be of interest:

- Region VI Guidelines for Handling Ground-Water Quality Data from RCRA TSD Facilities in STORET (Environmental Analysis Section, Surveillance Branch, Environmental Services Division, EPA Region VI; August, 1982) -- An initial effort to provide users with a systematic way of storing RCRA ground-water data on STORET (less comprehensive than this manual), available from OSW or Region VI.

- Ground-Water Data Management Program (Ground-Water Protection Division, South Carolina Department of Health and Environmental Control) -- Another initial effort to systematize RCRA data in STORET; again, less comprehensive than this manual (available from Pat Shirley, SCDHEC).

1.4 Scope

This manual contains methods for storing a wide range of information that may be of interest to RCRA ground-water data managers. It includes information concerning the site and the samples, as well as a means for storing the concentrations of analytes. Each of the pieces of information presented in this manual is an item that was identified by a current or potential RCRA/STORET user as desirable. With the exception of some basic facility data required by STORET, users need store only the data their application requires. The use of STORET for RCRA ground-water monitoring data is intended as a flexible tool that enhances the user's data management capabilities.

1.5 Contacts

There are several contacts available to RCRA/STORET users. A list of these contacts and the services they offer is given below:

- STORET User Assistance Team (Dan Parker, FTS/202-382-7220) -- Technical assistance in creating STORET files, maintaining files, and developing and running analytical programs; STORET training; STORET users manuals

- Office of Information and Resource Management (Chuck Tobin, FTS/202-382-2422) -- Coordination of use of STORET for RCRA data with other EPA ADP activities such as the FINDS* or HWDMS** Systems

- Office of Solid Waste/Land Disposal Branch (Dr. Robert April, FTS/202-382-4654) -- Programmatic support in organizing your RCRA data for STORET; documentation on coded parameter code values; focal point for the initiation of new parameter codes, analytical capabilities, or other needs

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* -- Facility Index System

** -- Hazardous Waste Data Management System

2.0 THE STORET SYSTEM FOR RCRA GROUND-WATER MONITORING DATA

2.0 THE STORET SYSTEM FOR RCRA GROUND-WATER MONITORING DATA.

This section describes the RCRA ground-water monitoring data collection process, introduces the STORET System, and explains the interaction between STORET and the RCRA Program.

2.1 Purpose of RCRA Ground-Water Monitoring

Ground-water monitoring data collected under RCRA are used from many purposes. Among these uses are:

- Determining compliance with interim status requirements
- Determining compliance with permit conditions
- Developing monitoring programs at a facility
- Determining whether ground-water contamination is occurring and, if so, its extent.

The data to make these determinations are collected under 40 CFR §264 and §265, compliance orders, or other regulatory activities. Data may be collected during other activities as well. It will be important to document the purpose of each sampling event in the STORET data base (see Section 2.3.2.2 of this report).

2.2 Introduction to STORET

This section presents a brief introduction to the STORET System and its potential uses to RCRA data managers. More detailed information about the STORET System operations and capabilities is given in the STORET Users' Handbook.

2.2.1 History of STORET

The STORET ("STOrage and RETrieval") System is one of EPA's most successful analysis systems for environmental monitoring data. STORET was begun in 1964 in the Public Health Service. It has since come over to EPA/Office of Information and Resource Management, where it currently serves over 400 users.

STORET serves as a repository for over 90,000,000 observations taken at over 500,000 sampling points. The data are chiefly from the continental United States, and span a time period from 1899 to the present (the majority of data in STORET has been collected since 1975).

The type of data stored in STORET are usually measurements of the concentration of a particular substance at a particular site at a documented date, time, and depth. The auxilliary information about each measurement, such as date or depth, allows many different types of data manipulations, including data aggregation and trend analysis.

2.2.2 Terminology for RCRA/STORET Users

RCRA/STORET users should become familiar with the following terminology:

- A facility is that entity at which ground water is being monitored.
- A waste area is an area around which wells have been installed to monitor the ground water.
- A site (or monitoring station, as is commonly used in STORET terminology) is a single RCRA well from which samples are being taken.
- A record is the collective total of information from all sampling events for a single station.
- A sampling event is all the information collected at one time from a well.
- A data element (or variable, or STORET "parameter") is that substance or other factor which is being measured.
- An observation (or data point, or value) is the value of a data element for a sampling event at a station.

2.2.3 STORET as a Data Base

The various components of each data record in STORET are described below.

2.2.3.1. Record Structure

The structure of each record in the STORET System is composed of three parts. These parts are:

- The station header
- The descriptive paragraph
- The parametric data field.

Exhibit II-1 following this page depicts the three parts of a STORET record.

The station header of a STORET record describes the location at which samples were taken. Borrowing from Exhibit II-1, the STORET station header looks like:

```
MID098765432U12     WWMI1234
46 14 31.2 089 21 48.0
XYZ CHEMICAL CO LTRT RCRA DNGR WELL #4
26053       MICHIGAN
LAKE SUPERIOR   990793
ONTONAGON RIVER
21MIGW    050403021
0050 FEET  DEPTH
AMBNT/WELL/IND/DSPR/LTRT/DOWN/HAZARD/RCRA
```

The station header is composed of nine individual elements. These elements are:

- Station codes (primary and secondary)
- Latitude/longitude coordinates and precision indicators
- Station name
- State/county code and names
- Major basin name and major/minor/sub-basin code
- Minor basin name
- Monitoring agency code and hydrologic unit code
- Station depth
- Station type.

All but station name and station depth are "key" data elements, meaning that they hold critical values by which data are selected or arranged in a data retrieval.

EXHIBIT II-1

Example of Overall STORET Data Organization

```
                                  |------------------------------------------ primary station code
                                  |                    |---------------------- secondary station code
                                  MID098765432U12      WWM11234
                                  46 14 31.2 089 21 48.0 ---------------------------- latitude/longitude
                                  XYZ CHEMICAL CO LTRT RCRA INGR WELL #4 ---------------------- site name
station header ------             26053        MICHIGAN --------------- FIPS state/county code, state name
                                  LAKE SUPERIOR   990793 --- major basin name, major/minor/sub-basin code
                                  ONTONAGON RIVER ------------------------------------- minor basin name
                                  21MIGW ------050403021---------------- agency code and hydrologic unit
                                   0050  FEET DEPTH ------------------------------------- station depth
                                  AMBNT/WELL/IND/DSPR/LTRT/DOWN/HAZARD/RCRA ---------------- station-type

------------------------------------------ descriptive paragraph ------------------------------------------

        THIS IS A LAND TREATMENT FACILITY OWNED BY XYZ CHEMICAL CO., A WHOLLY
        OWNED SUBSIDIARY OF ACME PETROLEUM.  IT IS USED FOR LANDFARMING REFINERY
        WASTES.  HANDLES WASTES FROM ACME REFINERIES AS WELL AS OTHERS.  HAS BEEN
        USED TO DISPOSE REFINERY WASTES FOUND ON THE JONES, GA SUPERFUND SITE.

-- date, time, "media,SMK,UMK" field ---     ---------------- parametric data field ----------------

                                  SMK OR      00011        00300        00400        01045 ---- parameter code
DATE          TIME   MEDIA        DEPTH       T° F         DO mg/l      pH SU      Fe Tot ug/l --- "parameter"

73/09/11      0915   RCRAGW       2110        66.0         8.4          6.0 ------------------ parametric value
UMK FOR ABOVE SAMPLE--------04001100
73/09/11      0916   RCRAGW       2220        66.2         8.4          6.0
UMK FOR ABOVE SAMPLE--------04001100
75/10/21      1100   RCRAGW       0000        48.0         10.6         6.5          120
UMK FOR ABOVE SAMPLE--------07003303
76/06/30      0810   RCRAGW       0020        69.0         8.4          6.6          50K ------- remark code
UMK FOR ABOVE SAMPLE--------07003100
76/07/27      1620   RCRAGW       0000        73.2         7.2          6.6          100U
UMK FOR ABOVE SAMPLE--------07003100
```


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A station must be "established" (i.e., a station header must be created) before any other data for that station can be stored in STORET. One STORET station header will be used to describe each RCRA monitoring well. Technical instructions on how to create a station header for a RCRA monitoring well can be found in Chapter WQ-DE of the STORET User's Handbook, and programmatic instructions can be found in Section 4.1 of this report.

The descriptive paragraph of a station is an optional field for entering textual information. From Exhibit II-1, the descriptive paragraph may look like:

THIS IS A LAND TREATMENT FACILITY OWNED BY XYZ CHEMICAL CO., A WHOLLY OWNED SUBSIDIARY OF ACME PETROLEUM. IT IS USED FOR LANDFARMING REFINERY WASTES. HANDLES WASTES FROM ACME REFINERIES AS WELL AS OTHER. HAS BEEN USED TO DISPOSE REFINERY WASTES FOUND ON JONES GA SUPERFND SITE.

As opposed to the station header which is composed of nine discrete data elements, the descriptive paragraph may contain any information the user wishes to enter, in any format, up to 1070 characters in length. The information in the descriptive paragraph may be about the station, the monitoring agency, or anything that the user wishes. It is an optional field, and data selection cannot be based on its contents. Suggested information for RCRA users to store in the descriptive paragraph may be found in Section 4.2.

The parametric data field in a STORET record is where all the measurements are stored. As can be seen in Exhibit II-1 and the example below, the parametric data field is a matrix:

DATE	TIME	DEPTH	00011 T° F	00300 DO mg/l	00400 pH SU	01045 Fe Tot
73/01/03	0925	0001	33.0	13.8	6.5	50K
73/09/11	0915	0001	66.0	8.4	6.0	
73/09/11	0916	0001	66.2	8.4	6.0	
75/10/21	1100	0005	48.0	10.6	6.5	120
76/06/30	0810	0022	69.0	8.4	6.6	50K
76/07/27	1620	0003	73.2	7.2	6.6	100

For each station, the y-axis holds the date, time, and depth of each sampling event, the x-axis holds all the data elements, and the cells of the matrix hold the data values. Users may specify which data elements are to be used to store data at a station. Each station may have up to 999 data elements. Chapter WQ-DE of the STORET User's Handbook gives technical instructions on the storage of parametric data. Section 4.3 of this manual contains an explanation of the use of the parametric data field specifically for storing RCRA ground-water monitoring data.

2.2.3.2 Special STORET Features

There are several special features in STORET that will be helpful to RCRA/STORET users. These features include:

- The capability to store replicate data values
- The capability to flag any data point with a "remark", qualifying the value.

In STORET, a user normally stores one and only one value per data element for a single place-date-time-depth. RCRA data is usually collected in replicate; that is to say that a single sample may be:

- A split sample, where several separate samples are collected at a well during the same sampling event
- A field aliquot, where one sample is divided between several containers in the field
- A lab aliquot, where one sample is divided between several containers in the lab.

Each replicate of that sample is analyzed for the same components. The STORET replicate data storage feature allows users to store all values obtained from those replicate samples, even though they are from the same place-date-time-depth-data element. Users may enter values that are actually a statistic of all the other values for a sample (such as mean value

or maximum value) and flag them as such. Then, upon data analysis, users may specify which data points, based on those flags, they wish to see. Storage of replicate data is described in Section 4.3.

Many reported values are not precise. For example, a value may be reported as "less than the detection limit" or "tested for but not detected". STORET has a variety of "remark codes", special qualifiers that have such meanings as "less than" (as represented by the symbol "K") or "undetected" (as represented by the symbol "U") that may be added to any data value. As depicted in Exhibit II-1, remarked data looks like the following:

```
00400          01045 ---- parameter code
pH SU       Fe Tot ug/l --- "parameter"

6.5            50
6.0 ------------------ parametric value
6.0
6.5           120
6.6            50K ------- remark code (K)
6.6           100J ------ remark code (J)
```

Uses of remark codes are explained in Section 4.4.

2.2.4 STORET as an Analytical System

STORET was selected by OSW as the repository for RCRA ground-water monitoring data in part because of its excellent data analysis programs. The analyses that may be performed and the logic behind running a data analysis program are discussed briefly below.

2.2.4.1 Data Analysis Programs

STORET provides its users with programs for many different types of analyses. These include:

- Non-analytical data displays, such as an "index", or listing of all the stations meeting user-specified criteria, or a station location map

- Tabular analyses, such as a statistical summary of data, or an analysis of the frequency of drinking water standard violations

- Graphic displays of trends, including the concentration of a substance over time

- Map displays of data, including the mapping of statistically summarized parametric data, the aggregation and analysis of data within user-specified geographic boundaries, and the mapping of trends in water quality indicator levels

- Interfaces with other important data analysis systems, such as the Statistical Analysis System ("SAS").

STORET analytical programs are described in the STORET Users' Handbook in Section WQ-RET.

2.2.4.2 STORET Retrieval Logic

It is important for RCRA/STORET users to keep STORET retrieval logic in mind when storing data. Understanding this logic will help RCRA users place key information in strategic locations where it may serve as data selection criteria.

The logic behind running a STORET data analysis program (also called a "data retrieval") reflects the structure of the data base as has been described previously. A "typical" data retrieval might look like:

```
PGM=INVENT,PURP=RCRA,A=21MIGW,S=ALL,
EXTRACT=WELL,P=00940,P=01045,P=32730,
P=00929,P=00945,BD=820101,ED=841231,
```

When users submit a data retrieval program, they do so in the following manner:

- First, the user must specify the STORET data analysis program to be run (in this case, a data inventory

as identified by entering "PGM= INVENT")

Users must also enter a purpose for running the program, shown as PURP=RCRA

Next, the user enters criteria for the selection from the data base of stations from which they want to see data. This is done by means of selectors (the first broad "cut" through the data base, in this case by the agency code "21MIGW" and by all stations within that agency, as specified by "ALL")

Then the user may add station restrictors (criteria that further narrow down the stations chosen by the selectors; in this case, extracting only those stations that have a station-type code of "WELL")

Then, the user identifies the data to be analyzed (by specifying five-digit parameter codes that represent specific parameters such as "P=00940" which represents chloride, P=01045" which represents iron, etc.)

Next, the user may apply restrictions to the data that is analyzed. Data restrictions are almost always by date, time, and/or depth (in the example, data are restricted by date by using the keyword/value combinations of "BD=820101, ED=841231", where "BD" and "ED" stand for "beginning date" and "ending date" respectively)

- In some retrieval programs, users may enter specifications for the output format.

2.3 Strategy for the Use of STORET for RCRA Ground-Water Monitoring Data

The objectives of this data management strategy and the data needs as identified by RCRA managers are described below.

2.3.1 Goals of the RCRA/STORET Data Management Strategy

Transfer of responsibility for regulating hazardous waste facilities from EPA to the States is an important objective of the Resource Conservation and Recovery Act. This is not an immediate process, but one that is happening over time, as EPA approves more and more States' hazardous waste plans and grants them authorization. As this happens, it is likely that the amount and type of ground-water monitoring and reporting will vary from regulator to regulator. The data collected by RCRA regulators will be equally as diversified. It is not the intention of this strategy to dictate to RCRA regulators the handling of their data. Rather, the intention of this strategy is to provide RCRA data managers with a framework for the systematic organization and storage of their data. RCRA data managers may chose to store as much or as little of the information described in this report as they wish on STORET (users will note that certain information are STORET system requirements, and must be entered when using STORET).

The instructions presented in this manual are intended as guidelines, not rules, for RCRA data management. In many instances, the reader will notice the words "must" or "should" used. As this manual presents no mandatory instructions for RCRA data managers, the term "must" is used to convey instuctions which are STORET System requirements (i.e., if the user does not perform the instruction which "must" be performed, the STORET System will not accept the data). When the term "should" (or "shall") is used, the instruction being conveyed is one that has been found particularly useful to RCRA users, but is not necessarily a STORET System requirement.

Other goals for this RCRA ground-water monitoring data management strategy include:

- The clear distinction of RCRA wells in STORET as wells monitoring controlled hazardous waste facilities

- The appropriate positioning of key information so that data organization and retrievals may be based on that information

- The capabilities for RCRA users to document supporting information, such as the

purpose of the sampling event or the physical conditions during sampling, in the STORET data base

- The capabilities to document testing and analytical techniques in the STORET data base.

2.3.2 Data Needs Identified for RCRA/STORET Users

Three categories of data have been identified as needed by RCRA/STORET users to completely document a sampling point and a sampling event. These types include:

- Site descriptors
- Sample descriptors
- Analytical findings.

These categories of data are perhaps more information than would be needed to store surface-water data. The unique needs of ground-water data managers prompted development of this manual. The categories of data, and their location in the STORET data base according to this strategy are described in the sections that follow. It is not expected that any one user will want to store all of the data elements described here.

2.3.2.1 Site Descriptors

Factors which are descriptive of the sampling location and would not change over time are called "site descriptors". There are three types of site descriptors needed by RCRA data managers to support their ground-water monitoring data. They are:

- Facility descriptors -- descriptors of the operation being regulated, such as type of waste management area being monitored (e.g., landfill), facility location (e.g., zip code) and type of business (e.g., disposer of hazardous waste). Exhibit II-2 lists the recommended facility descriptors for RCRA data, and shows the "locations" in the STORET data base where facility descriptors should be stored.

EXHIBIT II-2
Facility Descriptor Locations in the STORET Data Base
For RCRA/STORET Users

Data Element *	Station Header	Descriptive Paragraph	Parametric Data	
			Fixed-date	Variable date
Facility name	X			
Type of waste management area (landfill, etc)	X			
RCRA-regulating agency		X		
Facility Dun & Bradstreet number	X			
State/county codes and names	X			
Major/minor/sub-basin codes and names	X			
Hydrologic unit (USGS)	X			
Facility type ** (treater, storer, etc)	X			
Other permits held by facility		X		
RCRA permit status		X		
Ownership of facility **	X	X	X	
Legislation of concern **	X	X		
Facility history		X		

* -- Numbers in parentheses are STORET parameter codes; "n/a" means no parameter code available yet

** -- Information may fall into several categories and/or be stored in several locations

EXHIBIT II-2 (Continued)
Facility Descriptor Locations in the STORET Data Base
For RCRA/STORET Users

Data Element *	Station Header	Descriptive Paragraph	Parametric Data	
			Fixed-date	Variable date
Land use		X		
Potential targets, nearby sensative ecosystems		X		
Contacts for further information **	X	X		
Total well field description		X		
Other monitoring activities		X		

* -- Numbers in parentheses are STORET parameter codes; "n/a" means no parameter code available yet

** -- Information may fall into several categories and/or be stored in several locations

Physical setting descriptors -- descriptors of the setting in which the facility is located and from which samples were taken, such as aquifer name or geologic formation name. Exhibit II-3 lists the recommended physical setting descriptors for RCRA data and the "locations" in the STORET data base where physical setting descriptors should be stored.

Well descriptors -- descriptors of those characteristics of a well which may be an important factor in data analysis and which would not be expected to change over time, such as type of well, well depth, and casing material. Exhibit II-4 lists the recommended well descriptors for RCRA data and the "locations" in the STORET data base where well descriptors should be stored.

Section 4 of this report describes what to store and how to store these different types of data in the various STORET locations.

2.3.2.2 Sample Descriptors

Factors that describe a sample at the time it was taken and which are expected to change with each sampling event are called "sample descriptors". Three types of sample descriptors needed by RCRA data managers to support their ground-water monitoring data are:

- Sampling purpose descriptors -- descriptors of why and by whom a sample was taken. Exhibit II-5 lists the recommended sampling purpose descriptors for RCRA data, and shows the "locations" in the STORET data base where facility descriptors should be stored.

- Sampling conditions descriptors -- descriptors of the conditions during the sampling event, such as the depth to the top of the water table or the temperature. Exhibit II-6 lists the recommended sampling conditions descriptors for RCRA data,

EXHIBIT II-3

Physical Setting Descriptor Locations in the STORET Data Base
For RCRA/STORET Users

Data Element*	Station Header	Descriptive Paragraph	Parametric Data	
			Fixed-date	Variable date
Proximity and position relative to drinking water sources		X		
Lithologic modifier			X	
Source of geohydrologic data (84112)			X	
Topography (84060)			X	
Geologic age or formation name (84000)			X	
Aquifer name (84001)			X	
Lithology		X		
Aquifer thickness	X			
Depth to top of lithologic unit (73661)			X	
Depth to bottom of lithologic unit (73662)			X	

* -- Numbers in parentheses are STORET parameter codes

EXHIBIT II-4

Well Descriptor Locations in the STORET Data Base
For RCRA/STORET Users

Data Element*	Station Header	Descriptive Paragraph	Parametric Data	
			Fixed-date	Variable date
Latitude/longitude	X			
Well "position" relative to waste management area	X	X		
Purpose of well (84061)	X		X	
Type of monitoring (RCRA, etc.)	X			
Drilling method (84063)			X	
Screened interval (82509)			X	
Depth of hole (72001)			X	
Depth of well (72008)			X	
Well intake finish (84113)			X	
Well casing material (84114)			X	
Type of material from which opening is made (84115)			X	

* -- Numbers in parentheses are STORET parameter codes

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EXHIBIT II-4 (continued, p.2)

Well Descriptor Locations in the STORET Data Base
For RCRA/STORET Users

Data Element *	Station Header	Descriptive Paragraph	Parametric Data	
			Fixed date	Variable date
Drilling fluid (84116; used with 84063, "drilling method")			X	
Available logs (in variable date if more than one log is available)			X	X
Type of surface seal (84117)			X	
Bottom of seal (73663)			X	
Method of development (84118)			X	
Top of casing below LSD (73664)			X	
Bottom of casing segment below LSD (73665)			X	
Casing thickness (73666)			X	
Diameter of open section (73667)			X	
Width of opening (73668)			X	
Length of well opening (73669)			X	
Source of evacuation data (84119			X	

* -- Numbers in parentheses are STORET parameter codes

EXHIBIT II-4 (continued, p.3)

Well Descriptor Locations in the STORET Data Base
For RCRA/STORET Users

Data Element *	Station Header	Descriptive Paragraph	Parametric Data	
			Fixed date	Variable date
Casing inner diameter (82513)			X	
Casing outer diameter (73670)				
Bore hole diameter (82513)			X	
Packing material (84120)			X	
Date of analysis (73672)			X	
Date of extraction (73673)			X	
Type of water use (84056)			X	

* -- Numbers in parentheses are STORET parameter codes

EXHIBIT II-5

Sample Purpose Descriptor Locations in the STORET Data Base
For RCRA/STORET Users

Data Element *	Station Header	Descriptive Paragraph	Parametric Data	
			Fixed-date	Variable date
Performer of sampling (84067)				X
Sampling type and frequency (84053)				X
Inspection type (84057)				X
Regulating agency (84121)				X
Sampling purpose (84122)				X

* -- Numbers in parentheses are STORET parameter codes

EXHIBIT II-6

Sampling Condition Descriptor Locations in the STORET Data Base
For RCRA/STORET Users

Data Element *	Station Header	Descriptive Paragraph	Parametric Data	
			Fixed-date	Variable date
Production level (73674)				X
Sampling date				X
Elevation of land surface datum (72000)				X
Elevation of ground water (71993)				X
Depth to water level (72019)				X
Water level relative to mean sea level (82545)				X
Measuring point elevation (82514)				X
Depth from level to measuring point (82546)				X

* -- Numbers in parentheses are STORET parameter codes

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and shows the "locations" in the STORET data base where facility descriptors should be stored.

Testing and analytical techniques descriptors -- descriptors to document how a sample was taken and/or analyzed, such as how the sample was drawn and whether or not it was replicated. Exhibit II-7 lists the recommended testing and analytical techniques descriptors for RCRA data, and shows the "locations" in the STORET data base where facility descriptors should be stored.

2.3.2.3 Analytical Findings

The findings that were determined from each sample are called "analytical findings". (e.g., the concentration of arsenic in the sample). Analytical findings will be stored in the STORET parametric data field. Instructions on storing findings can be found in Chapter WQ-DE of the STORET User's Handbook and Section 4.2 of this report.

EXHIBIT II-7

Sampling/Analysis Descriptor Locations in the STORET Data Base
For RCRA/STORET Users

Data Element *	Station Header	Descriptive Paragraph	Parametric Data	
			Fixed-date	Variable date
Volume of water evacuated from well prior to sample collection (73675)				X
Method of evacuation (84124)				X
Method of water-level measurement (84125)				X
Monitoring well sampling method				X (UMK)
Lab identification number (00008)				X
Replicate number and type				X (SMK)
Sampling and analytical technique				X (UMK)
Pumping period (72004)				X
Sampling point description (84062)				X
Data quality assessment (84129)				X
Source of depth data (84126)		X		X
Method of depth measurement (84127)				X

* -- Numbers in parentheses are STORET parameter codes

EXHIBIT II-7 (continued)

Sampling/Analysis Descriptor Locations in the STORET Data Base
For RCRA/STORET Users

Data Element *	Station Header	Descriptive Paragraph	Parametric Data	
			Fixed-date	Variable date
Source of evacuation data (84119)				X
Source of water level data (84128)				X

* -- Numbers in parentheses are STORET parameter codes

3.0 HOW TO GET STARTED

3.0 HOW TO GET STARTED

In order for users to access the STORET System, they must perform the following steps:

- Obtain the required computer access codes from EPA
- Have equipment that is compatible with the computer on which STORET resides
- Make modifications to their account set-up which will improve their capabilities to use STORET (see Section 3.3).

They should:

- Receive training and/or documentation.

Each of these steps is described in greater detail in the sections that follow.

3.1 Getting Computer Access Codes

In order to use STORET, users must first arrange access to the computer system on which STORET resides. To do this, the new user should first call STORET User Assistance (800-424-9067) and notify them of his/her intention to become a STORET user, and ask to be referred to an ADP Coordinator located in the appropriate EPA Regional Office.

Next, new users must contact the Regional ADP Coordinator referred to them by STORET User Assistance to ascertain whether the intended user's organization is already using STORET and to develop a funding agreement for use of the system. The funds needed are simply the standard EPA timeshare account. Several funding mechanisms are available to new users:

- Other STORET users may exist in the new user's organization, and a simple expansion of the existing user's arrangement may be worked out.
- The EPA Regional Office may agree to share some of the expenses for using STORET with the new user.
- Use of STORET for RCRA ground-water data management is a grant-eligible item under Sec. 3011 RCRA State Hazardous Waste Grants.

Once a funding mechanism has been arranged between a new user and the ADP Coordinator, the new user will be given three access codes that will allow use of the

computer system on which STORET resides. These codes include:

- A "User ID", a code identifying the user (often the user's initials)

- An account code, a code for the organization "paying the bill" for this use of STORET

- A password for system access security (the user may change the password as soon as the account becomes authorized, and will be asked to change it several times during the life of the account).

In addition, users will be queried, upon logging on to the computer, for a "FIMAS ID". The response to this prompt for STORET users should be "STORP".

When users are issued the computer access codes, they are also issued three important phone numbers. These phone numbers are:

- STORET User Assistance in Washington D.C. (800-424-9067 or FTS/202-382-7220)

- Technical Support in Research Triangle Park, North Carolina (800-334-2405)

- Telecommunications Support in Research Triangle Park, North Carolina (800-334-0731).

Users should call Telecommunications Support as soon as they receive their computer access codes to get a specific phone number for accessing STORET. Although the computer on which STORET resides is located in North Carolina, local telephone numbers are available for many users so that long distance calls do not have to be made every time the user accesses STORET.

3.2 Assuring Equipment Compatibility

To access STORET, users will need a modem/telephone set-up to communicate with the computer, and a remote terminal with which to interact with the STORET system. There are two hardware specifications for these equipment. These specifications are:

- The modem used for telecommunications must have a baud rate of either 120, 300 or 1200.

- The computer terminal to be used to operate STORET must be an ASCII teletype equivalent (most terminals are ASCII teletype equivalent).

Microcomputers, such as Lexitrons or IBM PC's may be used to access STORET if a modem and communications software are available. If new users do not know whether their available hardware meet the above criteria or if their software has the right specifications, they should ask the ADP contact within their organization, the ADP Coordinator in the EPA Regional Office, or STORET User Assistance.

Upon getting access to the EPA computer in Research Triangle Park, North Carolina, users automatically have arrangements in place for their computer output to be printed there and mailed to them. This is a "default" set-up; i.e., these arrangements will be maintained unless the user makes others. Users may find it useful to have some sort of printer or printing terminal available to them, particularly when they run interactive programs or programs that yield a small (e.g., five pages or less) output. This may be accomplished by:

- Users operating STORET on a printing terminal
- Users having their own printers to which output can be routed
- Users making arrangements with their EPA Regional office for their output to be routed and printed there, and then forwarded to the user.

If the user chooses not to make any of the above arrangements (or cannot), output can still be mailed to the user from North Carolina.

3.3 Set-Up Modifications for Accessing STORET

Once users have received access codes and have learned how to log-on to the compute, they must execute a few simple procedures to get started on STORET. These include:

- The "NEWUSER" command, which makes certain internal system arrangements for using STORET
- The "JOBPARM" command, which sets up a job card for users (the "card" that will almost always automatically accompany any program that the user runs, which identifies the user and any program specifications the users desires) with default values.

Specific instructions on how to execute these procedures are provided in the STORET training materials (see Section 3.4 below).

3.4 Training and Documentation

All new STORET users should attend the introductory training class on system operation given by the STORET User Assistance Team, and should receive the documentation needed to operate STORET. Other types of training and documentation are available to the user, and new users may wish to obtain them once they feel proficient in STORET.

New users should contact the STORET User Assistance Team and ask to be included in the next available training class. The STORET User Assistance Team gives training classes many times during the year, and at various locations depending on the number of users needing training. Therefore, arrangements for training convenient to the user can be made.

All new STORET users receive the two-volume STORET User Handbook (users' manual) and training material, whether or not they attend a training session. The training materials are actually a number of data files that are "on-line" (available for user access on the computer) and may be retrieved by the user at any time. These documents explain the minimum that users must know to operate the IBM and access STORET. Other more detailed manuals that users may want to obtain include:

- A manual on operation of TSO ("Time Sharing Option", the language used to access STORET on the IBM computer)

- A manual on operation of WYLBUR (a text-editor language also available on the IBM computer).

Instructions on how to access the on-line TSO and WYLBUR manuals were given in Section 1.3 of this report. It should be noted that the programmatic material (specifically, that pertinent to RCRA and to ground-water data in general) contained in this manual is not presently taught by the STORET User Assistance Team in their regular STORET training curriculum.

Once the user has completed these procedures, he/she may begin to enter and retrieve data. The next chapter, Chapter 4.0, provides the information RCRA users need to know to format their ground-water monitoring data for entry into STORET.

4.0 DATA FORMATTING

4.0 DATA FORMATTING

Chapter WQ-DE of the STORET Users' Handbook describes the technical procedures for storing data in STORET. Specifically, it describes the various data entry procedures and explains how to invoke each of them. Chapter 4.0 of this report is meant to be a supplement to chapter WQ-DE of the STORET User's Handbook. Rather than describing the technical procedures for entering any data into STORET, this chapter assists RCRA users in understanding what information is needed and describes what has been determined to be the most useful organization and format of RCRA ground-water monitoring data in STORET. Extensive capabilities have been provided for storing site and sampling data. Users should determine which of these capabilities are appropriate to them.

4.1 Station Establishment in STORET

Before any ground-water monitoring data can be entered in STORET, an identification of each station from which the samples were taken must be "established" in the data base. In other words, a station header for each RCRA ground-water monitoring well to which data are attributed must be created. Data in the station header remains relatively fixed for the life of the station. Although data in the station header may be changed, they are not normally added to or changed once established.

A well-organized station header for RCRA wells will:

- Clearly distinguish RCRA wells from other types of monitoring wells in STORET
- Document the position of the well relative to other monitoring wells at the same facility.

The recommended organization of RCRA well information to meet the above station header needs is described in the sections that follow.

4.1.1 Information Needed to Establish a Well in STORET

In order to establish a RCRA monitoring well in STORET, users must have the following information:

- Facility identification information, including:
  - Dun & Bradstreet number
  - Name
  - Type of waste management area being monitored

- Location of the well, including:
  - Latitude/longitude coordinates
  - State and county
  - Aquifer
  - Hydrologic unit
- Identification code for contributor of the data (called an "agency code"; this is <u>not</u> the user's ID)
- Position and sequential number of the well relative to other wells at the facility.

Specific formats for each of these elements are described below.

4.1.2 Agency Code

The agency code in the STORET station header is that element which identifies the "coordinator" of the data. All STORET monitoring stations must have an agency code. For RCRA ground-water monitoring data, the agency code represents the RCRA regulator who is contributing the data to STORET and <u>not</u> each facility contributing data to the regulator. An organization coordinating data being put into STORET may have one or more agency codes, but each station in STORET may have only one.

<u>RCRA users should store ground-water monitoring data under an agency code that is unique to other agency codes the users' organization may have</u>. Users may identify other agency codes that may exist for their organization in several ways:

- By contacting the ADP specialist or the EPA liason in that organization
- By contacting the ADP Coordinator and/or STORET coordinator in the EPA Regional Office
- By contacting STORET User Assistance
- By retrieving a STORET help file called "AGENCODE".

There are four recommended components to an

agency code for RCRA ground-water monitoring data. In general, the eight-digit STORET agency code for RCRA ground-water monitoring data should be composed of:

- A STORET-understood indication in the first two characters of who that the agency code represents, which include:

  - "11" for an EPA Regional office or other Federal agency

  - "21" for a State agency.

  A two-letter abbreviation or number representing the agency as the third and fourth characters, which may be either:

  - The Federal Information Processing System two-letter abbreviation for the State (the standard abbreviation, which can be found in Appendix C of the STORET Users' Handbook)

  - "HQ" for EPA Headquarters program offices

    The two-digit number of the EPA Region, such as "01" for Region I or "08" for Region VIII.

- "R" to indicate that the data is collected under the RCRA program as the fifth character

- "G" to indicate that the data is ground-water monitoring data as the sixth character

- Two optional "free" characters for the user to code as needed for the seventh and eighth characters.

Examples of STORET agency codes for RCRA ground-water monitoring data are shown below:

For a State agency, 21IARG01
or
For an EPA Regional Office, 1105RGAB

4.1.3 Station Codes

Station codes are codes which identify the specific site within the monitoring agency that the data are for. For RCRA ground-water monitoring data, each well is considered a "site" (or a "station", in STORET terminology). Each site must have at least one, but may have up to four station codes:

- One primary station code, which is required
- Up to three secondary station codes, or "aliases", which may be assigned to a well, but are not required.

Station codes may be numeric, alphabetic, or a combination of both. The two important requirements for station codes are that each code may not exceed 15 characters in length, and that each code, whether it is primary or secondary, be unique from all other station codes yet stored in STORET.

The primary station code for RCRA wells should include three components. These include:

- Facility Dun & Bradstreet number
- Relative position of the well to other wells for that waste management area (i.e., up- or downgradient)
- Unique number of the well for that waste management area.

For example, a primary station code for a RCRA ground-water monitoring well may look like:

TXD123456789U04

The first 12 characters of this primary station code make up the Dun & Bradstreet (D & B) number of the facility at which the well is located. The D & B number of each facility is unique, and is used as a standard for many EPA (and other) data bases. D & B numbers already exist for most RCRA facilities, and should not be "made up" arbitrarily by the user. D & B numbers for RCRA facilities may be identified through EPA's FINDS Data Base. Users should contact the group that maintains FINDS

in the EPA Regional Office to identify whether or not a D & B number already exists for their facility. If not, the FINDS group will have one created.

The character that follows the D & B number in the STORET primary station code (the thirteenth of the 15 characters) for RCRA wells is an alphabetic character that describes the relative position of the well to the waste management area. The thirteenth character should be a value of "D" for downgradient or a value of "U" for upgradient. If another code is needed (to represent a different type of station designation), users should contact OSW and inform them of this need. OSW will oversee creation and documentation of the new code.

The last two of the fifteen primary station code characters are for assigning a number to each monitoring well that is unique for that waste management area. Wells may be numbered sequentially starting from the first upgradient well, and increasing by one or more in a clockwise direction. Sequential numbering is particularly meaningful if additions or deletions of wells are not expected. However, as changes are likely to happen during the regulated life of the facilithy, just assigning 2-digit well numbers that are not sequential (but are unique for each well) is acceptible. Ninety-nine wells may be stored in this fashion. Should the user need to number more than 99 wells, letters of the alphabet should be used (for example, A0, A1, A2, etc., up to A9, and the B0, B1, etc.).

Assignment of the secondary station codes for a RCRA well is left up to the user. Users may enter any numbering scheme they wish for the station "alias". Users may be interested in having the secondary station code be any of the following:

- The permit number for any permits which have been issued to the facility
- An identifier for the district or region in which the facility is located
- An internal numbering scheme which may be used for other types of stations that are also being stored in STORET.

Users may keep in mind that data retrievals may be based on any of the station codes, not just the primary station code. For that reason, each station code, regardless of whether it is primary

or secondary, should be unique.

4.1.4 Station Naming Conventions

The "station location" or "station name" is a required data element in the STORET station header. Station names may be up to 48 characters in length. No data selection may be made based on the information appearing in the station name, nor does the station name appear in every output report. However, it is one of the few opportunities for users to enter a brief textual description of a station.

The STORET station name for RCRA wells should have the following items of information:

- Facility name
- Type of waste management area
- An indication that the data is collected from the well under RCRA
- The position and internal number of the well.

Users may have to abbreviate some words in the station name in order to enter all the needed information within the 48-character length limit. Some examples of complete station names for RCRA wells include:

XYZ CHEMICAL CO LTRT RCRA DNGR WELL#4
or
CY OF OAKDALE MUNIC LF RCRA UPGR WELL#2

The facility name used for the station name in STORET should resemble the primary facility name in the FINDS data base as closely as possible. Users may find out the exact name of the facility as it has been entered in FINDS by calling the FINDS group in the EPA Regional Office.

The next component of the station name should be the type of waste management area being monitored. For example, the type of waste management area might be a landfill or a surface impoundment.

The third component of the station name should simply be "RCRA". This is entered to distinguish the well as one located in a controlled hazardous waste facility.

The last component of the station name should be an identification of the position and number of the well amongst the RCRA wells for this waste management area. This component should have the same information as that in the last three digits of the primary station code, but presented more explicitly, such as "UPGR WELL#1" instead of "U01".

4.1.5 Station Location Identification

There are several data elements in the STORET station header that identify the location of the site. These include:

- The latitude/longitude coordinates of the site (plus a precision code)
- The hydrologic location of the site, expressed as major/minor/sub-basin
- The state and county in which the site is located
- The USGS hydrologic unit in which the site is located.

An explanation of how to enter these locational data elements for RCRA wells is given below.

4.1.5.1 Latitude/Longitude and Precision

Latitude/longitude coordinates are required data elements for all STORET stations (they are two separate station header data elements). The latitude in STORET is formatted as "DDMMSS.S" and the longitude as "DDDMMSS.S", where D equals degrees, M equals minutes, and S equals seconds. Note that expression of degrees greater than one hundred is acceptible for longitude.

Both latitude and longitude may be entered to the tenths of seconds. This corresponds

to approximately 10 feet. As one of the goals of the RCRA ground-water data management strategy is to distinguish each monitoring well in STORET as clearly as possible, the latitude/longitude coordinates of all RCRA monitoring wells in STORET should be precise to the tenths of seconds. The precision code, which must be entered with the latitude/longitude coordinates reflect the user's knowledge of how precise the coordinates are. An explanation of how to enter latitude/longitude coordinates and the accompanying precision code may be found in Chapter WQ-DE of the STORET User's Handbook.

4.1.5.2 Major/Minor/Sub-Basin Codes and Names

Users must also identify the hydrologic basin in which the station is located. For RCRA ground-water monitoring wells, users should identify the major, minor, and sub-basins in which the facility is located, as defined in Appendix C of the STORET Users' Handbook. Identification of the aquifer which is being monitored is done in the parametric data field. This is described in Section 4.3.

4.1.5.3 FIPS State/County Codes

To identify the geopolitical location of the station, users must use the Federal Information Processing System (FIPS) code for state and county. FIPS codes are five-digit codes, the first two representing the state and the last three representing the county. Users should enter the FIPS codes and state/county names as they are shown in Appendix C of the STORET User's Handbook. For example, the State code for the State of Michigan is 26. The county code for Kalamazoo County in Michigan is 077. Therefore, the total FIPS code for a site in Kalamazoo County, Michigan would be:

26077

4.1.6 Station-Type Codes

Station-type codes are those station header data elements that describe the type and purpose of the monitoring station. STORET currently has several categories of station-type codes. Certain of those categories are required; i.e., one or more

codes from those categories must be included in every station header. Station-type codes from the other categories are optional. Users must string together station-type codes relavent to their station. For example, a well monitoring a hazardous waste landfill located in an industrial facility might have a station-type code of:

WELL/AMBNT/IND/LNDFL/HAZARD

The complete list existing of station-type categories and codes may be seen in Appendix A. At any time, the current list of valid STORET station-type codes may be retrieved in the on-line data set called "STORET.HELP.STATION.TYPE".

Existing and planned station-type codes of particular importance to RCRA/STORET users are highlighted in Exhibit IV-1, following this page. Many of the station type codes that are recommended for the station headers of RCRA wells are not of the "required" type for STORET. However, in order to completely distinguish RCRA monitoring stations from others in STORET, they should be used.

4.1.7 Station Depth

The station depth field in the STORET station header is used, for surface water stations, to store the total depth (i.e., from surface to bottom) of the point where the sample was taken. RCRA/STORET users may store the aquifer thickness, at the point where the well is located, in the station depth field.

4.1.8 Hydrologic Unit Code

The hydrologic unit code of the STORET station header is an optional eight-digit code representing the USGS hydrologic unit in which the station is located. The components of the codes represent hydrologic region, sub-region, accounting unit, and cataloging unit. This coding scheme represents different basin designations than the major/minor/sub-basin fields. As this coding scheme is widely used by data managers, it is recommended that it is also used for RCRA wells. Exhibit IV-2 depicts the scheme of USGS hydrologic unit designations. Clearer, larger-scale maps of hydrologic units may be obtained from the Geological Survey.

EXHIBIT IV-1

Recommended STORET Station-Type Codes for RCRA Ground-Water Monitoring Wells

Level	Requirement	Code	Definition
1	Required, 1 only	WELL	The station monitors water in a well or ground water site
2	Required, 1 only	AMBNT	Used to indicate the sample was gathered in a in a natural body of water, as opposed to within a facility or in the effluent
3	Optional, 1 only	MUN	The site from which samples are gathered is primarily associated with municipal water supply and/or sewage
		IND	The site from which samples are gathered is primarily associated with an industrial facility
		CMBMI	The site has both of the above attributes
		PRIV	The site from which samples are gathered is privately owned
		ABND	The site from which samples are gathered is abandoned

EXHIBIT IV-1 (continued, p.2)

Recommended STORET Station-Type Codes for RCRA Ground-Water Monitoring Wells

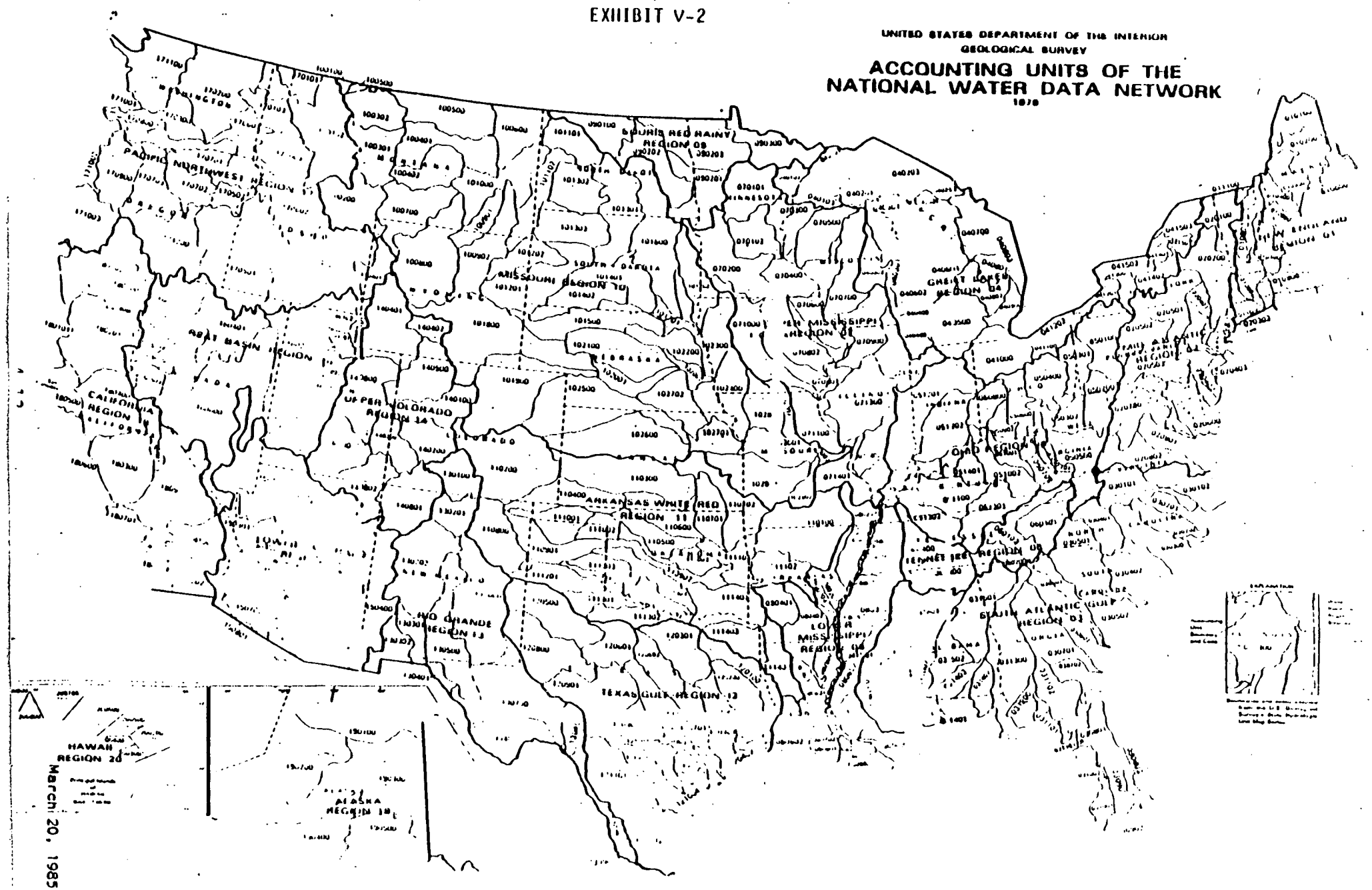
Level	Requirement	Code	Definition
4	None recommended for RCRA/STORET wells		
5	Optional, as many as are appropriate should be entered	HAZARD	Site contains toxic or hazardous wastes
		LNDFL	Landfill
		IMPDMT	Impoundments, waste pits, treatment lagoons, settling ponds, and evaporation ponds
		LTRT	Land treatment area
		UPGR	Upgradient
		DOWN	Downgradient
		RCRA	RCRA monitoring site
		SF	"Superfund" monitoring site
		UI	Underground injection
		WTRSUP	Water supply

EXHIBIT IV-1 (continued, p.3)

Recommended STORET Station-Type Codes for RCRA Ground-Water Monitoring Wells

Level	Requirement	Code	Definition
5 (continued)		PEST	Pesticides
		WQ	Water quality monitoring

EXHIBIT V-2



March 20, 1985

4.1.9 Unlocking Key and Dates

Many users are concerned about data security. The STORET System contains an element called an "unlocking key" which helps prevent data from either being changed or retrieved by unauthorized persons. The unlocking key is stored with the station header at the time the site is being established. No one but a user with the unlocking key may ever change any data in STORET.

The unlocking key is used in conjuction with a "lock-after" date if users wish no one to look at the data who isn't authorized. The lock-after date is expressed as "YY/MM" (year/month). If a user wants no one to look at the data who is not authorized, a lock-after date of 50/01 (or some other date in the past) should be entered with their unlocking key. This means that "after January, 1950", no one may retrieve these data without including the unlocking key in the retrieval request. If the user wants no one to be able to change the data, but does not mind if others access the data in retrievals, a lock-after date of "99/99" should be entered with the unlocking key. As this is an invalid date, 99/99 is used to signal that the data is unlocked for retrieval.

4.2 Descriptive Paragraph

The descriptive paragraph for a STORET station is that field in which a user may store any information in any format. The descriptive paragraph may be up to 1080 characters, composed of 15 lines that are each no more than 72 characters in length. Its use is optional. No automated data selection may be made based on the information in it. Therefore, only data on which no retrievals are likely to be based should be stored in the descriptive paragraph.

If RCRA/STORET users choose to store information in the descriptive paragraph of each well, any or all of the following pieces of infromation may be included:

- Total number of upgradient and downgradient monitoring wells at the facility, and relation of this well to the others, for example:

UPGRADIENT WELL #3 OF 20 UPGRADIENT AND 60 DOWNGRADIENT RCRA MONITORING WELLS

- Type of business conducted at the facility
- Permit and/or enformcement status of the facility
- History of the facility, including any recent spills or other permit violations
- RCRA-regulating agency (e.g., EPA or State)
- Other permits given to the facility, including Federal and other
- Land use of the surrounding area
- Potential targets or nearby sensitive ecosystems
- Proximity and position relative to drinking water sources
- Contacts from whom further information about the facility may be obtained
- Other non-RCRA monitoring points which may be located at or near the facility.

Complete instuctions on how to create a descriptive paragraph for STORET stations may be found in Chapter WQ-DE of the STORET User's Handbook.

4.3 Parametric Data

There are a number of types of RCRA ground-water monitoring information that should be stored in STORET's parametric data field. These include:

- Site Descriptors:
  - Physical setting descriptors*
  - Well descriptors*
- Sample Descriptors:
  - Sample purpose descriptors
  - Sample conditions descriptors

---

* Some site descriptors will also be stored in other STORET locations, such as the station header or the descriptive paragraph (see Section 2.3.2)

- Sampling and analytical methods

. Analytical findings for:

- Interim status parameters (Sec. 265)

- Permit parameters (Sec. 264)

. Special data-point qualifiers (remarks).

The processes by which RCRA users should organize these types of information in STORET are described below.

4.3.1 Site Descriptors

Site descriptors were defined and listed in Section 2.3.2.1 of this manual. These are data that describe the facility, geohydrology, and well from which samples are taken, and are not expected to change over time. As they are not expected to change, it is best that RCRA/STORET users store them in the parametric data field with a date specially used for unchanging data (dynamic data, data that will change from sampling event to sampling event will be stored with the date the sample was collected). In other words, all unchanging data stored in the parametric data field should be stored as if they were collected on "66/06/06".

Site descriptors include facility descriptors, physical setting descriptors, and well descriptors. As can be seen in Exhibits II-2, II-3, and II-4, almost all of the information identified as site descriptors needed by RCRA users will be stored in the parametric data field under the "fixed" ("66/06/06") date. All but one of the facility descriptors (well ownership) and several physical setting and well descriptors should be stored in other STORET fields. Using this method for storing unchanging data, data stored in the parametric data field might look like:

Date	66/06/06	84/01/31	84/03/31
Drilling method	BORE		
Drilling fluid	BENTT		
Sample purpose	GWQUAL		
pH (s.u.)		7.0	7.0
Total iron (ug/l)		50.0	75.0

Many of the site descriptors that will be stored in the parametric data field will be stored under parameter codes whose values are coded (e.g., drilling method and drilling fluid from the example). This means that the values given to each data element will be a code that represents something. To identify what the code represents, the user must look up its definition in a table. The recommended site descriptor parameter codes for RCRA ground-water data, their coded values and their definitions may be found in Appendix B of this report (note that some codes and values will be added to STORET in the near future and are indicated in Appendix B with by "n/a" or "*"). For certain physical setting descriptors, namely "Geologic age or formation name" and "Aquifer name", the coded values are presented in Appendix H.

4.3.2 Sample Descriptors

Sample descriptors were defined and listed in Section 2.3.2.2 of this manual. These are data that describe the sample purpose, sampling conditions, and sampling/analytical methodology, and are expected to change over time.

- Sample purpose descriptors, sampling conditions descriptors, and some sampling/analytical methods descriptors should be stored much the same way as any other "usual" parametric data in STORET, i.e., they should be stored with the analytical findings for each sampling event (special procedures for many of the sampling and analytical methods data are described below). Many of these data elements have coded data values. The parameter codes, value codes, and definitions for sample purpose, sampling conditions descriptors, and testing/analytical methods can be found in Appendix D.

Sampling and analytical methods for each sampling event will, for the most part, be stored in special STORET key fields which are part of the parametric data field. These fields, known as "media, SMK, UMK", are key fields by which data may be selected in a retrieval, and change with each sampling event. For RCRA ground-water monitoring data, the media field will have one value, "RCRAGW" (representing the media "RCRA ground water").

Replicate samples are often taken for RCRA ground-water monitoring. There are three common methods for replicating ground-water samples:

Several samples may be taken from the same well

An individual sample may be divided in the field

- A sample may be divided in the laboratory.

For purposes of this manual, multiple samples from a well will be called "splits". A portion of a sample divided at the well is a "field aliquot". A portion of a sample divided in the lab is a "lab aliquot".

The SMK field will be used to distinguish replicates, and will contain the following components:

- Type of sample (split, lab aliquot, etc.)
- Split number
- Field-aliquot sample number
- Lab-aliquot sample number.

The UMK will also have several components. These components include:

- Sampler type
- Sampling equipment material
- Lab or field determination flag
- Analytical method used to determine reported values.

For example, data stored in the parametric data field using "media, SMK, UMK" for the above information will look like:

DATE	TIME	MEDIA	SMK OR DEPTH	84063 DRILL	00300 DO mg/l	00400 pH SU
66/06/06	0000	RCRAGW	0000	AIRRT		
UMK FOR ABOVE SAMPLE--------00000000						
73/09/11	0915	RCRAGW	2110		8.4	6.0
UMK FOR ABOVE SAMPLE--------04001100						
73/09/11	0916	RCRAGW	2220		8.4	6.0
UMK FOR ABOVE SAMPLE--------04001100						
75/10/21	1100	RCRAGW	0000		10.6	6.5
UMK FOR ABOVE SAMPLE--------07003303						
76/06/30	0810	RCRAGW	0020		8.4	6.6
UMK FOR ABOVE SAMPLE--------07003100						

Documentation and training to store data in STORET's "media, SMK, UMK" fields can be obtained from STORET User Assistance. Values for the SMK and UMK fields for RCRA ground-water monitoring data can be found in Appendices E and F, respectively.

4.3.3 Analytical Findings

STORET "parameter codes", the computer codes under which to store data, usually represent a combination of three items:

- Substance
- Medium
- Units.

For example, parameter code 01000 represents "arsenic, dissolved fraction of water, ug/l", while a different parameter code, 01002, represents "arsenic, total water, ug/l" because the medium differs. Most RCRA users will be interested in storing their analytical findings under those parameter codes that represent a substance in "whole" or "total" water. Other codes are available should the user find them necessary.

The parameter codes of interest to RCRA data managers for storing data collected at interim status facilities may be found in Appendix G of this manual. Parameter codes for data collected from fully permitted facilities may be found in Appendix H*. There are many other parameter codes available on STORET. These may be identified in any of three continually updated listings:

- PARMALFA -- identifies parameter codes in alphabetical order of parameter name
- PARNUMER -- identifies parameters in numerical order of parameter code
- PARCAS -- identifies parameters and parameter codes in order of CAS number.

These listings are available through STORET "help files". Users should consult these listings

---

* The reader will note that parameter codes for some substances are not yet available on STORET. Those substances are identified by "n/a" in the parameter code column.

should they wish to store data not listed in this manual. If a parameter code for a particular substance (or other type of information to be stored with RCRA data) does not exist, users may have it created by contacting STORET User Assistance.

4.4 Qualifying "Remarks"

RCRA data managers may find it necessary to explain something about a particular data point in addition to its numerical value. For example, a data point may be one that is being reported below the detection limit (e.g., "actual value is less than 50 ug/l") or a substances may be tested for but not detected. The STORET System has the capability to store "remarks" with each data value. These remarks flag the data value with such qualifications as "less than", "greater than" and "undetected". Appendix C of this report presents the remark codes that are currently valid in STORET. An example of a parametric data field with data that are remarked could be:

```
00400          01045 ---- parameter code
pH SU       Fe Tot ug/l --- "parameter"

6.0 ------------------ (parametric) data
                        value
6.0

6.5            120 -------- data value

6.6             50K ------- remark coded
                            data value

6.6            0.0U ------- remark coded
                            data value
```

Upon data retrieval, users may select:

- All data, regardless of the remark code
- Only data without remarks
- Only data with a specific remark code.

Remark codes may be entered with each data point. They need not always be used. Complete instructions on how to store data with remark codes may be found in Chapter WQ-DE of the STORET Users' Handbook.

4.5 Quality Assurance/Quality Control

QA/QC for ground-water samples is a complicated matter. As stated before, well construction and sample collection present complexities not usually of concern in surface water monitoring data quality evaluation. In order to provide for the capability of storing fairly detailed QA/QC information for each sample, a parameter code (84129) with 4 characters of coded values is used. The first (left) character will be used to store a one-digit code for a QA/QC evaluation of the well construction. The codes and the values they represent are:

- 2 -- Well has been EPA/State inspected in the last 5 years and determined to be of high quality
- 1 -- Well has been properly drilled, constructed of inert materials, properly developed, properly located, and has controls to prevent tampering
- 0 -- Well is known to be inadequate in some manner
- blank -- Well information unknown or not stored.

The second, third, and fourth characters will have the same selection of values, but will represent different QA/QC evaluations. The second character will hold a one-digit code representing an evaluation of the sampling QA/QC. The third character will hold a one-digit code representing an evaluation of the laboratory QA/QC. The fourth character will hold a one-digit code representing an overall evaluation of the QA/QC of the sampling event. The selection of codes for each of these characters is as follows:

- 3 -- EPA/State has performed a QA/QC evaluation within the last two years with a positive result
- 2 -- A detailed QA/QC plan with standard procedures and internal checks exists; the objectives of the plan have been verified as being met for at least one year
- 1 -- A detailed QA/QC plan with standard procedures and internal checks exists
- 0 -- No detailed QA/QC plan exists
- blank -- Information unknown or not stored.

5.0 DATA RETRIEVAL

5.0 DATA RETRIEVAL

The STORET System offers users a wide variety of data analyses (also called "retrievals"). To perform an analysis of data, users must create a "retrieval program", composed of a string of STORET specifications and commands. Chapter WQ-RET of the STORET Users' Handbook presents users with the instructions necessary to successfully run STORET retrieval programs. The STORET Manager's Guide presents applications of STORET analyses and data that would be of interest to water quality managers.

Chapter 5.0 of this report is meant to introduce RCRA/STORET users to STORET's analytical capabilities. It is not an instructional chapter on how to operate STORET retrieval programs. Rather, it presents some of the retrieval programs STORET offers its users, and discusses how RCRA/STORET users may find them helpful*.

5.1 Non-Analytical Data Listings

STORET offers RCRA users a number of retrieval programs for displaying data in several formats. Such retrieval programs include:

- STA -- Lists station codes for sites meeting user's criteria
- INDEX -- Lists the station headers for sites meeting user's criteria
- RET -- Lists raw data in chronological order for one or more sites meeting user's criteria.
- LOC -- Plots station locations by latitude/longitude coordinates on a map.

For example, a user may want to review the station headers for all the RCRA monitoring wells in Union County, New Jersey. The "INDEX" program may be chosen to obtain the needed information. The retrieval request could look like:

```
PGM=INDEX,PURP=RCRA,STC=34,CO=039,
EXTRACT=RCRA AND WELL,
```

---

* It should be noted that the examples of STORET retrieval outputs shown in this chapter are <u>not</u> of RCRA data, as no RCRA data was entered in the format recommended in this report at the time this manual was produced.

In this example:

- The STORET program that yields station headers for sites meeting the user's criteria is requested (PGM=INDEX)

- The purpose of the retrieval was identified as for RCRA data assessment (PURP=RCRA; an internal STORET tracking tool)

- The geographical area in which sites should be located is determined (STC=34, which is the FIPS code for New Jersey, and CO=039, which is the FIPS code for Union County)

- The sites in Union County, New Jersey are narrowed down to those with particular station-types, namely "RCRA" and "WELL" (EXTRACT=RCRA AND WELL)

An example of output from a similar INDEX program may be seen in Exhibit V-1, following this page.

5.2 Tabular Analyses

STORET retrieval programs that give users a tabular presentation of statistical analyses of data include:

- INVENT and INV120 -- Descriptive statistics for data at one and/or a number of sites meeting user's criteria, for all or selected data at those sites

- MEAN -- Statistical summarization and sorting of data for user-specified sites and data

- STAND -- Analysis of the violation of user-specified criteria for parameters at selected sites .

For example, if users want to see the descriptive statistics for certain of the parameters monitored at downgradient RCRA monitoring wells at landfills in the Potomac river basin between January 1, 1984 and June 1, 1984, the retrieval request might look like:

```
PGM=INVENT,PURP=RCRA,BS=0214,
EXTRACT=RCRA AND WELL AND DOWN AND LNDFL,
P=01000,P=39111,BD=840101,ED=840601,
```

In this example:

- The STORET program for producing descriptive statistics of selected data was requested (PGM=INVENT)

EXHIBIT V-1
Example Of STORET Retrieval Program To List Station Headers (PGM=INDEX)

```
*****************************************************************************************************************
STATE          ST/CO B     LOCATION                                                  BASIN CODE          STORAGE DATE
               STATION TYPE
               USER CODE      STATION      SECONDARY STATIONS                          MAJ/MIN/TERM
                    LAT/LONG                MILES(V)     LV2     LV3     LV4     LV5   LV6   LV7   LV8   LV9   LV10   LV11

                         INDEX
*****************************************************************************************************************

MICHIGAN       26053 MONTREAL R. AT AURORA ST.                                                   2215
               /TYPA/AMBNT/STREAM
               21MICH          270009          IN0028                                  BASIN
               46 27 01.0 090 10 42.0
                         INDEX

MICHIGAN       26053 MONTREAL R. AT COUNTY RD.                                                   2215
               /TYPA/AMBNT/STREAM
               21MICH          270010          IN0089                                  BASIN
               46 26 43.5 090 10 00.0
                         INDEX

MICHIGAN       26053 MONTREAL R. AT COUNTY RD.                                                   2215
               /TYPA/AMBNT/STREAM
               21MICH          270011                                                  BASIN
               46 21 16.0 090 08 20.0
                         INDEX

MICHIGAN       26053 MID BR ONTONAGON R. AT US-45 BR                                             2212
               /TYPA/AMBNT/STREAM
               21MICH          270012          BA0135                                  BASIN
               46 16 28.0 089 10 19.0
                         INDEX

MICHIGAN       26053 PRESQUE ISLE R. AT CO. RD. BR.                                              2214
               /TYPA/AMBNT/STREAM
               21MICH          270013                                                  BASIN
               46 22 35.0 089 41 20.0
                         INDEX

MICHIGAN       26053 JACKSON CR. AT M-28 BRIDGE                                                  2214
               /TYPA/AMBNT/STREAM
               21MICH          270014                                                  BASIN
               46 30 57.0 089 52 50.0
                         INDEX

MICHIGAN       26053 MONTREAL RIVER NEAR IRONWOOD, MI                                            222191
               /TYPA/AMBNT/STREAM
               112WRD          04028100                                                BASIN
               46 30 26.0 090 11 47.0
                         INDEX
```

- The purpose of the retrieval was identified as for RCRA data assessment (PURP=RCRA)

- The sites to be selected were identified as those in the Potomac River minor basin of the Northeast major basin (BS=0214, where BS requires that stations be selected by basin, 02 represents the major basin "NORTHEAST", and "14" represent the minor basin "POTOMAC RIVER")

- Sites in the Potomac River basin are further restricted to only those that are downstream RCRA monitoring wells at landfills (EXTRACT= RCRA AND WELL AND DOWN AND LNDFL)

- Data to be statistically summarized is identified as arsenic in the dissolved fraction of water reported in units of ug/l (parameter code 01000) and di-n-butyl phthalate in total water reported in units of ug/l (parameter code 39110)

- Statistics are to be calculated only on data collected between January 1, 1984 and June 1, 1984 for the specified parameters at the selected sites (BD=840101,ED=840601).

An example of the output for a similar retrieval request is shown in Exhibit V-2.

5.3 Graphic Displays of Trends

STORET users may graphically depict the change in concentration of a substance over time, or compare the concentration of one substance to another. The STORET retrieval programs that would be used include:

- PLOT -- display of a substance over time, with substance concentration on the Y-axis and time on the X-axis

- REG -- performs a regression analysis for the change in substance concentration, either over time or in relation to another substance

- BROWSE -- Draws the regression analysis for substances over time interactively (users must have suitable graphic terminals).

For example, a user may want to see how the concentration of a ground-water contamination indicator parameter has changed over time in 1983 at an upgradient well. The retrieval request might look like:

EXHIBIT V-2

Example Of STORET Retrieval Program To Produce Descriptive Statistics Of Selected Data (PGM=INVENT)

```
010856                    [illegible]
[illegible] 10.0 [illegible]
                                  10.9MI .039016. FROM MICHIGAN J.
26033 MICHIGAN
LAKE SUPERIOR                     226000
STUDEBOM RIVER-PERCH RIVER
[illegible]
0000  CLASS CO

/STPA/MONT/STREAM
```

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00004	STREAM	WIDTH	FEET	10	30.2000	52.0171	7.21194	[illegible]	2.28062	44.0000	22.0000	[illegible]	[illegible]
00010	WATER	TEMP	CENT	15	18.2667	67.0667	8.18942	[illegible]	2.11450	22.0000	.000000	[illegible]	[illegible]
00020	AIR	TEMP	CENT	15	19.3000	168.636	10.0815	[illegible]	2.60302	23.0000	-.1000+02	[illegible]	[illegible]
00025	BAROMETRIC	PRESSURE	MM OF HG	15	29.9019	.038225	.195533	[illegible]	.050483	30.3600	29.3200	[illegible]	[illegible]
00036	WIND	DIRECT	NORTH-0	15	178.667	9108.82	95.4401	[illegible]	24.6625	360.000	.000000	[illegible]	[illegible]
00042	ALTITUDE	FEET	AB MSL	15	1112.67	49.1428	7.01070	[illegible]	1.81002	1150.00	1100.00	[illegible]	[illegible]
00043	CLOUD	TYPE	WMO CODE	15	1.53333	5.98096	2.44960	[illegible]	.633451	8.00000	.000000	[illegible]	[illegible]
00044	CLOUD	AMOUNT	WMO CODE	15	5.53333	8.55240	2.92465	[illegible]	.755089	9.00000	.000000	[illegible]	[illegible]
00045	PRECIP	TOT DAY	IN	13	.139231	.055068	.234533	[illegible]	.065069	.330000	.000000	[illegible]	[illegible]
00052	RELATIVE	HUMIDITY	PERCENT	15	59.7333	462.640	21.5200	[illegible]	5.57449	95.0000	19.0000	[illegible]	[illegible]
00061	STREAM	FLOW,	INST-CFS	10	168.968	8095.9	104.649	[illegible]	33.0930	444.100	39.0900	[illegible]	[illegible]
00065	STREAM	STAGE	FEET	15	81.0200	[illegible]	.333999	[illegible]	.190551	86.9000	86.1000	[illegible]	[illegible]
00076	TURB	NEPHOMETR	MACH FTU	14	3.36285	[illegible]	.691002	[illegible]	.184785	3.70000	.900000	[illegible]	[illegible]
00080	COLOR	PT-CO	UNITS	13	103.846	[illegible]	[illegible]	[illegible]	16.3487	195.000	40.0000	[illegible]	[illegible]
00081	AP COLOR	PT-CO	UNITS	1	37.0000					37.0000	37.0000	[illegible]	[illegible]
00095	CNDUCTVY	AT 25C	MICROMHO	14	77.8538	665.828	25.7930	[illegible]	5.36830	141.000	40.0000	[illegible]	[illegible]
00300	DO		MG/L	15	10.3667	4.30836	2.07561	[illegible]	.535919	13.5000	8.10000	[illegible]	[illegible]
00301	DO	SATUR	PERCENT	15	98.2466	78.9216	8.87829	[illegible]	1.32608	109.600	89.7000	[illegible]	[illegible]
00403	LAB	PH	SU	14	7.77167	.092961	.304895	[illegible]	.081487	7.30000	7.20000	[illegible]	[illegible]
00410	T ALK	CACO3	MG/L	15	23.2466	69.2295	8.32695	[illegible]	2.15163	40.0000	15.0000	[illegible]	[illegible]
00600	TOTAL N	N	MG/L	3	1.00667	.686693	.828832	[illegible]	.401865	1.68000	.290000	[illegible]	[illegible]
00610	NH3-N	TOTAL	MG/L	3	.130000	.007800	.088376	[illegible]	.026458	.180000	.090000	[illegible]	[illegible]
00615	NO2-N	TOTAL	MG/L	1	.002000					.002000	.002000	[illegible]	[illegible]
00625	TOT KJEL	N	MG/L	3	.886666	.521033	.722989	[illegible]	.417349	1.61000	.100000	[illegible]	[illegible]
00630	NO23NO3	N-TOTAL	MG/L	15	.098428	.004955	.069681	[illegible]	.018023	.210000	.020000	[illegible]	[illegible]
00650	T PO4	PO4	MG/L	14	.043500	.000439	.021894	[illegible]	.005851	.111000	.020000	[illegible]	[illegible]
00900	TOT HARD	CACO3	MG/L	4	45.4500	38.6233	6.21980	[illegible]	3.10990	50.0000	40.0000	[illegible]	[illegible]
01355	ICE	COVER	SURFACE	1	6.00000					6.00000	6.00000	[illegible]	[illegible]

```
PGM=PLOT,PURP=RCRA,A=21MIRG01,
S=MID123456789U01,P=00095,
BD=830101,ED=831231,
```

where:

- The retrieval will produce a graph of concentration of the substance over time (PGM=PLOT)
- The retrieval is run for RCRA data assessment (PURP=RCRA)
- The data selected are those that were entered into STORET by the State of Michigan RCRA program (A=21MIRG01)
- The site selected was an upgradient well at the facility whose Dun & Bradstreet number is MID123456789 (S=MID123456789U01)
- The ground-water contamination indicator to be plotted is total organic carbon (parameter code 00095)
- The time on the X-axis is to span from January 1, 1983 to December 31, 1983 (BD=830101, ED=831231).

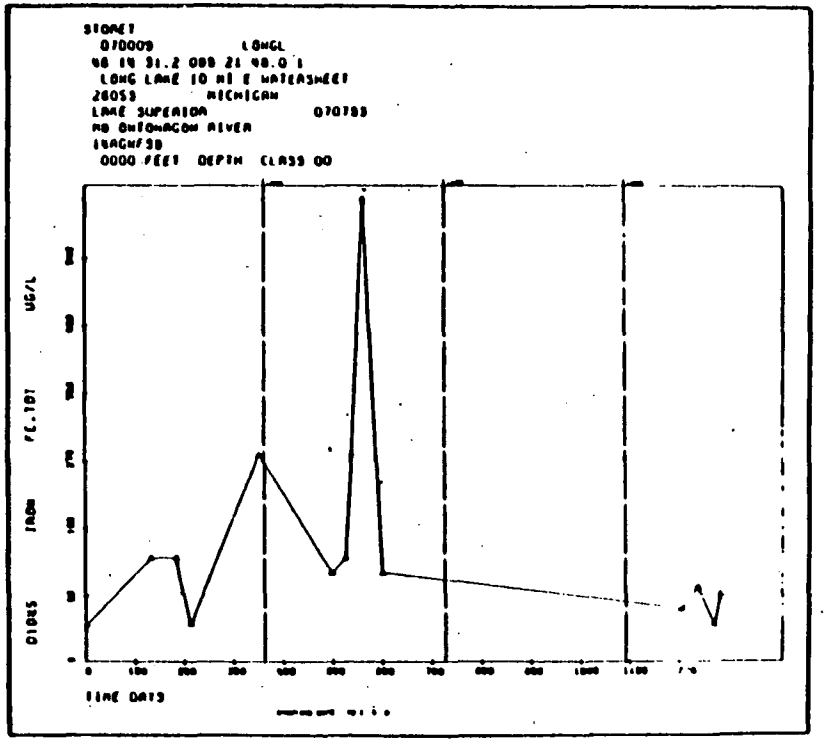
An example of the output from a similar retrieval request may be seen in Exhibit V-3, following this page.

5.4 Map Displays of Data

Users may produce several different types of maps using one STORET mapping program. With this programs, users may plot the statistical summarization of the concentrations of hazardous substances on a map, or display trends on a map. The retrieval program is known as "MSP" ("multiple scan plot").

For example, a user may want to see how levels of chromium, a drinking water suitability parameter, have changed for downgradient RCRA monitoring wells in Michigan in the year 1984. The retrieval reqest might look like:

EXAMPLE V-3
Example Of STORET Retrieval Program To
Graphically Depict Trends In Concentration
Over Time (PGM=PLOT)



```
PGM=MSP,PURP=RCRA,QUALMAP,A=21MIRG01,S=ALL,
LT=NORET,L=4130,L=8645,L=46,L=8645,L=46,L=8230,
L=4130,L=8230,EXTRACT=RCRA AND WELL AND DOWN
AND 01034,P=01034,BD=840101,ED=841231,
MSPARMS=BEGIN,MODELL,%TILE50T=A,GROUPSQ,
PLOTC,LEFT1,SEG=0001-0006/,TRNDNLY,
PLOTC,LEFT1,SEG=0007-0012/,TRNDNLY,
TPLOT,EARLY=1L,LATE=2L,
LABEL=TRENDS IN CHROMIUM AT DOWNGRADIENT#,
LABLE=WELLS - 1984#,
STOPMSP,
BACKGRND=REACHES,BACKGRND=STATES,
```

where:

- A mapping program is requested (PGM=MSP and QUALMAP)

- The purpose of the retrieval is RCRA data assessment (PURP=RCRA)

- All the sites in the agency 21MIRG01 are requested (A=21MIRG01,S=ALL)

- Those sites are to be further restricted in two ways:

  - Only data from sites falling within the boundaries defineds by the sets of latitude/longitude coordinates are to be included (LT=NORET,L=..., etc; latitude/longitude boundaries are necessary for all mapping programs)

  - Only data from those sites which are downgradient RCRA monitoring wells that have at least one observation of chromium (EXTRACT=RCRA AND WELL AND DOWN AND 01034) are to be included

- Chromium in total water, reported in ug/l is to be analyzed (P=01034)

- Those chromium data are to be restricted to those collected in 1984 (BD=840101,ED=841231)

- Specifications for all maps (flagged by MSPARMS= BEGIN,MODELL) include that the 50th percentile (median) of the data is to be calculated (%TILE 50T=A) and those percentile values are to be divided into four equal groups(GROUPSQ); all

special MSP keywords are sandwiched between the keywords "MSPARMS and STOPMSP"

- The first "plot" is to calculate the 50th percentile of chromium values for the first six months of the year (SEG=0001-0006) but not to print the map of these values (TRNDNLY; the request not to print the map is optional, but it is not needed if only the trend map is wanted)

- The second "plot" is to calculate the 50th percentile of chromium values for the second six months of the year (SEG=0007-0012) but not print the map (TRNDNLY)

- The trend map be created by considering the values of the 50th percentile of chromium in the first of the above plots, the January-June plot, the one against which the second "plot", from July to December, is to be compared (TPLOT,EARLY=1L, LATE=2L)

- The trend map is to have a title on its legend reading "TRENDS IN CHROMIUM AT DOWNGRADIENT WELLS - 1984" (LABEL=.....)

- The mapping MSP-specific keywords are finished (STOPMSP)

- The outlines of the stream reaches and the state borders are to be overlaid on the map (BACKGRND=REACHES,BACKGRND=STATE).

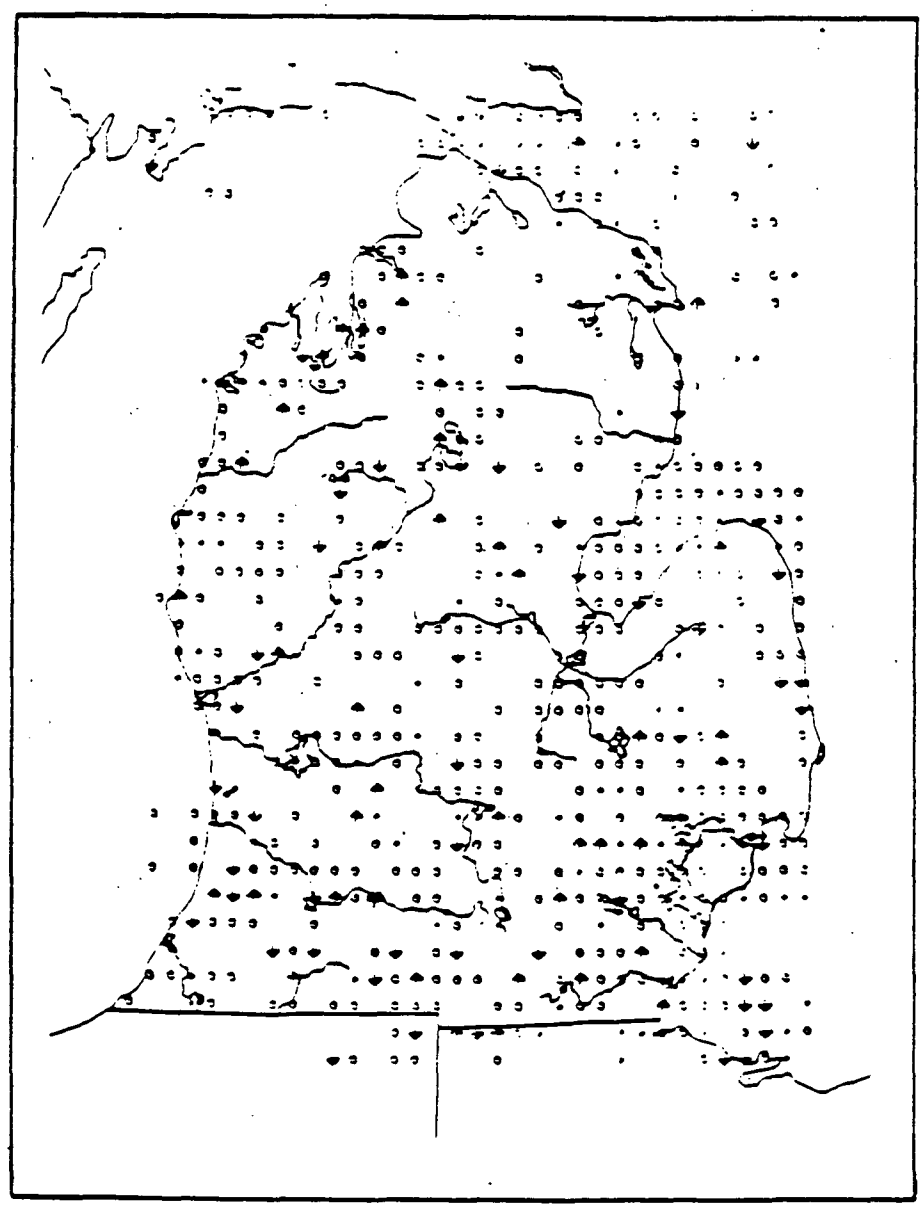
An example of the trend map resulting from a similar retrieval request can be seen in Exhibit V-4.

5.5 Interfaces with Other Important Data Analysis Systems

STORET data may be channeled through other data analysis software available on EPA's IBM computer. One software system that will be of great interest to RCRA users will be the Statistical Analysis System (SAS). Users may perform many different kinds of sophisticated statistical analyses on their data using SAS, including the Student's T-Test.

Another type of software that would be of interest to RCRA/STORET users is the software developed by Tennessee Valley Authority (TVA) STORET users to produce contour maps of their data. This software plots isobars of concentrations of hazardous substances on a map.

EXHIBIT V-4
Example Of STORET Retrieval Output Of
Program To Plot A Statistical Represent-
ation Of Changes In Concentration Over Time
(PGM=MSP, Trendplot)



A detailed description of how to perform Student's T-Tests and contour mapping programs on STORET data will be included in later versions of this manual.

* * * * * *

This concludes the 10/85 version of the RCRA/STORET Users' Manual.

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APPENDIX A

STORET STATION-TYPE CODES (AS OF 3/7/85)

APPENDIX A

STORET Station-Type Codes (as of 3/7/85)

Code	Definition
LEVEL 1 CODES: (EACH STATION MUST HAVE EXACTLY ONE)	
OCEAN	THE STATION MONITORS WATER FROM THE OPEN SEA.
LAKE	THE STATION MONITORS WATER IN A LAKE.
STREAM	THE STATION MONITORS WATER IN A RIVER OR STREAM.
SPRING	THE STATION MONITORS WATER TAKEN FROM A SPRING.
WELL	THE STATION MONITORS WATER IN A WELL OR GROUNDWATER SITE.
ESTURY	THE STATION MONITORS WATER IN THE ESTUARY ZONE BETWEEN A STREAM AND THE OCEAN.
PIPE	THE STATION MONITORS WATER AT SOME POINT WITHIN A MAN-MADE FACILITY, SUCH AS A TREATMENT PLANT OR INDUSTRIAL SITE. USE "PIPE" WHEN THE STATION MONITORS THE EFFLUENT DISCHARGE.
LND	THE STATION MONITORS SOIL OR CROPS GROWN ON SOIL WHICH HAS RECEIVED HAZARDOUS OR TOXIC MATERIAL(S) OR STATIONS NOT LOCATED WITHIN A WATER BODY.
CANAL	THE STATION MONITORS WATER IN A CANAL OR IN A DRAIN.
RESERV	THE STATION MONITORS WATER IN A RESERVOIR.
LEVEL 2 CODES: (EACH STATION MUST HAVE EXACTLY ONE)	
AMBNT	THE ONLY VALID LEVEL 2 CODE UNLESS LEVEL 1 IS "PIPE". USED TO INDICATE THE SAMPLE WAS GATHERED IN A NATURAL BODY OF WATER, AS OPPOSED TO WITHIN A FACILITY OR IN THE EFFLUENT.

STORET Station-Type Codes (as of 3/7/85)

Code	Definition
THE REMAINING LEVEL 2 CODES ARE ONLY VALID IF LEVEL 1 IS CODED "PIPE":	
SEWER	THE STATION MONITORS WITHIN A SEWER.(FURTHER IDENTIFIED IN LEVEL 5).
INPLNT	THE SAMPLING POINT IS INSIDE A TREATMENT FACILITY, AND THE DEPTH CODE CONVENTIONS (SEE STORET HANDBOOK) FOR EXACT LOCATION WILL BE USED.
NTRTMT	THE SAMPLES ARE GATHERED AT A POINT WHERE NO POLLUTION ABATEMENT PROCESS HAS BEEN PERFORMED ON THE WATER.
PTRTMT	THE SAMPLES ARE GATHERED AT A POINT WHERE SOME, BUT NOT ALL, OF THE INTENDED POLLUTION ABATEMENT PROCESSESS HAVE BEEN PERFORMED.
TREATD	THE SAMPLES ARE GATHERED AT A POINT WHERE NO FURTHER POLLUTION ABATEMENT PROCESS WILL BE PERFORMED.
CMBTRT	THE POINT WHERE SAMPLES ARE GATHERED IS NOT CLEARLY IN ANY OF THE ABOVE TREATMENT STATUS CODES.
LEVEL 3 CODES: (REQUIRED IF LEVEL 1 IS "PIPE". OPTIONAL OTHERWISE. USE ONLY ONE)	
MUN	THE SITE FROM WHICH SAMPLES ARE GATHERED IS PRIMARILY ASSOCIATED WITH MUNICIPAL WATER SUPPLY AND/OR SEWAGE.
IND	THE SITE FROM WHICH SAMPLES ARE GATHERED IS PRIMARILY ASSOCIATED WITH INDUSTRIAL WATER INTAKE AND/OR EFFLUENT.
CMBMI	THE SITE HAS BOTH OF THE ABOVE ATTRIBUTES.
AGRI	THE STATION MONITORS WATER ASSOCIATED WITH AGRICULTURAL, SILVICULTURAL, OR FEEDLOT DISCHARGES.
LEVEL 4 CODES: (REQUIRED IF LEVEL 3 IS USED. OPTIONAL OTHERWISE. USE ONLY ONE)	
INTAKE	THE SITE FROM WHICH SAMPLES ARE GATHERED IS PRIMARILY ASSOCIATED WITH A WATER INTAKE.
OUTFL	THE SITE FROM WHICH SAMPLES ARE GATHERED IS PRIMARILY ASSOCIATED WITH POLLUTANT EFFLUENT.
CMBSRC	THE SITE HAS BOTH OF THE ABOVE ATTRIBUTES.

APPENDIX A (continued, p.3)

STORET Station-Type Codes (as of 3/7/85)

Code	Definition
LEVEL 5 CODES: (OPTIONAL.MISCELLANEOUS ADDITIONAL INFORMATION.ANY COMBINATIONS CAN BE USED)	
SUPPLY	WATER OTHER THAN WASTEWATER,FROM A WATER SUPPLY SYSTEM.
RUNOFF	THE STATION MONITORS STORMWATER.
HRZTL	A HORIZONTAL WELL, USUALLY ASSOCIATED WITH THE LEVEL 1 CODE WELL.
GALERY	GALLERY.AN UNDERGROUND STRUCTURE DESIGNED TO COLLECT SUBSURFACE WATER.
TUNNEL	TUNNEL, ASSOCIATED WITH THE LEVEL 1 CODE, WELL.
NONPNT	DATA IS ASSOCIATED WITH AN EFFLUENT WHICH IS NOT A POINT SOURCE.
RANNEY	RANNEY COLLECTOR, USUALLY ASSOCIATED WITH THE LEVEL 1 CODE, WELL.
FISH	STATION WHERE FISH (TO INCLUDE COASTAL AQUATIC LIFE) ARE COLLECTED, IDENTIFIED, AND ANALYZED FOR PRESENCE OF CONTAMINANTS.
PRECIP	THE STATION MONITORS RAIN WATER.
SOLIDS	STATIONS WHERE SLUDGE OR SEDIMENT IS SAMPLED.
MET	STATION MONITORS METEOROLOGICAL DATA.
SBSOIL	STATION MONITORS DRAIN TILES, OR OTHER LOCATIONS JUST BELOW THE SOIL SURFACE.
TISSUE	PLANT OR ANIMAL MATTER IS ANALYZED.
CMBSWR	COMBINED SEWER.
SANSWR	SANITARY SEWER.
STMSWR	STORMWATER SEWER.
NRSHRE	THE SAMPLING SITE IS LESS THAN 3 KM FROM A MAJOR SHORE.
OFSHRE	THE SAMPLING SITE IS FROM 3 TO 8 KM FROM A MAJOR SHORE.
OPENLK	THE SAMPLING SITE IS GREATER THAN 8 KM FROM A MAJOR SHORE.
MONITR	SAMPLE TAKEN AT A SOURCE MONITORING SITE.
NET	SAMPLE TAKEN AT A NETWORK STATION.
BACK	SAMPLE IS CONSIDERED OF BACKGROUND WATER QUALITY FOR MONITORING PURPOSES.
DOWN	SAMPLE IS TAKEN DOWNGRADIENT OF A FACILITY WHICH HAS A POTENTIAL TO POLLUTE.
POLLUT	SAMPLE TAKEN IN RESPONSE TO POLLUTION INCIDENT.
MINE	WATER ASSOCIATED WITH MINING ACTIVITIES.
IMPDMT	THE SITE FROM WHICH SAMPLE IS GATHERED IS ASSOCIATED WITH A WASTE PIT, POND OR LAGOON (IMPOUNDMENT).

STORET Station-Type Codes (as of 3/7/85)

Code	Definition
LEVEL 5 CODES (continued)	
LNDFL	WATER ASSOCIATED WITH A LANDFILL.
SPRAY	WATER ASSOCIATED WITH A SPRAY IRRIGATION SITE.
SLUDGE	WATER ASSOCIATED WITH A SLUDGE SPREADING SITE.
DEVLMT	SAMPLE TAKEN AT A DEVELOPMENT SITE.
ONLOT	WATER ASSOCIATED WITH AN ON-LOT SEPTIC SYSTEM.
HAZARD	SAMPLE TAKEN FROM A SITE WITH HAZARDOUS SUBSTANCE.

APPENDIX B

SITE DESCRIPTOR PARAMETER CODES, VALUES, AND DEFINITION

Appendix B

Site Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Facility Descriptors			
84059	Well ownership	PRIV	Private
		COMM	Commercial
		STATE	Statercial
		CORP	Corporation
		FED	Federal
		INST	Institutional
Physical Setting Descriptors			
84000	Geologic age or formation name	See Appx.I	
84001	Aquifer name	See Appx.I	
84060	Topography	VALLY	Valley
		SLOPE	Slope
		HLLTP	Hilltop
		DRAW	Draw
		FLAT	Flat
		ALVFN	Alluvial fan
		PLAYA	Playa

Appendix B (continued, p.2)

Site Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Physical Setting Descriptors (continued)			
84060	Topography (continued)	STRCH	Stream channel
		LCDEP	Local depression
		DUNES	Dunes
		FLPLN	Flood plain
		SNKHL	Sinkhole
		LSM	Lake, swamp, or marsh
		MNGRV	Mangrove swamp
		ESTRY	Offshore (estuary)
		PEDMT	Pediment
		TERRC	Alluvial or marine terrace
		UNDLG	Undulating
		OTHER	Other
84111	Lithologic Modifier	GW	Well graded gravel, gravel-sand mixture, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixture, little or no fines
		GM	Silty gravels, gravel-sand-silt mixture
		GC	Clayey gravels, gravel-sand-clay mixtures
		SW	Well-graded sands; gravelly sands, little or no fines
		SP	Poorly-graded sands, gravelly sands, little or no fines

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Appendix B (continued, p.3)

Site Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Physical Setting Descriptors (continued)			
84111	Lithologic modifier (continued)	SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silt and organic silty clays of low plasticity
		MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
		PT	Peat, humus, swamp soils with high organic contents
84112	Source of geohydrologic data	DRLLG	Driller's log or report
		GLGST	Private geologist/consultant
		GPHYS	Depth interpreted from geophysical logs by some source agency
		MEMRY	Memory
		OWNOP	Reported by well owner/operator

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Site Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Physical Setting Descriptors (continued)			
84112	Source of geohydrologic data	OTHER	Reported by other
		RAGNC	Measured by reporting agency
		EPA	EPA
		STATE	State
		CL	Contract labs
		ESDLB	ESD labs
73661	Depth to top of lithologic unit	-----	Depth in feet to top of aquifer unit
73662	Depth to bottom of lithologic unit	-----	Depth in feet to bottom of aquifer unit
Well Descriptors			
84063	Drilling method	AIRRT	Air rotary
		BORE	Bored or augered
		CABLE	Cable-tool
		DUG	Dug
		HYDRT	Hydraulic rotary
		JET	Jetted
		AIRPR	Air percussion
		RVRT	Reverse rotary
		DRIVN	Driven
		DWASH	Drive-wash
		OTHER	Other

Site Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Well Descriptors (continued)			
84063	Drilling method (continued)	TRNCH	Trenching
		SLDAG	Solid auger
		BKTAG	Bucket auger
		HLWAG	Hollow auger
		WLINE	Wire line
82509	Screened interval	-----	Length of screen, in feet
72001	Depth of hole	-----	Depth, in feet below LSD, of borehole into which well was placed
72008	Depth of well	-----	Depth, in feet below LSD, or well bottom

Appendix B (continued, p.6)

Site Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Well Descriptors (continued)			
84113	Well intake finish	PCNCT	Porous concrete
		FLPRF	Field perforations
		FCPRF	Factory perforations
		HZLGL	Horizontal gallery
		OPNND	Open end
		MSCRN	Screen, machine slotted
		FSCRN	Screen, field slotted
		WSCRN	Screen, wrapped wire
		SNDPT	Sand point
		PSYN	Porous synthetic
		WALLD	Walled
		OPNHL	Open hole
		OTHER	Other
		FRCRK	Fractured rock
		LVRSC	Louvered or shutter-type screen
		MSHSC	Mesh screen
		PERFC	Perforated, pourous, or slotted casing
		WWDSC	Wire-wound screen
		SNDPT	Sand point
		WLDSH	Walled or shored
		OPNHL	Open hole
		UNKSC	Screen type unknown
		OTHER	Other
		UNKN	Unknown

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Site Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Well Descriptors (continued)			
84114	Well Casing Material*	BRSBZ	Brass or bronze
		SS305	Stainless steel 305
		SS316	Stainless steel 316
		OTHSS	Other stainless steel
		STEEL	Steel
		CTSTL	Coated steel
		COPPR	Copper
		GALFE	Galvanized iron
		WRTFE	Wrought iron
		OTHRM	Other metal
		BRICK	Brick
		CNCRT	Concrete
		PVC	PVC
		FBRGL	Fiberglass
		OTHPL	Other plastic
		TEFLN	Teflon
		ROCK	Rock or stone
		TILE	Tile
		WOOD	Wood
		OTHER	Other

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Appendix B (continued, p.8)

Site Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Well Descriptors (continued)			
84115	Type of Material from Which Opening is Made	BRSBZ	Brass or bronze
		SS305	Stainless steel 305
		SS316	Stainless steel 316
		OTHSS	Other stainless steel
		STEEL	Steel
		CTSTL	Coated steel
		COPPR	Copper
		GALFE	Galvanized iron
		WRTFE	Wrought iron
		OTHRM	Other metal
		BRICK	Brick
		CNCRT	Concrete
		PVC	PVC
		FBRGL	Fiberglass
		OTHPL	Other plastic
		TEFLN	Teflon
		ROCK	Rock or stone
		TILE	Tile
		WOOD	Wood
		OTHER	Other

Site Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Well Descriptors (continued)			
84116	Drilling Fluid (to be used with parameter code 84063, "drilling method"; to enter several, enter as separate records one minute apart)	AIR	Air
		WATER	Water
		BENIT	Bentonite
		OTINO	Other inorganic
		REVRT	Revert
		OORG	Other organic
84055	Available logs	E	Electric log
		G	Gamma log
		L	Lithologic log
		D	Drillers log
		T	Temperature log
		C	Caloper log
		R	Radiation log
		DRLTI	Drilling time log
		CSCOL	Casing collar log
		FLCON	Fluid conductivity log
		GSAMP	Geologists or sample log

Site Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Well Descriptors (continued)			
84055	Available logs (continued)	MAGN	Magnetic log
		INDCT	Induction log
		GRAY	Gamma ray log
		DPMSV	Dipmeter survey log
		LTRLG	Laterlog
		MICRO	Microlog
		NTRN	Neutron log
		MCLTR	Microlaterlog
		PHOTO	Photographic log
		SONIC	Sonic log
		GGLOG	Gamma gamma log
		FLVEL	Fluid velocity log
		CORE	Core log
		VIDEO	Video log
		OTHER	Other
84117	Type of surface seal	BNTNT	Bentonite
		CLYCT	Clay or cuttings
		CMGRT	Cement grout
		OTHER	Other
73663	Bottom of seal	-----	Depth, in feet below land surface, to bottom of seal

Site Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Well Descriptors (continued)			
84118	Method of development	AIRFT	Air lift
		BAILD	Bailed
		COMPR	Blown or surged with compressed air
		WJTTD	Washed or jetted
		NONE	None
		PUMPD	Pumped
		SRGBL	Surged with surge block
		OTHER	Other
73664	Top of casing below LSD	-----	Depth to top of casing section, in feet below land surface, negative value if casing extends above land surface
73665	Bottom of casing segment below LSD	-----	Depth to bottom of casing section, in feet below land surface
73666	Casing thickness	-----	Thickness of casing walls, in inches
73667	Diameter of open section	-----	Diameter of perforated or slotted pipe, screen, or hole (in inches)
73668	Width of opening	-----	Short dimension of perforation or slots, or mesh size of screens (in thousanths of an inch)

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Appendix B (continued, p.12)

Site Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Well Descriptors (continued)			
73669	Length of well opening	-----	Long dimension of perforations or slots, individual openings in screen or slotted pipe (in inches)
84119	Source of evacuation data	EPA	EPA
		OWNOP	Owner/operator
		CL	Contract labs
		ESDLB	ESD labs
		STATE	State
		OTHER	Other
73670	Well casing outer diameter	-----	Diameter, in inches, from center of well to outside of casing
82513	Casing inner diameter	-----	Diameter, from center to inner casing, in inches
73671	Bore hole diameter	-----	Diameter of hole into which well is inserted, in inches

Site Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Well Descriptors (continued)			
84120	Packing material	SAND	Sand
		GRAVL	Gravel
		NBKFL	Natural backfill
		SYNTH	Synthetic
73672	Date of analysis	-----	Date sample was analyzed in laboratory or field to obtain reported value, in YYMMDD
73673	Date of extraction	-----	Date organic extraction was made to obtain reported value, in YYMMDD
84061	Well use	OBSWL	Observation well
		WTRSP	Water Supply
		PETRO	Oil or gas
		RSRCH	Research
		INJCT	Injection/disposal
		ABAN	Abandoned
		DEWTR	Depressuring/ dewatering
		MINNG	Minning
		UNUSD	Unused

Site Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Well Descriptors (continued)			
84061	Well use (continued)	RECHG	Recharge
		DRAIN	Drainage
		MONWQ	Water quality monitoring
		ANOD	Anode
		EMSPL	Stand-by emergency supply
		GEOTH	Geothermal
		SEIS	Seismic
		HTRES	Heat reservoir
		MINE	Mine
		REPRS	Repressurize
		TEST	Test
		UNUSD	Unused
		WDRL	Withdrawal of water
		DSTRD	Destroyed
		OTHER	Other use
		UNKN	Unknown use
84056	Type of water use	DMSTC	Domestic
		IND	Industrial
		PUBSP	Public supply
		COMM	Commercial

Site Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Well Descriptors (continued)			
84056	Type of water use (continued)	FIRE	Fire protection
		PROC	Processing
		IRRIG	Irrigation
		STKSP	Stock supply
		AC	Air condition
		BOTTL	Bottling
		MIDIC	Medicinal
		RECR	Recreational
		DSAL	Desalination
		COOL	Cooling
		DEWTR	Dewater
		POWR	Power
		MING	Mining
		AQCLT	Aquacultural
		INST	Institution
		UNUSD	Unused
		OTHER	Other

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APPENDIX C

REMARK CODES TO USE WITH STORET DATA

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APPENDIX C

Remark Codes to Use With STORET Data

Code	Definition
Blank	No remark
J	Estimated value
K	Actual value is known to be less than the value shown
L	Actual value is known to be greater than the value shown
M	Presence of material verified but not quantified
N	Presumptive evidence of presence of material
U	Material specifically analyzed for but not detected
B	Results based on colony count outside the acceptable range (non-ideal colony count)

APPENDIX D

SAMPLE DESCRIPTOR PARAMETER CODES, VALUES, AND DEFINITION

Appendix D

Sample Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Sample purpose descriptors			
84053	Sample type and frequency	WQM	Water quality, monthly
		WQQ	Water quality, quarterly
		WQS	Water quality, semi-annually
		WQA	Water quality, annually
		WLC	Water level, continuous
		WLM	Water level, monthly
		WLQ	Water level, quarterly
		WLS	Water level, semi-annually
		WLA	Water level, annually
84067	Nature of monitoring	SELF	Facility collected and analyzed sample
		COMP	Regulating agency collected and analyzed sample for compliance monitoring

Appendix D (continued, p.2)

Sample Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Sample purpose descriptors (continued)			
84121	Regulating agency	STATE	State is regulating facility
		FEDL	Federal agency is regulating facility
		OTHER	Other agency is regulating facility
84122	Sample purpose	BKGRD	Sampled to determine background levels
		GWQAL	Sampled to determine ground-water quality
		DWQAL	Sampled to determine ground-water suitability as drinking water source
		CNTMN	Sampled to determine ground-water contamination
		ASMNT	Sampled as part of facility's assessment plan
		PRMIT	Sampled as part of facility's permit requirements
Sampling condition descriptors			
73674	Production level	-----	Water level, in feet below LSD, while well was discharging
72000	Elevation of land surface datum	-----	Elevation of land surface, in feet above mean sea level

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Appendix D (continued, p.3)

Sample Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Sampling condition descriptors (continued)			
71993	Elevation of ground water	-----	Elevation of top of water table at sampling point, in feet above mean sea level
72019	Depth to water level	-----	Depth, in feet, from land surface to top of water table at sampling point
82545	Water level relative to mean sea level	-----	Difference between top of water table and mean sea level at sampling point
82514	Measuring point elevation	-----	Elevation of measuring point, in feet above mean sea level
82546	Depth from level to measuring point	-----	Depth, in feet, from land surface to measuring point, in feet
Sampling/Analytical Methods Descriptors			
73675	Volume of water evacuated from well prior to sample collection	-----	In gallons

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Appendix D (continued, p.4)

Sample Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Sampling/analytical methods descriptors (continued)***			
84119	Source of evacuation data	EPA	EPA
		OWNOP	Owner/operator
		CL	Contract labs
		ESDL	ESD labs
		STATE	State
		OTHER	Other
84124	Method of evacuation	APUM	Air lift pump
		BAIL	Bailed
		COMPA	Compressed air
		JETD	Jetted
		PERP	Peristaltic pump
		CENP	Centrifugal pump
		PITP	Pitcher pump
		SMPL	Sampler
		BUCKT	Bucket
		RTPMP	Rotary pump
		SBPMP	Submersible pump
		TBPMP	Turbine pump
		PSPMP	Piston pump
		BOTVB	Bottom valve bailer
		SRNGB	Syringe bailer
		DULVB	Dual valve bailer
		BLDRP	Bladder pump

Sample Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Sampling/analytical methods descriptors (continued)			
84124	Method of evacuation (continued)	NLFTP	Nitrogen lift pump
		COMPN	Compressed nitrogen
		UNKN	Unknown
		OTHER	Other
84125	Method of Water-Level Measurement	ARLMS	Airline measurement
		ANGRP	Analog or graphic recorded
		CARLM	Calibrated airline measurement
		EST	Estimated
		PRSG	Pressure-gage measurement
		CPRSG	Calibrated pressure gage
		GPHYS	Interpreted from geophysical logs
		MNMTR	Manometer
		NRECG	Non-recording gage
		UNKN	Reported, method unknown
		STLTP	Steel tape
		ECTP	Electric tape
		CHLIN	Chalk line
		SOUND	Sounder
		CELTP	Calibrated electric tape
		OTHER	Other
		UNKN	Unknown

Appendix D (continued, p.6)

Sample Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Sampling/analytical methods descriptors (continued)			
84126	Source of depth data	DRLLG	Driller's log or report
		GLGST	Private geologist/consultant
		GPHYS	Depth interpreted from geophysical logs by some source agency
		MEMRY	Memory
		OWNOP	Reported by well owner/operator
		OTHER	Reported by other
		RAGNC	Measured by reporting agency
		EPA	EPA
		STATE	State
		CL	Contract labs
		ESDLB	ESD labs
84127	Method of depth measurement	STLTP	Steel tape
		EST	Estimated
		CHLIN	Chalk line
		SOUND	Sounder
		GPHYS	Interpreted from geophysical logs
		UNKN	Unknown
		OTHER	Other

Sample Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Sampling/analytical methods descriptors (continued)			
84128	Source of water level data	DRLLG	Driller's log or report
		GLGST	Private geologist/consultant
		GPHYS	Depth interpreted from geophysical logs by some source agency
		MEMRY	Memory
		OWNOP	Reported by well owner/operator
		OTHER	Reported by other
		RAGNC	Measured by reporting agency
		EPA	EPA
		STATE	State
		CL	Contract labs
		ESDLB	ESD labs
84077	Monitoring well sampling method	APUM	Air lift pump
		BAIL	Bailed
		COMPA	Compressed air
		JETD	Jetted
		PERP	Peristaltic pump
		CENP	Centrifugal pump
		PITP	Pitcher pump

Appendix D (continued, p.8)

Sample Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Sampling/analytical methods descriptors (continued)			
84077	Monitoring well sampling method (continued)	SMPL	Sampler
		BUCKT	Bucket
		RTPMP	Rotary pump
		SBPMP	Submersible pump
		TBPMP	Turbine pump
		PSPMP	Piston pump
		BOTVB	Bottom valve bailer
		SRNGB	Syringe bailer
		DULVB	Dual valve bailer
		BLDRP	Bladder pump
		NLFTP	Nitrogen lift pump
		COMPN	Compressed nitrogen
		UNKN	Unknown
		OTHER	Other
00008	Lab identification number	-----	Coded identification number for laboratory where sample was analyzed
72004	Pumping period	-----	Pumping or flow period prior to sampling, in minutes

Sample Descriptor Parameter Codes, Values, and Definition

Parameter Code	Name	Values	Value Definitions
Sampling/analytical methods descriptors (continued)* **			
84062	Sampling point description	LNDSR	Land surface
		TPCAS	Top of casing
		PMPBS	Pump base
		RECRD	Continuous recorded
84129	Data quality assessment		(See Section 4.5 of this manual for code identification)

APPENDIX E

SYSTEM MULTIPURPOSE KEY ("SMK") NOTATION FOR RCRA/STORET USERS

APPENDIX E

System Multipurpose Key ("SMK") Notation for RCRA/STORET Users

The "SMK" is a 6-digit number which will be used to describe the way in which a RCRA ground-water sample was collected. One SMK will be entered for each sampling event (each replicate may be considered a sampling event). The value of the SMK will be divided up into several components. Only the first four of the seven digits have been defined as yet. The components of the first four digits of the SMK will be as follows:

Digit	Component Definition
1	Identifies whether the sample is a replicate sample, i.e., one of a set of splits taken from the well, and/or a field aliquot and/or a lab aliquot; value is one of several codes whose values are presented in the table following this page
2	Identifies the split number of the sample whose values are reported; for example, if a sample has 4 splits, the values reported for the analysis of the first replicate would have a SMK with a "1" as the second digit, the values reported for the analysis of the second split would have a value of "2" for the second digit of the SMK, etc.
3	Identifies the number of the sample which was divided in the field; for example, if a sample was collected in the field and divided into several vials for analysis, the reported values of the analysis of the first of the field aliquots would have a value of "1" as the third digit of the SMK, the reported values of the second of the field aliquots would have a value of "2" as the third digit of the SMK, etc.
4	Identifies the number of the sample which was divided in the lab; for example, if a sample was collected in the field and divided into several samples at the lab, the reported values of the analysis of the first of the lab aliquots samples would have a value of "1" as the fourth digit of the SMK, the reported values of the second of the lab aliquots would have a value of "2" as the fourth digit of the SMK, etc.

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APPENDIX E (continued, page 2)

System Multipurpose Key ("SMK") Notation for RCRA/STORET Users

First digit code	Split	Field Aliquot	Lab Aliquot
0	--	--	--
1	--	--	X
2	--	X	--
3	X	--	--
4	--	X	X
5	X	X	--
6	X	--	X
7	X	X	X

For example, if a sample is the first of several samples which were divided in the field, the SMK might look like:

5110000

where:

- The first digit value of "5" says the sample is a field aliquot of a split sample
- The second digit value of "1" identifies that this is the first of the reported split
- The third digit value of "1" says that this is the first of the field aliquot
- The fourth digit value of "0" says that no division was made at the lab
- The fifth, sixth, and seventh digit values of "0" show thses fields as yet undefined.

APPENDIX F

USER MULTIPURPOSE KEY ("UMK") NOTATION FOR RCRA/STORET USERS

OCT 1985

APPENDIX F

User Multipurpose Key ("UMK") Notation for RCRA/STORET Users

The "UMK" is an 8-digit number which will be used to describe the method in which a RCRA ground-water sample was collected and analyzed. There will be one "UMK" per sampling event (each replicate may be considered a sampling event). The value of the UMK will be dividied up into several components, each telling a different aspect of the techniques used when the sample was collected and analyzed. The components of the eight digits of the UMK will be as follows:

Digits	Component Definition
1-2	Coded value for sampler type (see accompanying tables)
3-5	Identifies up to three different materials making up the sampling equipment, 1-digit each (see tables)
6	Flag for indicating whether the reported values were determined in the lab of the field (see tables)
7-8	Coded value to identify analytical method used to determine reported values (see tables)

APPENDIX F (continued, p.2)

Sampler-Type Values for Digits 1 and 2 of the UMK

Codes for Digits 1 and 2	Definition
00	Entry not needed/not applicable
01	Bottom valve bailer
02	Syringe bailer
03	Dual valve bailer
04	Rotary pump
05	Centrifugal pump
06	Peristaltic pump
07	Bladder pump
08	Turbine pump
09	Piston pump
10	Air lift pump
11	Nitrogen lift pump
12	Compressed air
13	Compressed nitrogen
14	Unknown
15	Other

User Multipurpose Key ("UMK") Notation for RCRA/STORET Users

Sampler Material Codes for Digits 3,4, and 5 of the UMK

One code per digit, up to three may be stored per sample

Code for Digit 3 and/or 4 and/or 5	Definition
0	Not applicable
1	Stainless steel
2	Polyvinyl chloride (PVC)
3	Teflon
4	Polyalkene (polyethylene, polypropylene, etc)
5	Nylon
6	Rubber
7	Other

APPENDIX F (continued, p.4)

User Multipurpose Key ("UMK") Notation for RCRA/STORET Users

Lab or Field Determination Flag as Sixth Digit of the UMK

Code	Definition
0	Not applicable
1	EPA Lab (in-house and contractors)
2	EPA Field (in-house and contractors)
3	Owner/operator, field
4	Owner/operator, lab
5	Contract, field
6	Contract, lab
7	Unknown
8	Other

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User Multipurpose Key ("UMK") Notation for RCRA/STORET Users

Analytical Method Codes for the 7-8 Digits of the UMK

Code for 7th and 8th digits	Definition
00	Not applicable
01	Gas chromatography/mass spectrometry (GC/MS)
02	Gas chromatography/flame ionization detector (GC/FID)
03	Gas chromatography/electron capture detector (GC/ECD)
04	Gas chromatography/thermal conductivity detector (GC/TD)
05	Gas chromatography/other
06	Liquid chromatography
07	Other chromatography
08	Atomic absorption spectrophotometry, flame (AA/flame)
09	Atomic absorption spectrophotometry, furnace (AA/furnace)
10	Atomic absorption spectrophotometry, other
11	Inductively coupled plasma (ICP)
12	Specific ion electrode (includes pH)
13	Resistivity or conductivity
14	Other electrochemical
15	Colorimetric
16	Infra-red spectrometry (IR)
17	Other spectrophotometric
18	Titration
19	Unknown
20	Other

APPENDIX G

STORET PARAMETER CODES FOR SUBSTANCES MONITORED UNDER 40 CFR §265.92 FOR FACILITIES WITH RCRA INTERIM STATUS

March 20, 1985

APPENDIX G

STORET Parameter Codes for Substances Monitored Under 40 CFR §265.92 For Facilities with RCRA Interim Status

Substance	STORET PARAMETER CODES					
	Total or Whole Water Sample	Units	Dissolved Fraction of Water	Units	Suspended Fraction of Water	Units
Drinking Water Suitability Parameters-						
Arsenic	01002	ug/l	01000	ug/l	01001	ug/l
Barium	01007	ug/l	01005	ug/l	01006	ug/l
Cadmium	01027	ug/l	01025	ug/l	01026	ug/l
Chromium	01034	ug/l	01030	ug/l	01031	ug/l
Fluoride	00951	mg/l	00950	mg/l	82299	mg/l
Lead	01051	ug/l	01049	ug/l	01050	ug/l
Mercury	71900	ug/l	71890	ug/l	71895	ug/l
Nitrate (as N)	00620	mg/l	n/a		n/a	
Selenium	01147	ug/l	01145	ug/l	01146	ug/l
Silver	01077	ug/l	01075	ug/l	01076	ug/l
Endrin	39390	ug/l	39391	ug/l	39392	ug/l
Lindane	39782	ug/l	38341	ug/l	n/a	
Methoxychlor	39480	ug/l	38478	ug/l	39479	ug/l
Toxaphene	39400	ug/l	39401	ug/l	n/a	
2,4-D	39730	ug/l	n/a		39733	ug/l
2,4,5-TP Silvex	39045	ug/l	n/a		n/a	
Radium (226 & 228)	11503	pCi/l	n/a		n/a	
. Radium (226)	09501	pCi/l	09503	pCi/l	09505	pCi/l
. Radium (228)	11501	pCi/l	81366	pCi/l	81368	pCi/l
Gross Alpha	01501	pCi/l	01503	pCi/l	01505	pCi/l
Gross Beta	03501	pCi/l	p3503	pCi/l	03505	pCi/l

APPENDIX G (continued)

STORET Parameter Codes for Substances Monitored Under 40 CFR §265.92
For Facilities with RCRA Interim Status

Substance	STORET PARAMETER CODES					
	Total or Whole Water Sample	Units	Dissolved Fraction of Water	Units	Suspended Fraction of Water	Units
Drinking Water Suitability Parameters (continued)						
Turbidity	00076	hach ftu	n/a		n/a	
Coliform Bacteria (Mem Fil)	31501	c/100ml	n/a		n/a	
Coliform Bacteria (Fenn Tube)	31505	mpn/100ml	n/a		n/a	
Ground-Water Quality Parameters						
Chloride	00940	mg/l	82295	ug/l	n/a	
Iron	01045	ug/l	01046	ug/l	01044	ug/l
Phenols	32730	ug/l	32732	ug/l	32733	ug/l
Sodium	00929	mg/l	00930	mg/l	00928	mg/l
Sulfate	00945	mg/l	00946	mg/l	n/a	
Ground-Water Contamination Indicator Parameters						
pH	00400	s.u.	n/a		n/a	
Specific conductance	00095	umhos/cm	n/a		n/a	
Total Organic Carbon	00680	mg/l	00681	mg/l	00689	mg/l
Total Organic Halogen						
. Purgeable organic halogen DX20	70354	ug/l	n/a		n/a	
. Total organic halogen DX20	70353	ug/l	n/a		n/a	
. Total organic halogen	81375	ug/l	n/a		n/a	
. Total organic halogen	78115	ug/l	n/a		n/a	

APPENDIX H

CURRENT STATUS OF PARAMETER CODES FOR 40 CFR §261 APPENDIX VIII HAZARDOUS SUBSTANCES IN STORET

March 20, 1985

APPENDIX II

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Acetonitrile (Ethanenitrile) (Methyl Cyanide (Acetonitrile))	76997	TOTAL	UG/L	75058
Acetophenone (Ethanone, 1-phenyl)	81553	TOT	UG/L	98862
	78755	SED	UG/KG	98862
3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts (Warfarin)	73500			81812
2-Acetylaminofluorene (Acetamide, N-(9H-fluoren-2-yl)-)	73501			53963
Acetyl chloride (Ethanoyl chloride)	73502			75365
1-Acetyl-2-thiourea (Acetamide, N-(amino-thioxomethyl)-)	73503			591082
Acrolein (2-Propenal)	34210	TOTAL W	UG/L	107028
	34211	DISS	UG/L	107028
	34212	SUSP	UG/L	107028
	34213	SED	UG/KG DRY WGT	107028
	34214	TIS	MG/KG WET WGT	107028
	79540	WAS	MG/KG	107028
	82158	IN AIR	NG/CC	107028
Acrylamide (2-Propenamide)	73504			79061
Acrylonitrile (2-Propenenitrile)	34215	TOTW	UG/L	107131
	34216	DISS	UG/L	107131
	34217	SUSP	UG/L	107131
	34218	SED	UG/KG DRY WGT	107131

1 -- Appendix VIII pseudonym in parens, STORET para. name (underlined and in parens) if significantly different from Appendix VIII names.

APPENDIX H (p.2)

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Acrylonitrile (cont'd)	34219	TIS	MG/KG WET WGT	107131
	79541	WASTE	MG/KG	107131
	82159	IN AIR	NG/CC	107131
Aflatoxins ("N.O.S")	not applicable to RCRA/STORET			
Aldrin (1,2,3,4,10,10-Hexachloro-1,4,4a, 5,8,8a,8b-hexahydro-endo,exo-1,4:5,8-dimethanonaphthalene)	39330	TOT	UG/L	309002
	39331	DIS	UG/L	309002
	39332	SUS FRAC	UG/L	309002
	34680	TIS	MG/KG WET WGT	309002
	39333	SED	UG/KG DRY WGT	309002
	39334	SHELFISH	UG/KG WT	309002
	45565	ADIPOSE TIS	MG/KG	309002
	46274	SOIL	NG/G	309002
	61460	SLUDGE LIQ	UG/L	309002
	61461	SLUDGE SOL	UG/KG	309002
	61462	SLUDGE TOT	UG/L	309002
	79542	WASTE	MG/KG	309002
	81713	SHEL	UG/KG DRY WT	309002
Allyl alcohol (2-Propen-1-ol)	73505			107186
Aluminum phosphide	73506			20859738
4-Aminobiphenyl ([1,1'-Biphenyl]-4-amine) (P-Aminobiphenyl)	77581	TOTAL	UG/L	92671

1 -- Appendix VIII pseudonym in parens, STORET para. name (underlined and in parens) if significantly different from Appendix VIII names.

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
6-Amino-1,1a,2,8,8a,8b-hexahydro-8-(hydroxymethyl)-8a-methoxy-5-methyl-carbamate azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, (ester)(Mitomycin C) (Azirino[2'3:3,4]pyrrolo(1,2-a)indole-4,7-dione, 6-amino-8-[((aminocarbonyl)oxy)methyl]-1,1a,2,8,8a,8b-hexahydro-8amethoxy-5-methy-)	73507			50077
5-(Aminomethyl)-3-isoxazolol (3(2H)-Isoxazolone, 5-(aminomethyl)-) 4-Aminopyridine (4-Pyridinamine)	73508			2763964
Amitrole (1H-1,2,4-Triazol-3-amine)	73509			61825
Aniline (Benzenamine)	77089	TOTAL	UG/L	62533
Antimony and compounds ("N.O.S.")	01097	TOT	UG/L	7440360
	01095	DISS	UG/L	7440360
	01096	SUSP	UG/L	7440360
	01098	SED	MG/KG DRY WGT	7440360
	01099	TIS	MG/KG WET	7440360
	71919	FISH	UG/GM DWT	7440360
	79547	WASTE	MG/KG	7440360
Aramite (Sulfurous acid, 2-chloroethyl-, 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester)	73510			140578

1 -- Appendix VIII pseudonym in parens, STORET para. name (underlined and in parens) if significantly different from Appendix VIII names.

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Arsenic and compounds ("N.O.S.")	01002	TOT	UG/L	7440382
	997	TOT INORG	UG/L	7440382
	995	DISS INORG	UG/L	7440382
	1000	DISS	UG/L	7440382
	22678	DISS ORG	UG/L	7440382
	22680	TRI DISS	UG/L	7440382
	22679	PENT DISS	UG/L	7440382
	996	SUSP INORG	UG/L	7440382
	1001	SUSP	UG/L	7440382
	978	TOT REC	UG/L	7440382
	1003	SED	MG/KG DRY WGT	7440382
	1004	TIS	MG/KG WET WGT	7440382
	1252		LB/D/CFS	7440382
	46551	ELEC T.	UG/L	7440382
	61520	SLUDGE LIQ	MG/L	7440382
	61521	SLUDGE SOL	MG/KG	7440382
	61522	SLUDGE TOT	MG/L	7440382
	71918	FISH	UG/GM DWT	7440382
	79548	WASTE	MG/KG	7440382
	81743	SHELL	MG/KG WET	7440382
	82504	DIS DIP	UG/KG	7440382
	82505	INSOL DD	UG/KG	7440382
	82506	TOT DRY	UG/KG	7440382
Arsenic acid (Orthoarsenic acid)	73511			7778394
Arsenic pentoxide (Arsenic (V) oxide)	73512			1303282

1 -- Appendix VIII pseudonym in parens, STORET para. name (underlined and in parens) if significantly different from Appendix VIII names.

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Arsenic trioxide (Arsenic (III) oxide)	73513			1327533
Auramine (Benzenamine, 4,4'-carbonimidoylbis[N,N-Dimethyl-,monohydrochloride)	73514			2465272
Azaserine (L-Serine, diazoacetate (ester))	73515			115026
Barium and compounds ("N.O.S.")	01007	TOT	UG/L	7440393
	01005	DISS	UG/L	7440393
	46558	DISS .+	UG/L	7440393
	01006	SUSP	UG/L	7440393
	01008		MG/KG-BA DRY WGT	7440393
	01009	TOT.REC.	UG/L	7440393
	01215	DIS DRY D	UG/KG	7440393
	01216	INS DRY D	UG/KG	7440393
	01217	TOT DRY D	UG/KG	7440393
	79550	WASTE	MG/KG	7440393
	81658	FISH	MG/KG WET WGT	7440393
	81828	SHELL	MG/KG WET WGT	7440393
Barium cyanide	See "Barium"; see "Cyanide"			
Benz[c]acridine (3,4-Benzacridine)	73516			225514
Benz[a]anthracene (1,2-Benzanthracene)	34526	TOT WTR	UG/L	56553
	34527	DISS	UG/L	56553
	34528	SUSP	UG/L	56553
	34529	SED	UG/KG DRY WGT	56553
	34530	TIS	MG/KG WET WGT	56553

1 -- Appendix VIII pseudonym in parens, STORET para. name (underlined and in parens) if significantly different from Appendix VIII names.

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Benz[a]anthracene (continued)	79509	WASTE	MG/KG	56553
Benzene (Cyclohexatriene)	34030	TOT	UG/L	71432
	34235	DISS	UG/L	71432
	34236	SUSP	UG/L	71432
	34237	SED	UG/KG DRY WGT	71432
	34238	TIS	MG/KG WET WGT	71432
	78124	HOH VOL	UG/L	71432
	79551	WASTE	MG/KG	71432
Benzenearsonic acid (Arsonic acid, phenyl-)	73517			98055
Benzene, dichloromethyl-(Benzal chloride) (dichlorophenylmethane)	77982		UG/L	98873
Benzenethiol (Thiophenol)	73518			108985
Benzidine ([1,1'-Biphenyl]-4,4'diamine)	39120	TOT	UG/L	92875
	34239	DISS	UG/L	92875
	34240	SUSP	UG/L	92875
	34241	TIS	MG/KG WET WGT	92875
	39121	SED	UG/KG DRY WGT	92875
	79553	WASTE	MG/KG	92875
Benzo(b)fluoranthene (2,3-Benzofluor-anthene)	34230	TOTAL	UG/L	205992
	34231	DISS	UG/L	205992
	34232	SUSP	UG/L	205992
	34233	MUD	UG/KG DRY WT	205992

1 -- Appendix VIII pseudonym in parens, STORET para. name (underlined and in parens) if significantly different from Appendix VIII names.

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Benzo(j)fluoranthene (7,8-Benzofluor-anthene) (10,11-benzo(j)fluoranthene)	77800	TOTAL	UG/L	205823
	78122	TOT	UG/L	205823
Benzo[a]pyrene (3,4-Benzopyrene) (Benzo-a-pyrene)	34247	TOTW	UG/L	50328
	34248	DISS	UG/L	50328
	34249	SUSP	UG/L	50328
	34250	SED	UG/KG DRY WGT	50328
	34251	TIS	MG/KG WET WGT	50328
	79532	WASTE	MG/KG	50328
p-Benzoquinone (1,4-Cyclohexadienedione)	73519			106514
Benzotrichloride (Benzene, trichloromethyl) (trichloromethyl benzene)	77677	TOTAL	UG/L	98077
Benzyl chloride (Benzene, (chloromethyl)-)	73520			100447
Beryllium and compounds ("N.O.S.")	01012	TOT	UG/L	7440417
	01010	DISS	UG/L	7440417
	01011	SUSP	UG/L	7440417
	00998	TOT.REC.	UG/L	7440417
	01013	SED	MG/KG DRY WGT	7440417
	34252	TIS	MG/KG WET WGT	7440417
	61523	SLUDGE LIQ	MG/L	7440417
	61524	SLUDGE SOL	MG/KG	7440417

1 -- Appendix VIII pseudonym in parens, STORET para. name (underlined and in parens) if significantly different from Appendix VIII names.

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Beryllium and compounds (continued)	61525	SLUDGE TOT	MG/L	7440417
	79556	WASTE	MG/KG	7440417
	81854	FISH	MG/KG DRY WGT	7440417
	82525	MACROPHT	MG/KG	7440417
Bis(2-chloroethoxy)methane (Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-])	34278	TOTW	UG/L	111911
	34279	DISS	UG/L	111911
	34280	SUSP	UG/L	111911
	34281	SED	UG/KG DRY WGT	111911
	34282	TIS	MG/KG WET WGT	111911
	79559	WAS	MG/KG	111911
Bis(2-chloroethyl) ether (Ethane, 1,1'-oxybis[2-chloro-])	34273	TOTW	UG/L	111444
	34274	DISS	UG/L	111444
	34275	SUSP	UG/L	111444
	34276	SED	UG/KG DRY WGT	111444
	34277	TIS	MG/KG WET WGT	111444
	79560	WASTE	MG/KG	111444
N,N-Bis(2-chloroethyl)-2-naphthylamine (Chlornaphazine)	73521			494031
Bis(2-chloroisopropyl) ether (Propane, 2,2'-oxybis[2-chloro-])	73522			108601

1 -- Appendix VIII pseudonym in parens, STORET para. name (underlined and in parens) if significantly different from Appendix VIII names.

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Bis(chloromethyl) ether (Methane, oxybis[chloro-])	34268	TOTW	UG/L	542881
	34269	DISS	UG/L	542881
	34270	SUSP	UG/L	542881
	34271	SED	UG/KG DRY WGT	542881
	34272	TIS	MG/KG WET WGT	542881
	82147	IN AIR	NG/CC	542881
Bis(2-ethylhexyl) phthalate (1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester)	39100	TOTAL	UG/L	117817
	39103	DISS	UG/L	117817
	39104	SUSP	UG/L	117817
(Diethylhexyl phthalates)	39107	SUS.FRAC.	MG/KG D WT	117817
(Phthalates, diethylhexyl)	39102	MUD-	UG/KG DRY	117817
	39099	TIS	MG/KG WET WGT	117817
	39101	FISH	UG/KG WWT	117817
	39106	SLDGE STP	UG/KG D WT	117817
Bromoacetone (2-Propanone, 1-bromo-)	73523			598312
Bromomethane (Methyl bromide)	34413	TOTW	UG/L	74839
(Methyl bromide)	34414	DISS	UG/L	74839
	34415	SUSP	UG/L	74839
	34416	SED	UG/KG DRY WGT	74839
	34417	TIS	MG/KG WET WGT	74839
	79653	WASTE	MG/KG	74839
	82169	IN AIR	NG/CC	74839

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
4-Bromophenyl phenyl ether (Benzene, 1-bromo-4-phenoxy-)	34636	TOTW	UG/L	101553
	34637	DISS	UG/L	101553
	34638	SUSP	UG/L	101553
	34639	SED	UG/KG DRY WGT	101553
	34640	TIS	MG/KG WET WGT	101553
Brucine (Strychnidin-10-one, 2,3-dimethoxy-)	73524			357573
2-Butanone peroxide (Methyl ethyl ketone, peroxide)	73525			1338234
Butyl benzyl phthalate (1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester) (N-Butyl benzyl phthalate)	34292	TOTAL	UG/L	85687
	34293	DISS	UG/L	85687
	34294	SUSP	UG/L	85687
	34295	MUD	UG/KG DRY	85687
	34296	TIS	MG/KG WET	85687
2-sec-Butyl-4,6-dinitrophenol (DNBP) (Phenol, 2,4-dinitro-6-(1-methylpropyl)-) (Dinoseb) (2 Secondary Butyl 4,6-Dinitrophenol)	81287	TOT	UG/L	88857
	82226	WATER	UG/L	88857
	38779	DISS	UG/L	88857
	38780	SUSP	UG/L	88857
	38781	SED	UG/KG	88857
	38782	TIS	MG/KG	88857

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Cadmium and compounds ("N.O.S.")	01027	TOT	UG/L	7440439
	01025	DISS	UG/L	7440439
	46559	DISS .+	UG/L	7440439
	01113	TOT.REC.	UG/L	7440439
	82491	TOT REC DD	UG/KG	7440439
	01026	SUSP	UG/L	7440439
	01019	MUD	MG/KG-CD WET WGT	7440439
	01028	MUD	MG/KG-CD DRY WGT	7440439
	01165	TOT.	LBS/DAY	7440439
	01253		LB/D/CFS	7440439
	46245	DTPA	MG/KG	7440439
	46269	TOTAL	MG/KG	7440439
	46309	TOTAL	MG/KG	7440439
	61526	SLUDGE LIQ	MG/L	7440439
	61527	SLUDGE SOL	MG/KG	7440439
	61528	SLUDGE TOT	MG/L	7440439
	71940	TIS	MG/KG WET WGT	7440439
	71941	TOTAL FISH	UG/GM DWT	7440439
	71946	EXTR	UG/L	7440439
	79580	WASTE	MG/KG	7440439
	81214	COLD ILLINOIS	MG/L	7440439
	81634	SHELL	MG/KG DRY WGT	7440439
	81728	PLANKTON	MG/KG DRY	7440439
	81735	ZOOPLANK	MG/KG DRY	7440439
	81744	SHELL	MG/KG WET	7440439
	81753	INTERST WAT	UG/L	7440439
	81772	AQ MC	MG/KG DRY WGT	7440439

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Cadmium and compounds (continued)	81780	EP AL	MG/KG DRY WGT	7440439
	81788	ANML	MG/KG DRY WGT	7440439
	81932	SUSPEND	UG/G	7440439
	82489	DIS DDP	UG/KG	7440439
	82490	INSOL DD	UG/KG	7440439
Calcium chromate (Chromic acid, calcium salt)	See "Chromium"			
Calcium cyanide	See "Cyanide"			
Carbon disulfide (Carbon bisulfide)	81309	TOT	UG/L	75150
(Carbondisulfide(CS2))	77041	TOTAL	UG/L	75150
	78544	SED	UG/KG	75150
Carbon oxyfluoride (Carbonyl fluoride)	73526			353504
Chloral (Acetaldehyde, trichloro-)	39108	TOT	MG/L	75876
(Chloral hydrate)	77447	TOTAL	UG/L	75876
Chlorambucil (Butanoic acid, 4-[bis(2-chloroethyl)amino]benzene-)	73527			305033
Chlordane (alpha and gamma isomers)	39350	TECH&MET TOT	UG/L	57749
(4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3,4,7,7a-tetrahydro-)	39352	TECH MET DIS	UG/L	57749
(alpha and gamma isomers)	39353	TECH&MET SUS	UG/L	57749
(chlordane (tech mix & metabs))	39349	FISH	UG/KG WWT	57749
	34682	TECH&MET TIS	MG/KG WET	57749
	39351	TECH&MET MUD	UG/KG DRY	57749

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Chlordane (continued)	61487	SLUDGE LIQ	UG/L	57749
	61488	SLUDGE SOL	UG/KG	57749
	61489	SLUDGE TOT	UG/L	57749
	79583	TECHMIX WASTE	MG/KG	57749
	81714	SHEL	UG/KG DRY WGT	57749
	81863	SHELL	UG/KG WET WGT	57749
Chlorinated benzenes ("N.O.S.")	Not applicable to RCRA/STORET			
Chlorinated ethane ("N.O.S.")	Not applicable to RCRA/STORET			
Chlorinated fluorocarbons ("N.O.S.")	Not applicable to RCRA/STORET			
Chlorinated naphthalene ("N.O.S.")	Not applicable to RCRA/STORET			
Chlorinated phenol ("N.O.S.")	Not applicable to RCRA/STORET			
Chloroacetaldehyde (Acetaldehyde, chloro-)	73528			107200
Chloroalkyl ethers ("N.O.S.")	Not applicable to RCRA/STORET			
p-Chloroaniline (Benzenamine, 4-chloro-)	73529			106478
Chlorobenzene (Benzene, chloro-)	34301	TOTW	UG/L	108907
	34302	DISS	UG/L	108907

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Chlorobenzene (continued)	34303	SUSP	UG/L	108907
	34304	SED	UG/KG DRY WGT	108907
	34305	TIS	MG/KG WET WGT	108907
	79586	WASTE	MG/KG	108907
	82141	IN AIR	NG/CC	108907
Chlorobenzilate (Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester)	39460	WHL WTR SMPL	UG/L	510156
	39461	MUD DRY	UG/KG	510156
	79007	FISH	UG/KG	510156
p-Chloro-m-cresol (Phenol, 4-chloro-3-methyl) (parachlorometa cresol (PCMC))	34452	TOTW	UG/L	59507
	34453	DISS	UG/L	59507
	34454	SUSP	UG/L	59507
	34455	SED	UG/KG DRY WGT	59507
	34456	TIS	MG/KG WET WGT	59507
	79682	WAS	MG/KG	59507
1-Chloro-2,3-epoxypropane (Oxirane, 2-(chloromethyl)-) (Epichlorohydrin)	77084	TOTAL	UG/L	106898
	81679	TOT	MG/L	106898
2-Chloroethyl vinyl ether (Ethene, (2-chloroethoxy)-)	34576	TOTW	UG/L	110758
	34577	DISS	UG/L	110758
	34578	SUSP	UG/L	110758
	34579	SED	UG/KG DRY WGT	110758
	34580	TIS	MG/KG WET WGT	110758
	79526	WAS	MG/KG	110758
	82148	IN AIR	NG/CC	110758

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Chloroform (Methane, trichloro-)	32106	TOT	UG/L	67663
	34316	DISS	UG/L	67663
	34317	SUSP	UG/L	67663
	32003	CCE AND CAE	UG/L	67663
	32005	CCE	UG/L	67663
	32021	EITHER INSOLUBL	UG/L	67663
	32022	WATER SOLUBLES	UG/L	67663
	32270	EXT	MG/L	67663
	34318	SED	UG/KG DRY WGT	67663
	34319	TIS	MG/KG WET WGT	67663
	79589	WAS	MG/KG	67663
	82149	IN AIR	NG/CC	67663
Chloromethane (Methyl chloride)	34418	TOTW	UG/L	74873
	34419	DISS	UG/L	74873
	34420	SUSP	UG/L	74873
	34421	SED	UG/KG DRY WGT	74873
	34422	TIS	MG/KG WET WGT	74873
	79654	WASTE	MG/KG	74873
	82162	IN AIR	NG/CC	74873
Chloromethyl methyl ether (Methane, chloromethoxy-)	73530			107302

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
2-Chloronaphthalene (Naphthalene, beta-chloro-)	34581	TOTW	UG/L	91587
	34582	DISS	UG/L	91587
	34583	SUSP	UG/L	91587
	34584	SED	UG/KG DRY WGT	91587
	34585	TIS	MG/KG WET WGT	91587
	79527	WASTE	MG/KG	91587
2-Chlorophenol (Phenol, o-chloro-)	34586	TOTW	UG/L	95578
	34587	DISS	UG/L	95578
	34588	SUSP	UG/L	95578
	34589	SED	UG/KG DRY WGT	95578
	34590	TIS	MG/KG WET WGT	95578
	79528	WAS	MG/KG	95578
1-(o-Chlorophenyl)thiourea (Thiourea, (2-chlorophenyl)-) (N-(2-chlorophenyl) thiourea; (o-chlorphenyl) thiourea; 1-(2-chlorophenyl) thiourea 1-(2-chlorphenyl)-2-thiourea; 1-(ochlorophenyl)-2-thiourea)	73531			5344821
3-Chloropropionitrile (Propanenitrile, 3-chloro-) (3-Chloropropanonitrile; beta-chloropropionitrile; 1-chloro-2-cyanoethane)	73532			542767

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Chromium and compounds ("N.O.S.")	01034	CR,TOT	UG/L	7440473
	82058	TOTAL REMOVAL	%	7440473
	01030	DISS	UG/L	7440473
	01031	SUSP	UG/L	7440473
	01118	TOT.REC.	UG/L	7440473
	01024	MUD	MG/KG WET WGT	7440473
	01029	SED	MG/KG DRY WGT	7440473
	01254	TOTAL	LB/D/CFS	7440473
	01255	HEX	LB/D/CFS	7440473
	46244	DTPA	MG/KG	7440473
	46271	TOTAL	MG/KG	7440473
	46308	TOTAL	MG/KG	7440473
	46560	DISS.+	UG/L	7440473
	61511	SLUDGE LIQ	MG/L	7440473
	61512	SLUDGE SOL	MG/KG	7440473
	61513	SLUDGE TOT	MG/L	7440473
	71939	FISH	UG/G OR MG/KG WT	7440473
	71943	TOTAL FISH	UG/GM DWT	7440473
	71947	EXTR	UG/L	7440473
	81215	(HEX)ILL-COLD	MG/L	7440473
	81217	TOTAL ILL-COLD	MG/L	7440473
	81729	PLANKTON	MG/KG DRY	7440473
	81736	ZOOPLANK	MG/KG DRY	7440473
	81745	SHELL	MG/KG WET	7440473
	81773	AQ MCDRY	MG/KG WGT	7440473
	81781	EP ALDRY	MG/KG WGT	7440473
	81789	ANML DRY	MG/KG WGT	7440473

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Chromium and compounds (continued)	81796	SHELL	MG/KG DRY WGT	7440473
	82059	TOTAL	KG/BATCH	7440473
	82399	HEXAVAL	KG/BATCH	7440473
	82498	DIS D D P	UG/KG	7440473
	82499	INSOL D D	UG/KG	7440473
	82500	TOT REC DD	UG/KG	7440473
	85007	TOTAL	#/DAY	7440473
Chrysene (1,2-Benzphenanthrene)	34320	TOTW	UG/L	218019
	34321	DISS	UG/L	218019
	34322	SUSP	UG/L	218019
	34323	SED	UG/KG DRY WGT	218019
	34324	TIS	MG/KG WET WGT	218019
	79592	WASTE	MG/KG	218019
Citrus red No. 2 (2-Naphthol, 1-[(2,5-dimethoxyphenyl)azo]-)	73523			6358538
Coal tars ("N.O.S.")	Not applicable to RCRA/STORET			
Copper cyanide (cuprous cyanide; copper (I) cyanide; copper (2) cyanide; copper (II) cyanide; cupric cyanide)	See "Copper"; see "Cyanide"			
Creosote (Creosote, wood) ("N.O.S.")	Not applicable to RCRA/STORET			
Cresols (Cresylic acid) (Phenol, methyl-) ("N.O.S.")	Not applicable to RCRA/STORET			

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Crotonaldehyde (2-Butenal)	77028	TOTAL	UG/L	4170303
Cyanides (soluble salts and complexes) ("N.O.S.")	00158	WHL WAT FREE	KG/BATCH	57125
	00719	FREE HBG METH	UG/L	57125
	00720	CN-TOT	MG/L	57125
	00723	DISSOLVE	UG/L	57125
	00722	FREE CN	MG/L	57125
	34325	SUSP	MG/L	57125
	79595	WASTE	MG/KG	57125
	85008	TOTAL	#/DAY	57125
	00721	SED	MG/KG DRY WGT	57125
	01257		LB/D/CFS	57125
	34326	TIS	MG/KG WET WGT	57125
	61555	SLUDGE TOT	MG/L	57125
	61556	SLUDGE SOL	MG/KG	57125
	61557	SLUDGE LIQ	MG/L	57125
	81208	FREE	MG/L	57125
	81210	ILLINOIS	MG/L	57125
Cyanogen (Ethanedinitrile)	73534			460195
Cyanogen bromide (Bromine cyanide)	73535			506683
Cyanogen chloride (Chlorine cyanide)	77022	TOTAL	UG/L	506774
Cycasin (beta-D-Glucopyranoside, (methyl-ONN-azoxy)methyl-)	73536			14901087

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
2-Cyclohexyl-4,6-dinitrophenol (Phenol, 2-cyclohexyl-4,6-dinitro-)	73537			131895
Cyclophosphamide (2H-1,3,2-Oxazaphosphorine, [bis(2-chloroethyl)amino]-tetra-hydro-, 2-oxide)	73538			50180
Daunomycin (5,12-Naphthacenedione, (8S-cis)-8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-)	73539			20830813
DDD (Dichlorodiphenyldichloroethane) (Ethane, 1,1-dichloro-2,2-bis(p-chlorophenyl)-) (p,p'-DDD)	39310	TOT	UG/L	72548
	39360	WHL WTR SMPL	UG/L	72548
	34651	DIS	UG/L	72548
	39361	FLT FRAC	UG/L	72548
	34652	SUS	UG/L	72548
	39362	SUS FRAC	UG/L	72548
	39311	SED	UG/KG DRY WGT	72548
	39312	TIS	MG/KG WET WGT	72548
	39313	TISSUE FAT	UG/G	72548
	39314	ORGANISM TOT	UG/G	72548
	39363	MUD	UG/KG	72548
	39364	SHELFISH	UG/KG WT	72548
	45559	ADIPOSE	TISMG/KG	72548
	46284	SOIL	NG/G	72548
	46285	SOIL	NG/G	72548
	61481	SLUDGE LIQ	UG/L	72548
	61482	SLUDGE SOL	UG/KG	72548

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
DDD (continued)	61483	SLUDGE TOT	UG/L	72548
	79679	WASTE	MG/KG	72548
	81625	SHEL	UG/KG DRY WGT	72548
	81860	SHELL	UG/KG WET WGT	72548
	81897	TOT TISS	MG/KG WET WGT	72548
	85210	EGGS	UG/G	72548
	85217	AIR	NG/M3	72548
	85224	PLANT	UG/G	72548
DDE (Ethylene, 1,1-dichloro-2,2-bis (4-chlorophenyl)-) (p,p' DDE; DDE)	39320	TOT	UG/L	72559
	39365	WHL WTR SMPL	UG/L	72559
	34653	DIS	UG/L	72559
	39366	FLT FRAC	UG/L	72559
	34654	SUS	UG/L	72559
	39367	SUS FRAC	UG/L	72559
	39321	SED	UG/KG DRY WGT	72559
	39322	TIS	MG/KG WET WGT	72559
	39323	TISSUE FAT	UG/G	72559
	39324	ORGANISM TOT	UG/G	72559
	39368	MUD	UG/KG	72559
	39369	SHELFISH	UG/KG WT	72559
	45557	ADIPOSE TIS	MG/KG	72559
	46286	SOIL	NG/G	72559
	61478	SLUDGE LIQ	UG/L	72559
	61479	SLUDGE SOL	UG/KG	72559
	61480	SLUDGE TOT	UG/L	72559
	79680	WASTE	MG/KG	72559
	81626	SHEL	UG/KG DRY WGT	72559

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
DDE (continued)	81861	SHELL	UG/KG WET WGT	72559
	81896	TOT TISS	MG/KG WET WGT	72559
	85211	EGGS	UG/G	72559
	85218	AIR	NG/M3	72559
	85225	PLANT	UG/G	72559
DDT (Dichlorodiphenyltrichloroethane) (Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)-) (p,p'-DDT; DDT)	39300	TOT	UG/L	50293
	39370	WHL SMPL	UG/L	50293
	34655	DIS	UG/L	50293
	39371	FLT FRAC	UG/L	50293
	34656	SUS	UG/L	50293
	39372	SUS FRAC	UG/L	50293
	39290	TISSUE TOT	UG/G	50293
	39301	SED	UG/KG DRY WGT	50293
	39302	TIS	MG/KG WET WGT	50293
	39303	TISSUE FAT	UG/G	50293
	39304	ORGANISM TOT	UG/G	50293
	39317	FISH	UG/KG	50293
	39358	ORGANISM TOT	UG/G	50293
	39359	SUM ANALOGS MUD	UG/KG	50293
	39373	MUD	UG/KG	50293
	39374	SHELFISH	UG/KG WT	50293
	39375	SUM ANALOGS ORG	UG/G	50293
	39376	SUM TISSUE	UG/G	50293
	39377	TISSUE FAT	UG/G	50293
	39378	SUM TISSUE	FAT UG/G	50293
	45555	ADIPOSE TIS	MG/MG	50293
	61475	SLUDGE LIQ	UG/L	50293

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
DDT (continued)	61476	SLUDGE SOL	UG/KG	50293
	61477	SLUDGE TOT	UG/L	50293
	79681	WASTE	MG/KG	50293
	81715	SHEL	UG/KG DRY WGT	50293
	81800	SED	MG/KG WET WGT	50293
	81801	SED	MG/KG WET WGT	50293
	81833	FISH	MG/KG DRY WGT	50293
	81862	SHELL	UG/KG WET WGT	50293
	85213	EGGS	UG/G	50293
	85220	AIR	NG/M3	50293
	85227	PLANT	UG/G	50293
Diallate (S-(2,3-dichloroallyl) diisopropylthiocarbamate)	73540			2303164
Dibenz[a,h]acridine (1,2,5,6-Dibenzacridine)	73541			226368
Dibenz[a,j]acridine (1,2,7,8-Dibenzacridine)	73542			224420
Dibenz[a,h]anthracene (1,2,5,6-Dibenzanthracene) (1,2:5,6-dibenz(a)anthracene)	34556	TOTW	UG/L	53703
	34557	DISS	UG/L	53703
	34558	SUSP	UG/L	53703
	34559	SED	UG/KG DRY WGT	53703
	34560	TIS	MG/KG WET WGT	53703
	79040	TIS	MG/KG WET WT	53703
	79508	WASTE	MG/KG	53703

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Substance Name[1]	Para. Code(s)	Medium	Units	Cas No.
7H-Dibenzo[c,g]carbazole (3,4,5,6-Dibenzcarbazole)	73543			194592
Dibenzo[a,e]pyrene (1,2,4,5-Dibenzpyrene)	73544			192654
Dibenzo[a,h]pyrene (1,2,5,6-Dibenzpyrene) (Dibenzo(b,def)chrysine)	73545			189640
Dibenzo[a,i]pyrene (1,2,7,8-Dibenzpyrene)	73546			189559
1,2-Dibromo-3-chloropropane (Propane, 1,2-dibromo-3-chloro-) (dibromochloropropane; DBCP)	38437	TOTW	UG/L	96128
	38438	DISS	UG/L	96128
	38439	SUSP	UG/L	96128
	38440	SED	UG/KG	96128
	38441	TIS	MG/KG	96128
	38760	TOTW	UG/L	96128
	38761	DISS	UG/L	96128
	38762	SUSP	UG/L	96128
	38763	SED	UG/KG	96128
	38764	TIS	MG/KG	96128
1,2-Dibromoethane (Ethylene dibromide)	77651	TOTAL	UG/L	106934
Dibromomethane (Methylene bromide)	77596	TOTAL	UG/L	74953
Di-n-butyl phthalate (1,2-Benzenedicarboxylic acid, dibutyl ester) (Dibutyl phthalates)	39110	TOTAL	UG/L	84742
	34327	DISS	UG/L	84742
	39114	SUSP	UG/L	84742
	39115	SUS.FRAC.	UG/KG D WT	84742

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Di-n-butyl phthalate (continued)	39111	FISH	UG/KG WWT	84742
	39112	MUD	UG/KG DRY	84742
	39113	FISH	UG/KG WWT	84742
	34683	TIS	MG/KG WET	84742
	79599	WASTE	MG/KG	84742
	39116	SLDGE STP	UG/KG D WT	84742
o-Dichlorobenzene (Benzene, 1,2-dichloro-)	34536	TOTW	UG/L	95501
	34537	DISS	UG/L	95501
	34538	SUSP	UG/L	95501
	34539	SED	UG/KG DRY WGT	95501
	34540	TIS	MG/KG WET WGT	95501
	79511	WASTE	MG/KG	95501
m-Dichlorobenzene (Benzene, 1,3-dichloro-) (m,p-dichlorobenzene)	34566	TOTW	UG/L	541731
	34567	DISS	UG/L	541731
	34568	SUSP	UG/L	541731
	34569	SED	UG/KG DRY WGT	541731
	34570	TIS	MG/KG WET WGT	541731
	79516	WASTE	MG/KG	541731
	82512	TOTAL	UG/L	541731
p-Dichlorobenzene (Benzene, 1,4-dichloro-)	34571	TOTW	UG/L	106467
	34572	DISS	UG/L	106467
	34573	SUSP	UG/L	106467
	34574	SED	UG/KG DRY WGT	106467
	34575	TIS	MG/KG WET WGT	106467
	79517	WASTE	MG/KG	106467

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Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Dichlorobenzene ("N.O.S.") (Benzene, dichloro-("N.O.S."))	Not applicable to RCRA/STORET			
3,3'-Dichlorobenzidine ([1,1'-Biphenyl] -4,4'-diamine, 3,3'-dichloro-)	34631	TOTW	UG/L	91941
	34632	DISS	UG/L	91941
	34633	SUSP	UG/L	91941
	34634	SED	UG/KG DRY WGT	91941
	34635	TIS	MG/KG WET WGT	91941
	79530	WASTE	MG/KG	91941
1,4-Dichloro-2-butene (2-Butene, 1,4-dichloro-)	73547			110576
Dichlorodifluoromethane (Methane, dichlorodifluoro-)	34668	TOT W	UG/L	75718
	34332	DISS	UG/L	75718
	34333	SUSP	UG/L	75718
	34334	SED	UG/KG DRY WGT	75718
	34335	TIS	MG/KG WET WGT	75718
	79604	WASTE	MG/KG	75718
	82152	IN AIR	NG/CC	75718
1,1-Dichloroethane (Ethylidene dichloride)	34496	TOTW	UG/L	75343
	34497	DISS	UG/L	75343
	34498	SUSP	UG/L	75343
	34499	SED	UG/KG DRT WT	75343
	34500	TISS	MG/KG WET WT	75343
	79504	WASTE	MG/KG	75343
	82144	IN AIR	NG/CC	75343

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Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
1,2-Dichloroethane (Ethylene dichloride)	32103	TOT	UG/L	107062
	34531	TOTW	UG/L	107062
	34532	DISS	UG/L	107062
	34533	SUSP	UG/L	107062
	34534	SED	UG/KG DRY WGT	107062
	34535	TIS	MG/KG WET WGT	107062
	79512	WAS	MG/KG	107062
	82142	IN AIR	NG/CC	107062
trans-1,2-Dichloroethene (1,2-Dichloroethylene)	34546	TOTW	UG/L	156605
	34547	DISS	UG/L	156605
	34548	SUSP	UG/L	156605
	34549	SED	UG/KG DW	156605
	34550	TISS	MG/KG WW	156605
	79515	WAS	MG/KG	156605
	82165	IN AIR	NG/CC	156605
Dichloroethylene ("N.O.S.") (Ethene, dichloro-("N.O.S."))	Not applicable to RCRA/STORET			
1,1-Dichloroethylene (Ethene, 1,1-dichloro-)	34501	TOTW	UG/L	75354
	34502	DISS	UG/L	75354
	34503	SUSP	UG/L	75354
	34504	SED	UG/KG DRY WGT	75354
	34505	TIS	MG/KG WET WGT	75354
	79505	WASTE	MG/KG	75354
	82166	IN AIR	NG/CC	75354

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Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Dichloromethane (Methylene chloride)	34423	TOTW	UG/L	75092
	34424	DISS	UG/L	75092
	34425	SUSP	UG/L	75092
	34426	SED	UG/KG DRY WGT	75092
	34427	TIS	MG/KG WET WGT	75092
	78750	SED	UG/KG	75092
	79662	WASTE	MG/KG	75092
	82167	IN AIR	NG/CC	75092
2,4-Dichlorophenol (Phenol, 2,4-dichloro-)	34601	TOTW	UG/L	120832
	34602	DISS	UG/L	120832
	34603	SUSP	UG/L	120832
	34604	SED	UG/KG DRY WGT	120832
	34605	TIS	MG/KG WET WGT	120832
	79521	WASTE	MG/KG	120832
2,6-Dichlorophenol (Phenol, 2,6-dichloro-)	77541	TOTAL	UG/L	87650
2,4-Dichlorophenoxyacetic acid (2,4-D), salts and esters (Acetic acid, 2,4-dichloro-dichlorophenoxy-, salts and esters)	39730	WHL SMPL	UG/L	94757
	39731	MUD	UG/KG	94757
	39732	FLT FRAC	UG/L	94757
	39733	SUS FRAC	UG/L	94757
	39734	FISH	UG/KG WWT	94757
Dichlorophenylarsine (Phenyl dichloro-arsine)	73548			696286
Dichloropropane ("N.O.S.") (Propane, dichloro-, "N.O.S.")	Not applicable to RCRA/STORET			

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Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
1,2-Dichloropropane (Propylene dichloride)	34541	TOTW	UG/L	78875
	34542	DISS	UG/L	78875
	34543	SUSP	UG/L	78875
	34544	SED	UG/KG DRY WGT	78875
	34545	TIS	MG/KG WET WGT	78875
	79513	WAS	MG/KG	78875
	82164	IN AIR	NG/CC	78875
Dichloropropanol ("N.O.S.")	Not applicable to RCRA/STORET			
Dichloropropene ("N.O.S.")	Not applicable to RCRA/STORET			
1,3-Dichloropropene (1-Propene, 1,3-dichloro-)	34561	TOTW	UG/L	542756
	34562	DISS	UG/L	542756
	34563	SUSP	UG/L	542756
	34564	SED	UG/KG DRY WGT	542756
	34565	TIS	MG/KG WET WGT	542756
	77163	TOTAL	UG/L	542756
	82163	IN AIR	NG/CC	542756
Dieldrin (1,2,3,4,10.10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a octa-hydro-endo-exo-1,4:5,8-dimethanonaphthalene)	39380	TOT	UG/L	60571
	39381	DIS	UG/L	60571
	39382	SUS FRAC	UG/L	60571
	34684	TIS	MG/KG	60571
	39383	SED	UG/KG DRY WGT	60571
	39384	CLAY	UG/KG	60571
	39385	SLT-CLAY	UG/KG	60571

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Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Dieldrin (continued)	39386	SAND	UG/KG	60571
	39387	SHELFISH	UG/KG WT	60571
	39404	TIS	MG/KG WET WGT	60571
	39405	TISSUE FAT	UG/G	60571
	39406	ORGANISM TOT	UG/G	60571
	45566	ADIPOSE TIS	M G/KG	60571
	46275	SOIL	NG/G	60571
	61463	SLUDGE LIQ	UG/L	60571
	61464	SLUDGE SOL	UG/KG	60571
	61465	SLUDGE TOT	UG/L	60571
	79607	WASTE	MG/KG	60571
	81716	SHEL	UG/KG DRY WGT	60571
	81834	FISH	MG/KG DRY WGT	60571
	85215	EGGS	UG/G	60571
	85222	AIR	NG/M3	60571
	85229	PLANT	UG/G	60571
1,2:3,4-Diepoxybutane (2,2'-Bioxirane)	73549			1464535
Diethylarsine (Arsine, diethyl-)	73550			692422
N,N-Diethylhydrazine (Hydrazine, 1,2-diethyl)	73551			1615801
O,O-Diethyl S-methyl ester of phosphorodithioic acid (Phosphorodithioic acid, O,O-diethyl S-methyl ester)	73552			3288582

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Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
O,O-Diethylphosphoric acid, O-p-nitrophenyl ester (Phosphoric acid, diethyl p-nitrophenyl ester) (Paraoxon-O,O diethyl O,P nitrophenyl phos)	39152	WATER	UG/L	311455
Diethyl phthalate (1,2-Benzenedicarboxylic acid, diethyl ester)	34336	TOTW	UG/L	84662
	34337	DISS	UG/L	84662
	34338	SUSP	UG/L	84662
	34339	SED	UG/KG DRY WGT	84662
	34340	TIS	MG/KG WET WGT	84662
O,O-Diethyl O-2-pyrazinyl phosphorothioate (Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester)	73553			297972
Diethylstilbesterol (4,4'-Stilbenediol, alpha,alpha-diethyl, bis(dihyrdrogen phosphate, (E)-)	82192	WATER	UG/L	56531
Dihydrosafrole (Benzene, 1,2-methylenedioxy-4-propyl-)	73554			94586
3,4-Dihydroxy-alpha-(methylamino)methyl benzyl alcohol (1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-)	73555			51434
Diisopropylfluorophosphate (DFP) (Phosphorofluoridic acid, bis(1-methylethyl) ester)	73556			55914

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Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Dimethoate (Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester)	38458	DISS	UG/L	60515
	38459	SUSP	UG/L	60515
	38460	SED	UG/KG	60515
	38461	TIS	MG/KG	60515
	39009	WTR FPD	UG/L	60515
	46303	SOIL	NG/G	60515
	46314	WHL SMPL	UG/L	60515
3,3'-Dimethoxybenzidine ([1,1'-Biphenyl]-4,4'diamine, 3-3'-dimethoxy-)	73557			119904
p-Dimethylaminoazobenzene (Benzenamine, N,N-dimethyl-4-(phenylazo)-)	73558			60117
7,12-Dimethylbenz[a]anthracene (1,2-Benz-anthracene, 7,12-dimethyl-)	73559			57976
3,3'-Dimethylbenzidine ([1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-)	73560			119937
Dimethylcarbamoyl chloride (carbamoyl chloride, dimethyl-)	73561			79447
1,1-Dimethylhydrazine (Hydrazine, 1,1-dimethyl-)	81314	TOT	MG/L	57147
1,2-Dimethylhydrazine (Hydrazine, 1,2-dimethyl-)	73562			540738

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Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
3,3-Dimethyl-1-(methylthio-)-2-butanone, O-[(methylamino)carbonyl]oxime (Thiofanox)	73563			39196184
alpha,alpha-Dimethylphenethylamine (Ethanamine, 1,1-dimethyl-2-phenyl-)	73564			122098
2,4-Dimethylphenol (Phenol, 2,4-dimethyl-)	34606	TOTW	UG/L	105679
	34607	DISS	UG/L	105679
	34608	SUSP	UG/L	105679
	34609	SED	UG/KG DRY WGT	105679
	34610	TIS	MG/KG WET WGT	105679
	79522	WASTE	MG/KG	105679
Dimethyl phthalate (1,2-Benzenedicarboxylic acid, dimethyl ester)	34341	TOTW	UG/L	131113
	34342	DISS	UG/L	131113
	34343	SUSP	UG/L	131113
	34344	SED	UG/KG DRY WGT	131113
	34345	TIS	MG/KG WET WGT	131113
Dimethyl sulfate (Sulfuric acid, dimethyl ester)	73565			77781
Dinitrobenzene ("N.O.S.")	Not applicable to RCRA/STORET			

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Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
4,6-Dinitro-o-cresol and salts (Phenol, 2,4-dinitro-6-methyl-, and salts) (DNOC; 4,6-Dinitro-ortho-cresol)	34657	TOTW	UG/L	534521
	34658	DISS	UG/L	534521
	34659	SUSP	UG/L	534521
	34660	SED	UG/KG DRY WGT	534521
	34661	TIS	MG/KG WET WGT	534521
	39920	WHL SMPL	UG/L	534521
2,4-Dinitrophenol (Phenol, 2,4-dinitro-)	34616	TOTW	UG/L	51285
	34617	DISS	UG/L	51285
	34618	SUSP	UG/L	51285
	34619	SED	UG/KG DRY WGT	51285
	34620	TIS	MG/KG WET WGT	51285
	79523	WASTE	MG/KG	51285
2,4-Dinitrotoluene (Benzene, 1-methyl-2, 4-dinitro-)	34611	TOTW	UG/L	121142
	34612	DISS	UG/L	121142
	34613	SUSP	UG/L	121142
	34614	SED	UG/KG DRY WGT	121142
	34615	TIS	MG/KG WET WGT	121142
	79524	WASTE	MG/KG	121142
2,6-Dinitrotoluene (Benzene, 1-methyl-2,6-dinitro-)	34626	TOTW	UG/L	606202
	34627	DISS	UG/L	606202
	34628	SUSP	UG/L	606202
	34629	SED	UG/KG DRY WGT	606202
	34630	TIS	MG/KG WET WGT	606202
	79525	WASTE	MG/KG	606202

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Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Di-n-octyl phthalate (1,2-Benzenedicarboxylic acid, dioctyl ester)	34596	TOT	UG/L	117840
	34597	DIS	UG/L	117840
	34598	SUS	UG/L	117840
	34599	SED	UG/KG DRY WGT	117840
	34600	TIS	MG/KG WET WGT	117840
	79600	WASTE	MG/KG	117840
1,4-Dioxane (1,4-Diethylene oxide)	81582	TOT	UG/L	123911
(Dioxane)	82388	WATR	MG/L	123911
Diphenylamine (Benzenamine, N-phenyl-)	77579	TOTAL	UG/L	122394
1,2-Diphenylhydrazine (Hydrazine, 1,2-diphenyl-)	34346	TOTW	UG/L	122667
	34347	DISS	UG/L	122667
	34348	SUSP	UG/L	122667
	34349	SED	UG/KG DRY WGT	122667
	34350	TIS	MG/KG WET WGT	122667
	79514	WASTE	MG/KG	122667
Di-n-propylnitrosamine (N-Nitroso-di-n-propylamine)	34428	TOTW	UG/L	621647
	34429	DISS	UG/L	621647
	34430	SUSP	UG/L	621647
	34431	SED	UG/KG DRY WGT	621647
	34432	TIS	MG/KG WET WGT	621647
	79668	WASTE	MG/KG	621647

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Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Disulfoton (O,O-diethyl S-[2-(ethylthio) ethyl] phosphorodithioate)	81888	WHL WAT	UG/L	298044
	39010	WTR FPD	UG/L	298044
	39011	WTR FPD	UG/L	298044
	81887	SED	UG/KG DRY WGT	298044
2,4-Dithiobiuret (Thioimidodicarbonic diamide)	73566			541537
Endosulfan (5-Norbornene, 2,3-dimethanol, 1,4,5,6,7,7-hexachloro-, cyclic sulfite)	39388	WHL WTR SMPL	UG/L	115297
	82354	DISS.	UG/L	115297
	82355	SUSP.	UG/L	115297
	81759	FISH	MG/KG WET WGT	115297
	39389	MUD	UG/KG	115297
Endrin and metabolites (1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,endo-1,4:5,8-dimethano-naphthalene, and metabolites)	39390	TOT	UG/L	72208
	39391	DIS	UG/L	72208
	39392	SUS FRAC	UG/L	72208
	39393	SED	UG/KG DRY WGT	72208
	39394	CLAY	UG/KG	72208
	39395	SLT-CLAY	UG/KG	72208
	39396	SAND	UG/KG	72208
	39397	SHELFISH	UG/KG WT	72208
	45567	ADIPOSE TIS	MG/KG	72208
	46276	SOIL	NG/G	72208
	61466	SLUDGE LIQ	UG/L	72208
	61467	SLUDGE SOL	UG/KG	72208
	34685	TIS	MG/KG WET WGT	72208

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Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Endrin and metabolites (continued)	61468	SLUDGE TOT	UG/L	72208
	79619	WASTE	MG/KG	72208
	81717	SHEL	UG/KG DRY WGT	72208
	81846	FISH	MG/KG DRY WGT	72208
Ethyl carbamate (Urethan) (Carbamic acid, ethyl ester)	77077	TOTAL	UG/L	51796
Ethyl cyanide (propanenitrile)	77007	TOTAL	UG/L	107120
Ethylenebisdithiocarbamic acid, salts and esters (1,2-Ethanediylbiscarbamodithioic acid, salts, and esters)				
. Ethylenebisdithiocarbamic acid	73567			111546
. Ethylenebis(dithiocarbamic acid) disodium salt (NABAM)	38850	TOTW	UG/L	142596
	38851	DISS	UG/L	142596
	38852	SUSP	UG/L	142596
	38853	SED	UG/KG	142596
	38854	TIS	MG/KG	142596
. Ethylenebis(dithiocarbamic acid) zinc salt (ZINEB)	38912	TOTW	UG/L	12122677
	38913	DISS	UG/L	12122677
	38914	SUSP	UG/L	12122677
	38915	SED	UG/KG	12122677
	38916	TIS	MG/KG	12122677

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Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Ethylenebisdithiocarbamic acid, salts and esters (continued)				
Ethylenebis(dithiocarbamic acid) manganous salt (MANEB)	38835	TOTW	UG/L	12427382
	38836	DISS	UG/L	12427382
	38837	SUSP	UG/L	12427382
	38838	SED	UG/KG	12427382
	38839	TIS	MG/KG	12427382
Ethyleneimine (Aziridine)	73568			151564
Ethylene oxide (Oxirane)	76999	TOTAL	UG/L	75218
	81687	TOT	MG/L	75218
Ethylenethiourea (2-Imidazolidinethione)	73569			96457
Ethyl methacrylate (2-Propenoic acid, 2-methyl-, ethyl ester)	73570			97632
Ethyl methanesulfonate (Methanesulfonic acid, ethyl ester)	73571			62500
Fluoranthene (Benzo[j,k]fluorene)	34376	TOTW	UG/L	206440
	34377	DISS	UG/L	206440
	34378	SUSP	UG/L	206440
	34379	SED	UG/KG DRY WGT	206440
	34380	TIS	MG/KG WET WGT	206440
	79625	WASTE	MG/KG	206440

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Fluorine	00953	TOTAL	UG/L	7782414
2-Fluoroacetamide (Acetamide, 2-fluoro-)	73572			640197
Fluoroacetic acid, sodium salt (Acetic acid, fluoro-, sodium salt)	73573			62748
Formaldehyde (Methylene oxide)	71880	WATER	MG/L	50000
(Methanal)	76995	TOTAL	UG/L	50000
Formic acid (Methanoic acid)	77006	TOTAL	UG/L	64186
Glycidylaldehyde (1-Propanol-2,3-epoxy)	73574			765344
Halomethane ("N.O.S.")	Not applicable to RCRA/STORET			
Heptachlor (4,7-Methano-1H-indene,1,4,5,	39410	TOT	UG/L	76448
6,7,8,8-heptachloro-3a,4,7,7a-tetra-	46326	WHL SMPL	UG/L	76448
hydro-)	39411	DIS	UG/L	76448
	39412	SUS	UG/L	76448
	39413	SED	UG/KG DRY WGT	76448
	39414	SHELFISH	UG/KG WT	76448
	45568	ADIPOSE TIS	MG/KG	76448
	46277	SOIL	NG/G	76448
	46280	SOIL	NG/G	76448
	61469	SLUDGE LIQ	UG/L	76448
	34687	TIS	MG/KG WET WGT	76448

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Heptachlor (continued)	61470	SLUDGE SOL	UG/KG	76448
	61471	SLUDGE TOT	UG/L	76448
	79628	WASTE	MG/KG	76448
	81719	SHEL	UG/KG DRY WGT	76448
Heptachlor epoxide (alpha, beta, and gamma isomers) (4,7-Methano-1H-indene,1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7-tetrahydro-, alpha, beta, and gamma isomers)	39420	TOT	UG/L	1024573
	39421	DIS	UG/L	1024573
	39422	SUS	UG/L	1024573
	39423	SED	UG/KG DRY WGT	1024573
	39424	SHELFISH	UG/KG WT	1024573
	45569	ADIPOSE TIS	MG/KG	1024573
	46278	SOIL	NG/G	1024573
	61472	SLUDGE LIQ	UG/L	1024573
	61473	SLUDGE SOL	UG/KG	1024573
	61474	SLUDGE TOT	UG/L	1024573
	79629	WASTE	MG/KG	1024573
	81718	SHEL	UG/KG DRY WGT	1024573
	81766	ALGAE	UG/KG DRY WGT	1024573
	34686	TIS	MG/KG WET WGT	1024573
Hexachlorobenzene (Benzene, hexachloro-)	39700	TOT	UG/L	118741
	39039	WTR SMPL	UG/L	118741
	34401	DIS	UG/L	118741
	34402	SUS	UG/L	118741
	34688	TIS	MG/KG WET WGT	118741
	39701	SED	UG/KG DRY WGT	118741
	39703	FISH	UG/KG WWT	118741
	45574	ADIPOSE TIS	MG/KG	118741
	79633	WASTE	MG/KG	118741

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APPENDIX H (p.41)

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Hexachlorobutadiene (1,3-Butadiene, 1,1,2,3,4,4-hexachloro-)	34391	TOTW	UG/L	87683
	34392	DISS.	UG/L	87683
	34393	SUSP.	UG/L	87683
	34394	BOT	UG/KG	87683
	34395	TIS	MG/KG WET WGT	87683
	39702	TOT	UG/L	87683
	39704	FISH	UG/KG WWT	87683
	39705	SED	UG/KG DRY WGT	87683
	79634	WASTE	MG/KG	87683
Hexachlorocyclohexane (all isomers) (Lindane and isomers)				
• (Benzenehexachloride $C_6H_6Cl_6$; BHC)	81283	TOT	UG/L	608731
	81323	SED	UG/KG DRY WGT	608731
	81826	FISH TISS	MG/KG WET WGT	608731
• (gamma isomer) (G-BHC (Lindane; BHC-Gamma Isomer)	39340	TOT.	UG/L	58899
	39782	WHL SMPL	UG/L	58899
	46322	+ WHL SMPL	UG/L	58899
	34265	DISS	UG/L	58899
	39341	DIS	UG/L	58899
	34266	SUSP	UG/L	58899
	39342	SUS	UG/L	58899
	39075	TIS	UG/G	58899
	39343	SED	DRYUG/KG	58899
	39781	ORGANISM TOT	UG/G	58899
	39783	MUD DRY	UG/KG	58899
	39784	SHELFISH	UG/KG WT	58899

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Hexachlorocyclohexane (continued)				
. (gamma isomer) (G-HIC (Lindane; HIC-Gamma Isomer continued)	39785	TIS	MG/KG WET	58899
	39788	TISSUE FAT	UG/G	58899
	45563	ADIPOSE TIS	MG/KG	58899
	46291	NEG HIC SOIL	NG/G	58899
	46293	+ SOIL	NG/G	58899
	61490	SLUDGE LIQ	UG/L	58899
	61491	SLUDGE SOL	UG/KG	58899
	61492	SLUDGE TOT	UG/L	58899
	79627	WASTE	MG/KG	58899
	81720	SHEL	DRY WGTUG/KG	58899
	85216	EGGS	UG/G	58899
	85223	AIR	NG/M3	58899
	85230	PLANT	UG/G	58899
Hexachlorocyclopentadiene (1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-)	34386	TOTW	UG/L	77474
	34387	DISS	UG/L	77474
	34388	SUSP	UG/L	77474
	34389	SED	UG/KG DRY WGT	77474
	34390	TIS	MG/KG WET WGT	77474
Hexachloroethane (Ethane, 1,1,1,2,2,2-hexachloro-)	34396	TOTW	UG/L	67721
	34397	DISS	UG/L	67721
	34398	SUSP	UG/L	67721
	34399	SED	UG/KG DRY WGT	67721
	34400	TIS	MG/KG WET WGT	67721
	79636	WASTE	MG/KG	67721

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APPENDIX II (p.43)

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo,endo-dimethano-naphthalene (Hexachlorohexahydro-endo, endo-dimethanonaphthalene) (Isodrin)	39430	WHL WTR SMPL	UG/L	465736
	39431	FLT FRAC	UG/L	465736
	39432	SUS FRAC	UG/L	465736
	39433	MUD	UG/KG	465736
	81654	FISH	MG/KG WET WGT	465736
Hexachlorophene (2,2'-Methylenebis(3,4,6-trichlorophenol))	73575			10304
Hexachloropropene (1-Propene, 1,1,2,3,3,3-hexachloro-)	73576			1888717
Hexaethyl tetraphosphate (Tetraphosphoric acid, hexaethyl ester)	73577			757584
Hydrazine (Diamine)	81313	TOT	MG/L	302012
Hyrocyanic acid (Hydrogen cyanide)	00142	TOTAL	UG/L	74908
Hydrofluoric acid (Hydrogen fluoride)	73578			7664393
Hydrogen sulfide (Sulfur hydride)	71875	WATER	MG/L	7783064
Hydroxydimethylarsine oxide (Cacodylic acid)	73579			75605

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Indeno (1,2,3-cd)pyrene (1,10-(1,2-phenylene)pyrene)	34403	TOTW	UG/L	193395
	34404	DISS	UG/L	193395
	34405	SUSP	UG/L	193395
	34406	SED	UG/KG DRY WGT	193395
	34407	TIS	MG/KG WET WGT	193395
	79644	WASTE	MG/KG	193395
Iodomethane (Methyl iodide)	77424	TOTAL	UG/L	74884
Iron dextran (Ferric dextran)	73580			9004664
Isocyanic acid, methyl ester (Methyl isocyanate)	73581			624839
Isobutyl alcohol (1-Propanol, 2-methyl-)	77033	TOTAL	UG/L	78831
Isosafrole (Benzene, 1,2-methylenedioxy-4-allyl-)	73582			120581
Kepone (Decachlorooctahydro-1,3,4-Methano-2H-cyclobuta[cd]pentalen-2-one)	39018	WTR Elec.Captr.	UG/L	143500
	61561	SLUDGE LIQ	UG/L	143500
	61562	SLUDGE SOL	UG/KG	143500
	61563	SLUDGE TOT	UG/L	143500
	81281	TOT	UG/L	143500
	81822	FISH	MG/KG WET WGT	143500
	81857	SED	UG/KG DRY WGT	143500
	82352	DISSOLVD	UG/L	143500
	82353	SUSPEND.	UG/L	143500

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Lasiocarpine (2-Butenoic acid, 2-methyl-, 7-[(2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy)methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester)	73583			303344
Lead and compounds ("N.O.S.")	01051	TOT	UG/L	7439921
	01049	DISS	UG/L	7439921
	46564	DISS.+	UG/L	7439921
	01114	TOT.REC.	UG/L	7439921
	01050	SUSP	UG/L	7439921
	81934	SUSPEND	UG/G	7439921
	46258	TOTAL	MG/KG	7439921
	46273	TOTAL	MG/KG	7439921
	01052	SED	MG/KG DRY WGT	7439921
	01164	TOTAL	LBS/DAY	7439921
	01259		LB/D/CFS	7439921
	46240	DTPA	MG/KG	7439921
	61502	SLUDGE LIQ	MG/L	7439921
	61503	SLUDGE SOL	MG/KG	7439921
	61504	SLUDGE TOT	MG/L	7439921
	71934	TOTAL FISH	UG/GM DWT	7439921
	71936	TIS	MG/KG WET WGT	7439921
	71949	EXTR	UG/L	7439921
	79649	WASTE	MG/KG	7439921
	81220	ILL-COLD	MG/L	7439921
	81633	SHELL	MG/KG DRY WGT	7439921
	81732	PLANKTON	MG/KG DRY	7439921

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Lead and compounds (continued)	81739	ZOOPLANK	MG/KG DRY	7439921
	81748	SHELL	MG/KG WET	7439921
	81751	INTERST WAT	UG/L	7439921
	81778	AQ MC	MG/KG DRY WGT	7439921
	81786	EP AL	MG/KG DRY WGT	7439921
	81794	ANML	MG/KG DRY WGT	7439921
	82275	.031 MM,ST.DB.	UG/G	7439921
	82276	.062 MM ST.DB.	UG/G-PB	7439921
	82277	.125 MM ST.DB.	UG/G-PB	7439921
	82278	.25 MM ST.DB.	UG/G-PB	7439921
	82279	0.5 MM ST.DB.	UG/G-PB	7439921
	82280	1MM ST.DEB.	UG/G-PB	7439921
	82281	2MM ST.DEB.	UG/G=PB	7439921
	82282	4MM ST. DEB.	UG/G-PB	7439921
	82486	DIS DRY DEP	UG/KG	7439921
	82487	INSOL DD	UG/KG	7439921
	82488	TOT.REC.DDP	UG/KG	7439921
	85206	PB MUD	MG/GM-PB WET WGT	7439921
Lead acetate (Acetic acid, lead salt)	See "Lead"			
Lead phosphate (Phosphoric acid, lead salt)	73584			7446277
Lead subacetate (Lead, bis(acetato-O)tetrahydroxytri-)	73585			1335326
Maleic anhydride (2,5-Furandione)	78174	WATER	UG/L	108316
	78865	SED	UG/KG	108316
	79033	TIS	UG/KG	108316
Maleic hydrazide (1,2-Dihydro-3,6-pyridazinedione)	73586			123331
Malononitrile (Propanedinitrile)	73587			109773

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Melphalan (Alanine, 3-[p-bis(2-chloro-ethyl)amino]phenyl-,L-)	73588			148823
Mercury fulminate (Fulminic acid, mercury salt)	See "Mercury"			
Mercury and compounds ("N.O.S.")	71900	HG,TOTAL	UG/L	7439976
	71890	HG,DISS	UG/L	7439976
	71895	HG,SUSP	UG/L	7439976
	71901	TOT.REC.	UG/L	7439976
	46242	DTPA	MG/KG	7439976
	46259	TOTAL	MG/KG	7439976
	46272	TOTAL	MG/KG	7439976
	01221	DIS DRY D	UG/KG	7439976
	01222	INS DRY D	UG/KG	7439976
	01223	TOT DRY D	UG/KG	7439976
	01260		LB/D/CFS	7439976
	61499	SLUDGE LIQ	MG/L	7439976
	61500	SLUDGE SOL	MG/KG	7439976
	61501	SLUDGE TOT	MG/L	7439976
	71920	SED-PULP	MG/KG WT	7439976
	71921	SED	MG/KG DRY WGT	7439976
	71930	TIS	MG/KG WET WGT	7439976
	71933	TOTAL FISH	UG/GM DWT	7439976
	71935	FISH	PPM-WET	7439976
	81725	SLUDG	MG/L DRY WGT	7439976
	81770	SHELL	MG/KG WET WGT	7439976
	81856	PLANK	MG/KG WET WGT	7439976
	81931	SUSPEND	UG/G	7439976
	85013	TOTAL	#/DAY	7439976

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Methacrylonitrile (2-Propenenitrile, 2-methyl-)	81593	TOT	UG/L	126987
Methanethiol (Thiomethanol)	00143	TOTAL	UG/L	74931
(Methyl mercaptian)	78615	SED	UG/KG	74931
Methapyrilene (Pyridine, 2-[(2-dimethylamino)ethyl]-2-thenylamino-)	73589			91805
Metholmyl (Acetimidic acid, N-[(methylcarbamoyl)oxy]thio-, methyl ester)	39051	WH.WATER	UG/L	16752775
Methoxychlor (Ethane, 1,1,1-trichloro-2-2'-bis(p-methoxyphenyl)-)	39480	WHL SMPL	UG/L	72435
	39478	WTR DISS	UG/L	72435
	82350	DIS	UG/L	72435
	39479	WTR SUSP	UG/L	72435
	82351	SUSP.	UG/L	72435
	39482	CHLOR-FISH	UG/KG	72435
	46288	SOIL	NG/G	72435
	61484	SLUDGE LIQ	UG/L	72435
	61485	SLUDGE SOL	UG/KG	72435
	61486	SLUDGE TOT	UG/L	72435
	81644	FISH	UG/G WET WGT	72435
	81721	SHEL	UG/KG DRY WGT	72435
	39481	MUD DRY	UG/KG	72435
2-Methylaziridine (1,2-Propylenimine)	73590			75558

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
3-Methylcholanthrene (Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-)	73591			56495
Methyl chlorocarbonate (Carbonochloridic acid, methyl ester)	73592			79221
4,4'-Methylenebis(2-chloroaniline) (Benzenamine, 4,4'-methylenebis-(2-chloro-) (MOCA -4,4-Methylenebis-2-chloraniline)	78123	WIL WATR	UG/L	101144
Methyl ethyl ketone (MEK)(2-Butanone)	81595	TOT	UG/L	78933
	75078	SED	UG/KG DRY	78933
	76050	TIS	MG/KG WET	78933
	79658	WASTE	MG/KG	78933
Methyl hydrazine (Hydrazine, methyl-)	73593			60344
2-Methyllactonitrile (Propanenitrile, 2-hydroxy-2-methyl-)	73594			75865
Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)	81597	TOT	UG/L	80626
Methyl methanesulfonate (Methanesulfonic acid, methyl ester)	73595			66273

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
2-Methyl-2-(methylthio)propionaldehyde-o-methylcarbonyl) oxime (Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime) (Aldicarb)	39053	WH.WATER	UG/L	116063
	81895	SED	UG/KG DRY WGT	116063
N-Methyl-N'-nitro-N-nitrosoguanidine (Guanidine, N-nitroso-N-methyl-N'-nitro-)	73596			70257
Methyl parathion (O,O-dimethyl O-(4-nitrophenyl) phosphorothioate)	39600	WHL WTR SMPL	UG/L	298000
	39601	MUD	UG/KG	298000
	39602	FIL FRAC	UG/L	298000
	39603	SUS FRAC	UG/L	298000
	46301	SOIL	NG/G	298000
	81809	FISH	MG/KG WET WGT	298000
Methylthiouracil (4-1H-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-)	73597			56042
Mustard gas (Sulfide, bis(2-chloroethyl)-)	73598			505602
Naphthalene	34696	TOT W	UG/L	91203
	34443	DISS	UG/L	91203
	34444	SUSP	UG/L	91203
	34445	SED	UG/KG DRY WGT	91203
	34446	TIS	MG/KG WET WGT	91203
	79670	WASTE	MG/KG	91203
1,4-Naphthoquinone (1,4-Naphthalenedione)	73599			130154

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
1-Naphthylamine (alpha-Naphthylamine)	73600			134327
2-Naphthylamine (beta-Naphthylamine)	73601			91598
1-Naphthyl-2-thiourea (Thiourea, 1-naphthalenyl-)	73602			86884
Nickel and compounds ("N.O.S.")	01067	TOTAL	UG/L	7440020
	00161	WHL WAT	KG/BATCH	7440020
	01065	DISS	UG/L	7440020
	01066	SUSP	UG/L	7440020
	01074	TOT.REC.	UG/L	7440020
	01068	SED	MG/KG DRY WGT	7440020
	01069	TIS	MG/KG WET WGT	7440020
	01224	DIS DRY D	UG/KG	7440020
	01225	INS DRY D	UG/KG	7440020
	01226	TOT DRY D	UG/KG	7440020
	01261		LB/D/CFS	7440020
	46243	DTPA	MG/KG	7440020
	46270	TOTAL	MG/KG	7440020
	46307	TOTAL	MG/KG	7440020
	61514	SLUDGE LIQ	MG/L	7440020
	61515	SLUDGE SOL	MG/KG	7440020
	61516	SLUDGE TOT	MG/L	7440020
	79671	WASTE	MG/KG	7440020
	81222	ILL-COLD	MG/L	7440020
	81628	SHELL	MG/KG DRY WGT	7440020

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Nickel and compounds (continued)	81724	FISH	MG/KG DRY WGT	7440020
	81731	PLANKTON	MG/KG DRY	7440020
	81738	ZOOPLANK	MG/KG DRY	7440020
	81752	INTERST WAT	UG/L	7440020
	81777	AQ MC	MG/KG DRY WGT	7440020
	81785	EP AL	MG/KG DRY WGT	7440020
	81793	ANML	MG/KG DRY WGT	7440020
	81811	SHELL	MG/KG WET WGT	7440020
	85010	TOTAL	#/DAY	7440020
Nickel carbonyl (Nickel tetracarbonyl)	73603			13463393
Nickel cyanide (Nickel (II) cyanide)	See "Nickel"; see "Cyanide"			
Nicotine and salts (Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts)	77536	TOTAL	UG/L	54115
Nitric oxide (Nitrogen (II) oxide)	73604			10102439
p-Nitroaniline (Benzenamine, 4-nitro-)	73605			100016
Nitrobenzene (Benzene, nitro-)	34447	TOTW	UG/L	98953
	34448	DISS	UG/L	98953
	34449	SUSP	UG/L	98953
	34450	SED	UG/KG DRY WGT	98953
	34451	TIS	MG/KG WET WGT	98953
	79672	WASTE	MG/KG	98953

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Nitrogen dioxide (Nitrogen (IV) oxide)	46119	CHRISTIE	PPM	10102440
	46120	CHEM	PPM	10102440
Nitrogen mustard and hydrochloride salt (Ethanamine, 2-chloro-, N-(2-chloroethyl)-N-methyl-, and hydrochloride salt)	73606			51752
Nitrogen mustard N-Oxide and hydrochloride salt (Ethanamine, 2-chloro-, N-(2-chloroethyl)-N-methyl-, and hydrochloride salt)	73607			302705
Nitroglycerine (1,2,3-Propanetriol, trinitrate)	34101	WTR SMPL	MG/L	55630
	77758	TOTAL	UG/L	55630
4-Nitrophenol (Phenol, 4-nitro-)	34646	TOTW	UG/L	100027
	34647	DISS	UG/L	100027
	34648	SUSP	UG/L	100027
	34649	SED	UG/KG DRY WGT	100027
	34650	TIS	MG/KG WET WGT	100027
	79536	WAS	MG/KG	100027
4-Nitroquinoline-1-oxide (Quinoline, 4-nitro-1-oxide-)	73608			56575
Nitrosamine ("N.O.S.")	Not applicable to RCRA/STORET			
N-Nitrosodi-n-butylamine (1-Butanamine, N-butyl-N-nitroso-)	73609			924163

1 -- Appendix VIII pseudonym in parens, STORET para. name (underlined and in parens) if significantly different from Appendix VIII names.

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
N-Nitrosodiethanolamine (Ethanol, 2,2'-(nitrosoimino)bis-)	73610			1116547
N-Nitrosodiethylamine (Ethanamine, N-ethyl-N-nitroso-)	73611			55185
N-Nitrosodimethylamine (Dimethylnitrosamine)	34438	TOTW	UG/L	62759
	34439	DISS	UG/L	62759
	34440	SUSP	UG/L	62759
	34441	SED	UG/KG DRY WGT	62759
	34442	TIS	MG/KG WET WGT	62759
N-Nitroso-N-ethylurea (Carbamide, N-ethyl-N-nitroso-)	73612			759739
N-Nitrosomethylethylamine (Ethanamine, N-methyl-N-nitroso-)	73613			10595956
N-Nitroso-N-methylurea (Carbamide, N-methyl-N-nitroso-)	73614			684935
N-Nitroso-N-methylurethane (Carbamic acid, methylnitroso-, ethyl ester)	73615			615532
N-Nitrosomethylvinylamine (Ethenamine, N-methyl-N-nitroso-)	73616			4549400
N-Nitrosomorpholine (Morpholine,N-nitroso-)	73617			59892

1 -- Appendix VIII pseudonym in parens, STORET para. name (underlined and in parens) if significantly different from Appendix VIII names.

APPENDIX II (p.55)

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
N-Nitrosonornicotine (Nornicotine, N-nitroso-)	73618			16543558
N-Nitrosopiperidine (Pyridine, hexahydro-, N-nitroso-)	73619			100754
Nitrosopyrrolidine (Pyrrole, tetrahydro-, N-nitroso-)	73620			930552
N-Nitrososarcosine (Sarcosine, N-nitroso-)	73621			13256229
5-Nitro-o-toluidine (Benzenamine, 2-methyl-5-nitro-)	73622			99558
Octamethylpyrophosphoramide (Diphosphoramide, octamethyl-)	73623			152169
Osmium tetroxide (Osmium (VIII) oxide)	73624			20816120
7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid (Endothal)	73625			145733
Paraldehyde (1,3,5-Trioxane, 2,4,6-trimethyl-)	77322	TOTAL	UG/L	123637

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Parathion (Phosphorothioic acid, O,O-Diethyl O-(p-nitrophenyl)ester)	39015	WTR Flame ionizn	UG/L	56382
	39540	WHL WTR SMPL	UG/L	56382
	46315	WHL SMPL	UG/L	56382
	49011	WHL SMPL (Unkns)	UG/L	56382
	39542	FIL FRAC	UG/L	56382
	39543	SUS FRAC	UG/L	56382
	46302	SOIL	NG/G	56382
	39541	MUD	UG/KG	56382
	81810	FISH	MG/KG WET WGT	56382
Pentachlorobenzene (Benzene, pentachloro-)	77793	TOTAL	UG/L	608935
	39118	SED	UG/KG	608935
Pentachloroethane (Ethane, pentachloro-)	81501	TOT	UG/L	76017
Pentachloronitrobenzene (PCNB) (Benzene, pentachloronitro-) (Terrachloro, pentachloronitrobenzene)	81316	TOT	UG/L	82688
	38526	DISS	UG/L	82688
	38527	SUSP	UG/L	82688
	39029	WTR SMP	UG/L	82688
	46333	TIS	WET MG/KG	82688
	81808	SED	UG/KG DRY WGT	82688
Pentachlorophenol (Phenol, pentachloro-) (PCP)	39032	TOT	UG/L	87865
	34459	DIS	UG/L	87865
	34460	SUS	UG/L	87865
	39060	TIS	MG/KG WET WGT	87865
	39061	SED	UG/KG DRY WGT	87865
	79690	WASTE	MG/KG	87865

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Phenacetin (Acetamide, N-(4-ethoxyphenyl)-)	73626			62442
Phenol(Benzene, hydroxy-)	34694	TOT	UG/L	108952
	34466	DISS	UG/L	108952
	34467	SUSP	UG/L	108952
	34468	TIS	MG/KG WET WGT	108952
	79693	WASTE	MG/KG	108952
	34695	SED	UG/KG DRY WGT	108952
Phenylenediamine(Benzenediamine)				
. (O-Phenylenediamene)	77145	TOTAL	UG/L	95545
. M-Phenylenediamene	73627			108452
. P-Phenylenediamene	73628			106503
Phenylmercury acetate (Mercury, acetato-phenyl-)	73629			62384
N-Phenylthiourea (Thiourea, phenyl-)	73630			103855
Phosgene (Carbonyl chloride)	73631			75445
Phosphine (Hydrogen phosphide)	73632			7803512

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APPENDIX B (p.58)

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl]ester (Phorate)	38870	DISS	UG/L	298022
	38871	SUSP	UG/L	298022
	39023	WTR Flame ionizn	UG/L	298022
	39156	TISSUE	MG/KG	298022
	46304	SOIL	NG/G	298022
	46313	WHL SMPL	UG/L	298022
	81412	SED	UG/KG DRY WGT	298022
Phosphorothioic acid, O,O-dimethyl O-[p-((dimethylamino)sulfonyl)phenyl] ester (Famphur)	38462	TOTW	UG/L	52857
	38463	DISS	UG/L	52857
	38464	SUSP	UG/L	52857
	38465	SED	UG/KG	52857
	38466	TIS	MG/KG	52857
Phthalic acid esters ("N.O.S.") (Benzene, 1,2-dicarboxylic acid, esters ("N.O.S."))	Not applicable to RCRA/STORET			
Phthalic anhydride (1,2-Benzenedicarboxylic acid anhydride)	75523	SED	UG/KG DRY WGT	85449
	76495	TISS	MG/KG WET WGT	85449
	77453	TOTAL	UG/L	85449
2-Picoline (Pyridine, 2-methyl-)	77088	TOTAL	UG/L	109068

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Polychlorinated biphenyl ("N.O.S.")	39516	WHL WTR SMPL	UG/L	12767792
	39517	FLT FRAC	UG/L	12767792
	39518	SUS FRAC	UG/L	12767792
	39519	MUD	UG/KG	12767792
	45570	ADIPOSE TIS	MG/KG	12767792
	39515	FISH	MG/KG	12767792
Potassium cyanide	73633			151508
Potassium silver cyanide (Argentate(1-), dicyano-, potassium)	73634			506616
Pronamide (3,5-Dichloro-N-(1,1-dimethyl-2-propynyl)benzamide)	73635			23950585
1,3-Propane sultone (1,2-Oxathiolane, 2,2-dioxide)	73636			1120714
n-Propylamine (1-Propanamine)	77013	TOTAL	UG/L	107108
Propylthiouracil (Undecamethylenediamine, N,N'-bis(2-chlorobenzyl)-, dihydrochloride)	73637			51552
2-Propyn-1-ol(Propargyl alcohol)	73638			107197

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APPENDIX H (p.60)

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Pyridine	77045	TOTAL	UG/L	110861
Reserpine (Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl) oxy]-, methyl ester)	73639			50555
Resorcinol (1,3-Benzenediol)	77164	TOTAL	UG/L	108463
Saccharin and salts(1,2-Benzoisothiazolin-3-one, 1,1-dioxide, and salts)	77638	TOT	UG/L	80172
Safrole (Benzene, 1,2-methylenedioxy-4-allyl-)	77545	TOTAL	UG/L	94597
Selenious acid (Selenium dioxide)	See "Selenium"			
Selenium and compounds ("N.O.S.")	01147	TOT	UG/L	7782492
	01145	DISS	UG/L	7782492
	22675	DISS ORG	UG/L	7782492
	22676	HEX DISS	UG/L	7782492
	22677	TET DISS	UG/L	7782492
	00981	TOT REC	UG/L	7782492
	01138	WATER	LBS/DAY	7782492
	01146	SUSP	UG/L	7782492
	01148	SED	MG/KG DRY WGT	7782492
	01149	TIS	MG/KG WET WGT	7782492
	01227	DIS DRY D	UG/KG	7782492

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Selenium and compounds (continued)	01228	INS DRY D	UG/KG	7782492
	01229	TOT DRY D	UG/KG	7782492
	61517	SLUDGE LIQ	MG/L	7782492
	61518	SLUDGE SOL	MG/KG	7782492
	61519	SLUDGE TOT	MG/L	7782492
	79703	WAS	MG/KG	7782492
	81830	SHELL	MG/KG WET WGT	7782492
Selenium sulfide (Sulfur selenide)	See "Selenium"; see "Sulfide"			
Selenourea (Carbamimidoselenoic acid)	73640			630104
Silver and compounds ("N.O.S.")	01077	TOT	UG/L	7440224
	00162	WHL WAT	KG/BATCH	7440224
	01075	DISS	UG/L	7440224
	46566	DISS .+	UG/L	7440224
	01076	SUSP	UG/L	7440224
	01079	TOT.REC.	UG/L	7440224
	01078	SED	MG/KG DRY WGT	7440224
	01230	DIS DRY D	UG/KG	7440224
	01231	INS DRY D	UG/KG	7440224
	01232	TOT DRY D	UG/KG	7440224
	01263		LB/D/CFS	7440224
	34474	TIS	MG/KG WET WGT	7440224
	79704	WASTE	MG/KG	7440224
	81223	ILL-COLD	MG/L	7440224
	81635	SHELL	MG/KG DRY WGT	7440224

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Silver and compounds (continued)	81642	AG WATER	LBS/DAY	7440224
	81727	PLANKTON	MG/KG DRY	7440224
	81734	ZOOPLANK	MG/KG DRY	7440224
	81742	FISH	MG/KG WET WGT	7440224
	81771	AQ MC	MG/KG DRY WGT	7440224
	81779	EP AL	MG/KG DRY WGT	7440224
	81787	ANML	MG/KG DRY WGT	7440224
	81831	SHELL	MG/KG WET WGT	7440224
Silver cyanide	See "Silver"; see "Cyanide"			
Sodium cyanide	See "Cyanide"			
Streptozotocin (D-Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-)	73641			18883664
Strontium sulfide	See "Sulfide"			
Strychnine and salts (Strychnidin-10-one, and salts)	73642			57249
Sulfide (NOT IN 40 CFR §261 APPX. VIII)	00745	TOTAL	MG/L	18496258
	00746	DISS	MG/L	18496258
	81612	SED	MG/G	18496258
	00747	BOT DEP	MG/KG	18496258
	81621	WHL WTR SMPL	LBS/DAY	18496258

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APPENDIX H (p.63)

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
1,2,4,5-Tetrachlorobenzene (Benzene, 1,2,4,5-tetrachloro-)	77734	TOTAL	UG/L	95943
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (Dibenzo-p-dioxin,2,3,7,8-tetrachloro-)	34675	TOTW	UG/L	1746016
	34676	DISS	UG/L	1746016
	34677	SUSP	UG/L	1746016
	34678	SED	UG/KG DRY WGT	1746016
	34679	TIS	MG/KG WET WGT	1746016
Tetrachloroethane ("N.O.S.") (Ethane, tetrachloro- ("N.O.S."))	Not applicable to RCRA/STORET			
1,1,1,2-Tetrachlorethane (Ethane, 1,1,1,2-tetrachloro-)	77562	TOTAL	UG/L	630206
1,1,2,2-Tetrachlorethane (Ethane, 1,1,2,2-tetrachloro-)	34516	TOTW	UG/L	79345
	34517	DISS	UG/L	79345
	34518	SUSP	UG/L	79345
	34519	SED	UG/KG DRY WGT	79345
	34520	TIS	MG/KG WET WGT	79345
	79501	WAS	MG/KG	79345
	82168	IN AIR	NG/CC	79345

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Tetrachloromethane (Carbon tetrachloride)	32102	WHL WTR	UG/L	56235
	32260	EXTRACTABLES	MG/L	56235
	34297	DISS	UG/L	56235
	34298	SUSP	UG/L	56235
	34299	SED	UG/KG DRY WGT	56235
	34300	TIS	MG/KG WET WGT	56235
	82140	IN AIR	NG/CC	56235
	79582	WASTE	MG/KG	56325
2,3,4,6-Tetrachlorophenol (Phenol, 2,3, 4,6-tetrachloro-)	77770	TOTAL	UG/L	58902
Tetraethyldithiopyrophosphate (Dithiopyr-ophosphoric acid, tetraethyl-ester) (O,O,O,O-Tetra ethyl dithiopyrophos; Sulfotepp;Bladfume)	77871	TOTAL	UG/L	3689245
	82201	IN WTR	UG/L	3689245
Tetraethyl lead (Plumbane, tetraethyl-)	73643			78002
Tetraethylpyrophosphate (Pyrophosphoric acide, tetraethyl ester) (TEPP)	39620	WHL WTR SMPL	UG/L	107493
Tetranitromethane (Methane, tetranitro-)	73644			509148
Thallium and compounds ("N.O.S.")	01059	TOTAL	UG/L	7440280
	01057	DISS	UG/L	7440280
	01058	SUSP	UG/L	7440280

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Thallium and compounds (continued)	00982	TOT REC	UG/L	7440280
	01073	TIS	MG/KG WET	7440280
	34480	SED	MG/KG DRY WGT	7440280
	71944	TOTAL FISH	UG/GM DWT	7440280
	79712	WASTE	MG/KG	7440280
Thallic oxide (Thallium (III) oxide)	See "Thallium"			
Thallium (I) acetate (Acetic acid, thallium (I) salt)	See "Thallium"			
Thallium (I) carbonate (Carbonic acid, dithallium (I) salt)	See "Thallium"			
Thallium (I) chloride	See "Thallium"			
Thallium (I) nitrate (Nitric acid, thallium (I) salt)	See "Thallium"			
Thallium selenite	See "Thallium"; see "Selenium"			
Thallium (I) sulfate (Sulfuric acid, thallium (I) salt)	See "Thallium"			
Thioacetamide (Ethanethioamide)	73645			62555
Thiosemicarbazide (Hydrazinecarbothioamide)	73646			79196

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Thiourea (Carbamide thio-)	73647			62566
Thiuram (Bis(dimethylthiocarbamoyl) disulfide)	38569	TOTW	UG/L	137268
	38570	DISS	UG/L	137268
	38571	SUSP	UG/L	137268
	38572	SED	UG/KG	137268
	38573	TIS	MG/KG	137268
Toluene (Benzene, methyl-)	34010	TOT	UG/L	108883
	34481	DISS	UG/L	108883
	34482	SUSP	UG/L	108883
	34483	SED	UG/KG DRY WGT	108883
	34484	TIS	MG/KG WET WGT	108883
	78131	WHL NON VOL	UG/L	108883
	78752	SED	UG/KG	108883
	79715	WASTE	MG/KG	108883
	82155	IN AIR	NG/CC	108883
Toluenediamine (Diaminotoluene)	73648			25376458
o-Toluidine hydrochloride (Benzenamine, 2-methyl-, hydrochloride)	73649			636215
Tolylene diisocyanate (Benzene, 1,3-diisocyanatomethyl-)	73650			26471625

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Toxaphene (Camphene, octachloro-)	39400	TOT	UG/L	8001352
	39401	DIS	UG/L	8001352
	39402	SUS	UG/L	8001352
	39403	SED	UG/KG DRY WGT	8001352
	39407	FISH	UG/KG WET	8001352
	61558	SLUDGE LIQ	UG/L	8001352
	61559	SLUDGE SOL	UG/KG	8001352
	61560	SLUDGE TOT	UG/L	8001352
	79717	WASTE	MG/KG	8001352
	81723	SHEL	UG/KG DRY WGT	8001352
	81864	SHELL	UG/KG WET WGT	8001352
	34691	TIS	MG/KG WET WGT	8001352
Tribromomethane (Bromoform)	32104	WHL-WTR	UG/L	75252
	34288	DISS	UG/L	75252
	34289	SUSP	UG/L	75252
	34290	SED	UG/KG DRY WGT	75252
	34291	TIS	MG/KG WET WGT	75252
	79563	WAS	MG/KG	75252
	82151	IN AIR	NG/CC	75252

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
1,2,4-Trichlorobenzene (Benzene, 1,2,4-trichloro-)	34551	TOTW	UG/L	120821
	34552	DISS	UG/L	120821
	34553	SUSP	UG/L	120821
	34554	SED	UG/KG DRY WGT	120821
	34555	TIS	MG/KG WET WGT	120821
	79507	WASTE	MG/KG	120821
1,1,1-Trichloroethane (Methyl chloroform)	34506	TOTW	UG/L	71556
	34507	DISS	UG/L	71556
	34508	SUSP	UG/L	71556
	34509	SED	UG/KG DRY WGT	71556
	34510	TIS	MG/KG WET WGT	71556
	79500	WAS	MG/KG	71556
	82143	IN AIR	NG/CC	71556
1,1,2-Trichloroethane (Ethane, 1,1,2-trichloro-)	34511	TOTW	UG/L	79005
	34512	DISS	UG/L	79005
	34513	SUSP	UG/L	79005
	34514	SED	UG/KG DRY WGT	79005
	34515	TIS	MG/KG WET WGT	79005
	79503	WASTE	MG/KG	79005
	82145	IN AIR	NG/CC	79005

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Trichloroethene (Trichloroethylene)	34485	DISS	UG/L	79016
	34486	SUSP	UG/L	79016
	34487	SED	UG/KG DRY WGT	79016
	34692	TIS	MG/KG WET WGT	79016
	39180	TOT	UG/L	79016
	39181	FISH	UGK	79016
	79718	WASTE	MG/KG	79016
	82156	IN AIR	NG/CC	79016
Trichloromethanethiol (Methanethiol, trichloro-)	73651			75707
Trichloromonofluoromethane (Methane, trichlorofluoro-) (trichlorofluoromethane)	34488	TOTW	UG/L	75694
	34489	DISS	UG/L	75694
	34490	SUSP	UG/L	75694
	34491	SED	UG/KG DRY WGT	75694
	34492	TIS	MG/KG WET WGT	75694
	79719	WASTE	MG/KG	75694
	82154	IN AIR	NG/CC	75694
2,4,5-Trichlorophenol (Phenol, 2,4,5-trichloro-)	77687	TOTAL	UG/L	95954
2,4,6-Trichlorophenol (Phenol, 2,4,6-trichloro-)	34621	TOTW	UG/L	88062
	34622	DISS	UG/L	88062
	34623	SUSP	UG/L	88062
	34624	SED	UG/KG DRY WGT	88062

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
2,4,6-Trichlorophenol (continued)	34625	TIS	MG/KG WET WGT	88062
	79520	WASTE	MG/KG	88062
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T) (Acetic acid, 2,4,5-trichlorophenoxy-)	39740	WHL SMPL	UG/L	93765
	39741	MUD	UG/KG	93765
	39742	FLT FRAC	UG/L	93765
	39743	SUS FRAC	UG/L	93765
	39744	FISH WWT	UG/KG	93765
2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP) (Silvex) (Propionoic acid, 2-(2,4,5-trichlorophenoxy)-) (2,4,5-TP includes acids and salts)	39045	WTR SMPL	UG/L	93721
	39760	WHL SMPL	UG/L	93721
	39761	MUD	UG/KG	93721
	39762	FLT FRAC	UG/L	93721
	39763	SUS FRAC	UG/L	93721
Trichloropropane ("N.O.S.")	Not applicable to RCRA/STORET			
1,2,3-Trichloropropane (Propane, 1,2,3-trichloro-)	77443	TOTAL	UG/L	96184
O,O,O-Triethyl phosphorothioate (Phosphorothioic acid, O,O,O-triethyl ester)	73652			126681
sym-Trinitrobenzene (Benzene, 1,3,5-trinitro-)	73653			99354
Tris(1-azridinyl) phosphine sulfide (Phosphine sulfide, tris(1-aziridinyl-)	73654			52244

1 -- Appendix VIII pseudonym in parens, STORET para. name (underlined and in parens) if significantly different from Appendix VIII names.

Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Tris(2,3-dibromopropyl) phosphate (1-Propanol, 2,3-dibromo-, phosphate)	73655			126727
Trypan blue (2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl(1,1'-biphenyl)-4,4'-diyl)bis(azo)]bis(5-amino-4-hydroxy-, tetrasodium salt)	73656			72571
Uracil mustard (Uracil 5-[bis(2-chloroethyl)amino]-)	73657			66751
Vanadic acid, ammonium salt (ammonium vanadate)	73658			7803556
Vanadium pentoxide (Vanadium (V) oxide)	73659			1314621
Vinyl chloride (Ethene, chloro-)	39175	TOT	UG/L	75014
	34493	DISS	UG/L	75014
	34494	SUSP	UG/L	75014
	34495	SED	UG/KG DRY WGT	75014
	34693	TIS	MG/KG WET WGT	75014
	39176	FISH TIS	UG/KG	75014
	79723	WASTE	MG/KG	75014
	82157	IN AIR	NG/CC	75014
Zinc cyanide	See "Cyanide"			

1 -- Appendix VIII pseudonym in parens, STORET para. name (underlined and in parens) if significantly different from Appendix VIII names.

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Current Status of Parameter Codes for 40 CFR §261 Appendix VIII Hazardous Substances in STORET

Substance Name [1]	Para. Code(s)	Medium	Units	Cas No.
Zinc phosphide	73660			1314847

1 -- Appendix VIII pseudonym in parens, STORET para. name (underlined and in parens) if significantly different from Appendix VIII names.