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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

APR - 8 1991

4WD-RCRA & FFB

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Commander, Atlantic Division
Naval Facilities Engineering Command
Code 1822
Ms. Laurie A. Boucher, P.E.
Remedial Project Manager MCB Camp Lejeune
Norfolk, Virginia 23511-6287

RE: EPA Environmental Monitoring Data Reporting Requirements

Dear Ms. Boucher:

Your facility is required to report environmental monitoring data from a variety of media to EPA under requirements of CERCLA pursuant to a Section 120 Federal Facility Agreement and a RCRA/HSWA corrective action permit pursuant to Sections 3004(u) & (v). In order to comply with the terms of such Agreements and permits as well as national EPA policies, the Region is establishing minimum requirements for the submission of environmental monitoring data.

The purpose of these requirements are to ensure that all environmental monitoring data reported under RCRA or CERCLA is readily available, reliable and consistent in order for EPA to fulfill its role as regulator and oversite Agency through timely reporting and interpretation of environmental monitoring data. This will enable your facility and EPA to better protect public health and the environment.

The minimum requirements are:

1. All environmental monitoring data shall be submitted to EPA in a consistent format with consistent parameters that will facilitate collection and recording of such data in a computer data-file.

   The data elements reported should meet the specific requirements of the applicable regulatory program(s), field QA/QC procedures, laboratory quality assurance procedures and EPA approved workplans. EPA Region IV has developed a generic computer data-file and export protocol that is recommended for use in meeting this requirement (see enclosure). The enclosed data-file protocol indicates the data elements (fields) that will be required at a minimum by EPA to identify sampling stations.

A Data Management Plan should be developed to establish minimum data elements, parameters and formats for all environmental monitoring data submitted to EPA.

2. All environmental monitoring data shall comply with the EPA National Locational Data Policy developed by EPA's Office of Information Resources Management (see enclosure).

The generic data-file and export format has provisions for meeting this requirement (see enclosure).

The above requirements must be complied with by incorporation into all Remedial Investigations (RI) or RCRA Facility Investigation (RFI) workplans and/or Data Management Plans submitted to EPA for review and approval, in accordance with appropriate time tables and deadlines, subsequent to receipt of this letter.

If you have any questions concerning the above requirements please contact Mickey Hartnett, Chief DOD Remedial Unit at (404) 347-3016. If you have specific questions regarding the data-file export protocol please contact Ms. Phyllis Mann at (404) 347-3016.

Sincerely yours,

for James H. Scarbrough, P.E., Chief
RCRA and Federal Facilities Branch
Waste Management Division

Enclosures

cc: Mr. Jack Butler, NCDEHNR
Ms. Stephanie Del-Re Johnson, MCB Camp Lejeune

EPA LOCATIONAL DATA POLICY

EPA's Officer of Information Resources Mangement (OIRM) has developed a policy to be adopted by EPA, and its delegates and representatives, for collecting and documenting locational data about the entities tracked under Federal Environmental programs within EPA's juridiction. The policy clearly defines responsibilities for obtaining locational measurements for all facilities, sites and monitoring and observation points of primary interest to EPA. In addition, the policy explicitly specifies latitude and longitude, in an intentionally-compatible format, as the Agency's preferred locational coordinate system. Implementation of this policy will allow Agency data to be intergrated based upon location, thereby promoting enhanced use of EPA's extensive data resources for cross-media environmental analyses and management decisions.

1. PURPOSE. This policy establishes the principles for collecting and documenting latitude/longitude coordinates for facilities, sites and monitoring and observation points regulated or tracked under Federal environmental programs within the jurisdiction of the Environmental Protection Agency (EPA). The intent of this policy is to extend environmental analyses and allow data to be integrated based upon location, thereby promoting the enhanced use of EPA's extensive data resources for cross-medial environmental analyses and management decisions. This policy underscores EPA's commitment to establishing the data infrastructure necessary to enable data sharing and secondary data use.

2. SCOPE AND APPLICABILITY. This policy applies to all Environmental Protection Agency (EPA) organizations and personnel of agents (including contractors and grantees) of EPA who design, develop, compile, operate or maintain EPA information collections developed for environmental program support. The requirements of this policy apply to existing as well as new data collections.

3. BACKGROUND.

   a. Fulfillments of EPA's mission to protect and improve the environment depends upon improvements in cross-programmatic, multi-media data analyses. A need for available and reliable location identification information is a commonality which all regulatory tracking programs share.

b. Standard location identification data will provide a return yet unrealized on EPA's sizable investment in environmental data collection by improving the utility of these data for a variety of valued-added secondary applications often unanticipated by the original data collectors.

c. EPA is committed to implementing its locational policy in accordance with the the requirements specified by the Federal Interagency Coordinating Committee for Digital Cartography (FICCDC). The FICCDC has identified the collection of latitude/longitude as the most preferred coordinate system for identifying location.

4. AUTHORITIES

a. 15 CFR Part 6 Subtitle A, Standarization of Data Elements and Representations

b. Geological Survey Circular 878-B, A U.S. Survey Data Standard, Specifications for Representation of Geographic Point Locations for Information Interchange

c. Federal Interagency Coordinating Committee on Digital Cartigraphy (FICCDC)/U.S. Office of Management and Budget, Digital Cartographic Data Standards: An Interim Proposed Standard

d. EPA Regulations 40 CFR 30.503 and 40 CFR 31.45, Quality Assurance Practices under EPA's General Grant Regulations

5. POLICY.

a. It is EPA policy that latitude/longitude ("lat/long") coordinates be collected and documented with environmental and related data. This is in addition to, and not precluding, other critical location identification data that may be needed to satisfy individual program or project needs, such as depth, street address, elevation or altitude.

b. This policy serves as a framework for collecting and documenting location identification data. It does not include a requirement that a particular level of precision or accuracy be achieved; managers of individual data collection efforts determine the levels precision and accuracy necessary to support their mission. However, this policy does serve as a starting point for acquiring these critical data.

c. To implement this policy, program data managers must collect and document the following:

(1) Latitude/longitude coordinates in accordance with Federal Interagency Coordinating Committee for Digital Cartigraphy (FICCDC) recommendations. The coordinates may be present singly or multiple times, to define a point, line or area, according to the most appropriate data type for the entry being represented.

This format for representing this information is:

+/-DD MM SS.SSSS (latitude)
+/-DDD MM SS.SSSS (longitude)

where:

- Latitude is always presented before longitude
- DD represents degrees of latitude; a digit decimal number ranging from 00 through 90
- DDD represents degrees of longitude; a three digit decimal number ranging from 000 through 180
- MM represents minutes of latitude or longitude, a two-digit decimal number ranging from 00 through 60
- SS.SSSS represents seconds of latitude or longitude, with a format allowing possible precisions to the ten-thousandths of seconds. (actual accuracy to be program and case specific)
- + specifies <u>latitudes north</u> of the equator and <u>logitudes east</u> of the prime meridian
- - speicifies <u>latitudes south</u> of the equator and <u>longitudes west</u> of the prime meridian

(2) Specific method used to determine the lat/long coordinates (e.g., remote sensing techniques, map interpolation, cadastral survey)

(3) Texual description of the entity to which the latitude/longitude coordinates refer (e.g., morth-east corner of site, entrance to facility, point of discharge, drainage ditch)

(4) Estimate of accuracy in terms of the most precise units of measurements used (e.g., if the coordinates are given to tenths-of-seconds precision, the accuracy estimate should be expressed the terms of the range of tenths-of-seconds within which the true value should fall, such as "+/- 0.5 seconds")

d. Recommended labeling of the above information is as follows:

- "Latitude"
- "Longitude"
- "Method"
- "Description"
- "Accuracy."

e. This policy does not preclude or rescind more stringent regional or program-specific policy and guidance.

f. Formats, standards, coding conventions or other specifications for the method, description and accuracy information shall be as specified by the Regional Program as appropriate.

6. RESPONSIBILITY FOR IMPLEMENTATION

Assistant Administrators, Associate Administrators, Regional Administrators, Laboratory Directors and the General Counsel shall establish procedures within their respective organizations to ensure information collection and reporting systems under their direction are in compliance with this policy.

Interchange File Format
for
Electronic Data Reports

This document establishes, for EPA Region IV, the required format for electronic reporting of monitoring data.

Data will be transported as a set of four ASCII files:

STATION.DAT	-	contains basic information about monitoring station location and type. Detailed description of the structure is contained in appendix A.
WELL.DAT	-	contains detailed information about construction and characteristics of groundwater monitoring stations. See appendix B.
SAMPLE.DAT	-	contains basic information about the collection and characteristics of samples. See appendix C.
PARM.DAT	-	contains measured values and reporting units for specific parameters. See appendix D.

The first line of EACH of the four files MUST contain the following text starting in position one: 19901001

These files are to be transmitted in ASCII format using 5.25 inch flexible disk, nine-track magnetic tape (1600 or 6250 bpi) or, in the future, via communications channels yet to be defined. Hardcopy reporting requirements will continue as currently required until further notice. Additional files may be defined in the future for non-groundwater station types should the need arise.

Several of these files will contain data that is usually static in nature. For example, the basic information contained in STATION.DAT will not normally change for any single station, therefore once the data has been submitted for a particular station, it will not be required to resubmit that information. If, however, the station record is updated or corrected the record would have to be resubmitted. After the initial report then, STATION.DAT would be submitted only when new stations are created, or when an old station record is modified, and need only contain the new or modified records. The same is true of file WELL.DAT. SAMPLE.DAT would, of course, be submitted each time one or more new samples were to be reported, or any sample record required updating. Again, the file need only contain the new or updated records. PARM.DAT is expected to be submitted at each required reporting interval, since it will contain the

analytical results needed to determine compliance. It must contain all new results for the reporting interval, and may contain corrections and updates to older records. As may be observed, the format allows for asynchronous reporting, provided that no sample may be reported before the station with which it is associated, and no parametric record before its sample record.

For each file described in the appendices, all fields must be reported. The null , or "no data", value for all fields is the pound sign (#), and must appear in the first column position of its field. Field values may be listed one per line in the export file, or multiple values may be reported on a single line, provided that field values are reported in the specified order, and each value is terminated by a comma (,). Lines containing multiple values may not exceed 80 characters in length, including the delimiters. Since the comma is used as a delimiter for data values, the values themselves may not contain any comma, even though the value may be a text stream.

Datafile STATION.DAT

eld no.	field name	field Description
1	STATION_KEY *	Unique station identifier. Consists of a twenty-seven character alphanumeric field, left justified, containing:

column:	description:
1-12	Unique site identifier as assigned by EPA. Must be alphanumeric.
13-17	Unique solid waste management unit designator. Must be alphanumeric.
18	Media status indicator. Must contain one of the following: C - compliance monitoring station B - baseline monitoring station A - other ambient monitoring station.
19 - 27	Unique station identifier. Must be alphanumeric.

If this data is to be used with the Region IV Query menu, the naming convention recomended for stations is as follows. Monitoring wells should contain 'MW',test pits 'TP',boreholes 'BH', surface soil 'SS'.

2	TYPE	*	Type of monitoring station. Consists of a four-character alphanumeric field, left justified, containing one of the following: AIR, SWTR, GWTR, SOIL, SED, and SLDG. The meanings of these abbreviations are as follows: AIR - Air sampling station SWTR - Surface water sampling station GWTR - ground water sampling station SOIL - soil sampling station SED - Stream bed sediment SLDG - process sludge sampling
3	LATITUDE	*	Geographic position of the station in degrees north of the equator. Must be in the format DDMMSS.xxxx, where DD represents degrees, MM represents minutes, and SS.xxxx represents seconds, with available precision to four decimal places.
4	LONGITUDE	*	Geographic position of the station in degrees

* required field

west of the Prime Meridian. Must be in the format DDDMMSS.xxxx, where DDD represents degrees, MM represents minutes, and SS.xxxx represents seconds, with available precision to four decimal places.

5 LSDAT * Elevation in feet (MSL) of land surface at the location of the monitoring station. Must be a DECIMAL NUMERIC field with a maximum of twelve characters (including the decimal point) and may have up to two digits after the decimal point.

6 RFDAT * Elevation in feet (MSL) of the point from which height above ground, water level and sampling depth measurements are taken. DECIMAL NUMERIC field with a maximum of twelve characters (including the decimal point) and may have up to two digits after the decimal point.

7 CONDT Date construction of the station was completed. Eight character integer field consisting of:

columns	content
1-4	year including century, e.g. 1989
5-6	numeric month
7-8	numeric day of month

Column numbers are relative to the beginning of the CONDT Field. Each subfield described above must be right justified, and may contain leading zeros.

8 ACCUR * Estimated accuracy for the reported latitude and longitude,in meters. DECIMAL NUMERIC field with a maximum of six characters (including the decimal point) and may have up to two digits after the decimal point.

9 LLMETH * One character alphanumeric field which indicates the method used to determine the latitude and longitude. Contains one of the following:

C - Calculated from map
D - Digitized from a map
G - Global Positioning System
L - Loran-C
U - Unknown

10 OMETH Any method for which there is no code. This field consists of 32 character ALPHANUMERIC field,left justified.

11 COMMENT Any additional information the user feels necessary,

* required field

which may not be accomodated in a defined field. Must be ALPANUMERIC consisting of up to 40 characters.

* required field

Appendix B

Datafile WELL.DAT

field no.	field name	field Description
1	STATION_KEY *	Unique station identifier. Consists of a twenty-seven character alphanumeric field, left justified, containing:

column:	description:
1-12	Unique site identifier as assigned by EPA. Must be alphanumeric.
13-17	Unique solid waste management unit designator. Must be alphanumeric.
18	Media status indicator. Must contain one of the following: C - compliance monitoring station B - baseline monitoring station A - other ambient monitoring station.
19 - 27	Unique station identifier. Must be alphanumeric.

2	AQNAM *	USGS Aquifer Code for aquifer from which samples are obtained. Alphanumeric field with up to eight characters.
3	TOTDP	Total depth to which the hole was drilled, bored or dug in feet below land surface datum. DECIMAL NUMERIC field with a maximum of twelve characters (including the decimal point) and may have up to two digits after the decimal point.
4	DRMTH	Method by which well was constructed. Must be ALPHANUMERIC, consisting of a single character. The character must be one of the following:

H - hollow stem auger
S - solid stem auger
C - cable tool
R - rotary
V - reverse rotary
D - dug
J - water jet
A - air percussion
O -other

5	DRFLD	Fluid used to lubricate cutting tool and/or remove materials from hole. Must be ALPHANUMERIC, consisting of a single character. The character must be one of the following:

* required field

A - air		M - other mud
B - bentonite		N - none
W - water		O - other fluid

6 DVMTH — Method by which well was developed. Must be ALPHANUMERIC, consisting of a single character. The character must be one of the following:

A - air lift pump	B - bailed
C - compressed air	J - jetted
P - other pump	S - surged
Z - other method	N - none

7 DVHRS — Time in hours during which well was developed. Must be INTEGER NUMERIC, consisting of up to 5 digits.

8 SPLTRT — Any special treatment that was applied during the well development process. Must be ALPHANUMERIC, consisting of a single character, which must be one of the following:

C - chemicals	D - dry ice
E - explosives	F - deflocculant
H - hydrofracturing	M - mechanical
Z - other	N - none

9 LIFT — Type of lift indicator. Must be Alphanumeric, consisting of a single character. The character must be one of the following:

A - air lift	R - rotary pump
B - bucket	S - submersible pump
C - centrifugal pump	T - turbine
J - jet pump	U - unknown
P - Piston pump	Z - other

10 NOSEG — Number of bore hole sections. A bore hole section is defined as a length of bore hole of constant diameter. Bore hole sections are designated numerically from top to bottom of bore hole. INTEGER NUMERIC field containing a value of one or two.

11 SGDIA1 — Diameter of first bore hole section, in inches.

12 SGDIA2 — Diameter of second bore hole section, in inches.

13 SGDIA3 — Diameter of third bore hole section, in inches.

Each of the SGDIAx fields is DECIMAL NUMERIC, containing up to twelve characters (including the

* required field

		decimal point), and may have up to two digits following the decimal point.
14	STELV1	The depth to the top of the first bore hole section .
15	STELV2	The depth to the top of the second bore hole section .
16	STELV3	The depth to the top of the third bore hole section .
		Each of the STELVx fields is DECIMAL NUMERIC with a maximum of twelve characters (including the decimal point) and may have up to two digits after the decimal point. These depths are measured relative to land surface datum.
17	SBELV1	The depth to the bottom of the first bore hole section.
18	SBELV2	The depth to the bottom of the second bore hole section.
19	SBELV3	The depth to the bottom of the third bore hole section.
		Each of the SBELVx fields is DECIMAL NUMERIC with a maximum of twelve characters (including the decima point) and may have up to two digits after the dec point. These depths are measured relative to land surface datum.
20	NOCAS	Number of casing sections. A casing section is defined as a length of casing of constant diameter and uniform material.Casing sections are designated numerically from top to bottom of well. INTEGER NUMERIC field containing a value of one or two.
21	TCELV1	The depth to the top of the first section of casing(in feet).
22	TCELV2	The depth to the top of the second section of casing(in feet).
23	TCELV3	The depth to the top of the third section of casing(in feet).
		The TCELVx fields are DECIMAL NUMERIC, each with a maximum of twelve characters (including the decimal point) and may have up to two digits after the decimal point. These depths are measured relative to land

* required field

surface datum.

24	BCELV1	The depth to the bottom of the first section of casing,in feet.
25	BCELV2	The depth to the bottom of the second section of casing,in feet.
26	BCELV3	The depth to the bottom of the third section of casing,in feet.

The BCELVx fields are DECIMAL NUMERIC,each with a maximum of twelve characters (including the decimal point) and may have up to two digits after the decimal point. These depths are measured relative to land surface datum.

27	CIDIA1	Inside diameter of the first section of casing,in inches.
28	CIDIA2	Inside diameter of the second section of casing,in inches.
29	CIDIA3	Inside diameter of the third section of casing,in inches.

The CIDIAx fields are DECIMAL NUMERIC,each with a maximum of twelve characters (including the decimal point) and may have up to two digits after the decimal point.

30	CODIA1	Outside diameter of the first section of casing, in inches.
31	CODIA2	Outside diameter of the second section of casing, in inches.
32	CODIA3	Outside diameter of the third section of casing, in inches.

The CODIAx fields are DECIMAL NUMERIC,each with a maximum of twelve characters (including the decimal point) and may have up to two digits after the decimal point.

33	CMATR1	Description or name of casing material from which the first section of casing is made.
34	CMATR2	Description or name of casing material from which the second section of casing is made.

* required field

35	CMATR3	Description or name of casing material from which the third section of casing is made.

The CMATRx fields are ALPHANUMERIC, each with a maximum of eight characters.

OPEN INTERVAL - any portion of the well in which the interior of the well is not isolated from the surrounding soil and rock by unbreached casing.

36	OPTYP	Indicator of the type of opening in the open interval. The field is ALPHANUMERIC, consisting of a single character. The character must be one of the following:

O - open end P - perforated or slotted
S - screened T - sand point
W - walled X - open hole
Z - other

37	TOELV	The depth to the top of the open interval. The TOELV field is DECIMAL NUMERIC with a maximum of twelve characters (including the decimal point) and may have up to two digits after the decimal point. Measured relative to land surface.
38	BOELV	The depth to the bottom of the open interval. The BOELV field is DECIMAL NUMERIC with a maximum of twelve characters (including the decimal point) and may have up to two digits after the decimal point. Measured relative to land surface.
39	OMATR	Description or name of material used to screen the open interval. The OMATR field is ALPHANUMERIC with a maximum of eight characters.
40	OWIDT	Width or short dimension of slot or mesh of screen material for the open interval, in inches. The OWIDT field is DECIMAL NUMERIC with up to twelve characters (including the decimal), and may have up to 3 digits following the decimal point.
41	OLENG	Length or long dimension of slot or mesh of screen material for the open interval, in inches. The OLENG field is DECIMAL NUMERIC with up to twelve characters (including the decimal), and may have up to 3 digits following the decimal point.

FILTER PACK - material placed in the annulus of the well between the borehole wall and the well screen to

* required field

prevent formation material from entering through the well screen.

42 FPMTH — Indicator for method of filter pack placement. Must be ALPHANUMERIC consisting of a single character. The character must be one of the following:

A - dropping material down the hole and tamping
B - dropping material down hollow-stem auger
T - tremie pipe
O - other

43 FPMAT — Description or name of the material which forms the filter pack. Must be ALPHANUMERIC, consisting of up to eight (8) characters.

44 FPGRN — Grain size of the material which forms the filter pack, in mesh guage. Must be INTEGER NUMERIC, with up to four characters.

45 TFELV — The depth to the top of the filter pack. The TFELV field is DECIMAL NUMERIC with a maximum of twelve characters (including the decimal point) and may have up to two digits after the decimal point. Measured relative to land surface.

46 BFELV — The depth to the bottom of the filter pack. The BFELV field is DECIMAL NUMERIC with a maximum of twelve characters (including the decimal point) and may have up to two digits after the decimal point. Measured relative to land surface.

ANNULAR SEALANT - material used to seal the space between the borehole and the casing of the well. The annular sealant is placed directly above the filter pack to prevent the migration of contaminants to the sampling zone from the surface or intermediate zones and prevent cross contamination between strata.

47 SLMTH — Indicator for method of sealant placement. Must be ALPHANUMERIC consisting of a single character. The character must be one of the following:

A - dropping material down the hole and tamping
B - dropping material down hollow-stem auger
T - tremie pipe
O - other

48 SLMATR — Description or name of the material which forms the seal above the filter pack against entry of surface water. Must be ALPHANUMERIC, consisting of a single

* required field

character. The character must be one of the following:

B - bentonite C - other clay
G - cement Z - other
N -none

49 TSLELV — The depth to the top of the annular seal. The TSLELV field is DECIMAL NUMERIC with a maximum of twelve characters (including the decimal point) and may have up to two digits after the decimal point. Measured relative to land surface.

50 BSLELV — The depth to the bottom of the annular seal. The BSLELV field is DECIMAL NUMERIC with a maximum of twelve characters (including the decimal point) and may have up to two digits after the decimal point. Measured relative to land surface.

51 SRFSL — Surface seal Indicator. Indicates whether or not the upper portion of the borehole is sealed to prevent inflow of surface water. Single character ALPHANUMERIC, containing "Y" if well is sealed. Otherwise contains "N".

52 DNGRAD — Downgradient indicator. Indicates whether or not, the well has been installed hydraulically downgradient of the source of potential groundwater pollution, and is capable of detecting the migration of contaminants. Single character ALPHANUMERIC, containing "Y" if well is downgradient from waste disposal site. Otherwise contains "N".

53 DRLOG — Drillers log indicator. Indicates availability of drillers log. Single character ALPHANUMERIC, containing "Y" if log is available. Otherwise contains "N".

54 LTHLG — Lithologic log indicator. Lithologic log shows distribution of lithology with depth in the bore hole. Single character ALPHANUMERIC, containing "Y" if log is available. Otherwise contains "N".

55 WLUSE * — Well use indicator. Must be ALPHANUMERIC, consisting of a single character. The character must be one of the following:

D - domestic (private) water supply
I - industrial water supply
M - monitoring well
P - public water supply
O - other

* required field

56	COMMENT	Supplemental information as needed. May contain up to 80 alphanumeric characters.

* required field

Appendix C

Datafile SAMPLE.DAT

field no.	field name		field Description
1	SAMPLE_KEY	*	Unique sample identifier. Consists of a forty-two character field, left justified, containing:

column:	description:
1-12	Unique site identifier as assigned by EPA. Must be alphanumeric.
13-17	Unique solid waste management unit designator. Must be alphanumeric.
18	Media status indicator. Must contain one of the following: C - compliance monitoring station B - baseline monitoring station A - other ambient monitoring station.
19 - 27	Unique station identifier. Must be alphanumeric.
28 - 42	Unique sample identifier. Must be alphanumeric.

2	DELTH	*	Vertical displacement of sample from the reference elevation (in feet) of the sampling station. For surface water, soils, and groundwater stations this would be the depth of the sample and for air monitoring stations, the height above ground. Must be DECIMAL NUMERIC consisting of a maximum of six characters (including the decimal) and may have up to two digits after the decimal point.
3	DATE	*	Date of sample collection. Eight character integer field consisting of:

columns	content
1-4	year including century, e.g. 1989
5-6	numeric month
7-8	numeric day of month

Column numbers are relative to the beginning of the DATE Field. Each subfield described above must be right justified, and may contain leading zeros.

* required field

4	TIME	*	Time (in military format) of sample collection. INTEGER NUMERIC consisting of four characters.
5	SSTAT	*	Station status or condition. Used primarily for groundwater monitoring stations. ALPHANUMERIC consisting of one character. The character must be one of the following:

D - Dry
O - obstructed
W - Destroyed
F - Flowing
P - Pumping
X - Surficial inflow
Z - other

FIELD MEASUREMENTS

6	TEMP	Sample temperature in degrees Celsius. DECIMAL NUMERIC consisting of six characters (including the decimal) and may have up to two digits after the decimal point.
7	PH	Sample pH in standard units. DECIMAL NUMERIC consisting of four characters (including the decimal) and may have one digit after the decimal point.
8	COND	Specific Conductance in uMhos. INTEGER NUMERIC consisting of a maximum of six characters.
9	TURB	Turbidity. INTEGER NUMERIC consisting of a maximum of eight characters. May be reported in JTU or NTU, as required by program.
10	WLEVEL	Well water level, or stream gage height, in feet. Measured relative to the reference datum. Item is DECIMAL NUMERIC consisting of a maximum of six characters (including the decimal) and may have up to two digits following the decimal point.
11	WINDSP	Wind speed in km/h. DECIMAL NUMERIC consisting of a maximum of six characters (including the decimal), and may have up to two digits after the decimal point.
12	WINDIR	Wind direction in degrees. INTEGER NUMERIC consisting of a maximum of four characters.
13	SAMMETH	Method used to collect sample. ALPHANUMERIC field,left justified, consisting of up to 20 characters.
14	SAMPLER	Name of Agency of Organization that collected the sample. Must be ALPHANUMERIC consisting of up to 20 characters.

* required field

Appendix C

15	COMMENT	Any additional information the user feels necessary, which may not be accomodated in a defined field. Must be ALPANUMERIC consisting of up to 40 characters.

* required field

Appendix D

Datafile PARM.DAT

.eld no.	field name		field Description
1	PARAM_KEY	*	Unique data record identifier. Consists of a fifty-four character field, left justified, containing:

column:	description:
1-12	Unique site identifier as assigned by EPA. Must be alphanumeric.
13-17	Unique solid waste management unit designator. Must be alphanumeric.
18	Media status indicator. Must contain one of the following: C - compliance monitoring station B - baseline monitoring station A - other ambient monitoring station.
19 - 27	Unique station identifier. Must be alphanumeric.
28 - 42	Unique sample identifier. Must be alphanumeric.
43 - 54	Parameter identifier. For chemical constituents for which CAS numbers exist, the CAS number will be the identifier. For other constituents, the identifier will be determined on an as-needed basis.
55 - 58	Replicate number. Identifies the value as one of two or more analyitical results for the same parameter on the same sample. INTEGER NUMERIC, right justified, up to four characters. Not used unless replicate results are reported.

2	QUALF		Qualifier field. ALPHANUMERIC, may contain up to four STORET qualifier codes.
3	VALUE	*	The reported analytical result for the chemical. Must be DECIMAL NUMERIC, consisting of up to twelve character (including the decimal), and may have up to

* required field

four digits after the decimal point.

4	UNITS	*	The units of measurement in which analytical results are reported. ALPHANUMERIC, consisting of up to six characters.
5	METHOD		The name or code of the analytical method or technique used to obtain the reported value. ALPHANUMERIC, containing up to fourteen characters.
6	DATE	*	Date of analysis. Eight character integer field consisting of:

columns	content
1-4	year including century, e.g. 1989
5-6	numeric month
7-8	numeric day of month

Column numbers are relative to the beginning of the DATE Field. Each subfield described above must be right justified, and may contain leading zeros.

7	DETLIM		Detection limit. Must be in same units as the reported value. Must be DECIMAL NUMERIC, consisting of up to twelve characters (including the decimal), and may have up to four digits after the decimal point.
8	LAB		Name of Lab that performed the analysis. ALPHANUMERIC field containing up to 28 characters.
9	COMMENT		Any additional information the user feels necessary, which may not be accomodated in a defined field. Must be ALPANUMERIC consisting of up to 40 characters.

* required field