THIS IS ONE VOLUME OF A SIX VOLUME SET WHICH INCLUDES:

VOLUME I: FIELD OPERATIONS (FO)
VOLUME II: GROUNDWATER (GW)
VOLUME III: GEOTECHNICAL (GT)
VOLUME IV: SURFACE WATER (SW)
VOLUME V: ECOLOGY (EE)
VOLUME VI: AIR (AP)

TABLE OF CONTENTS
FOR VOLUME I: FIELD OPERATIONS

EG&G ROCKY FLATS PLANT	Manual:	5-21000-OPS
EMD MANUAL OPERATION SOP	Procedure No.:	FO.14, Rev. 2
	Page:	1 of 13
	Effective Date:	March 1, 1992
Category 2	Organization:	Environmental Management

TITLE:
FIELD DATA MANAGEMENT

Approved By: _____ MAY 12 1992
(Name of Approver) (Date)

1.0 TABLE OF CONTENTS

REVIEWED FOR CLASSIFICATION/UCNI
By _____
Date March 4, 1992

LIST OF APPENDIXES

2.0 PURPOSE AND SCOPE

This standard operating procedure (SOP) describes procedures that will be used at the Rocky Flats Plant (RFP) to provide an orderly method by which field data will be recorded, entered into electronic form, validated, transferred, and filed. This applies to field data generated by any field-related sampling activities performed for the Rocky Flats Environmental Management (EM) Program. This procedure encompasses the data handling process from the point of data collection by field personnel to the filing and transmission of data to EG&G personnel.

This SOP describes hardware and software requirements, field data collection, data entry, data verification, data archiving, and filing that will be used for field data collection and documentation to attain acceptable standards of accuracy, precision, comparability, representativeness, and completeness.

3.0 RESPONSIBILITIES AND QUALIFICATIONS

The designated subcontractor has the overall responsibility for implementing this SOP. The subcontractor's project manager will be responsible for assigning project staff to implement this SOP and for assuring that the procedures are followed by all subcontractor personnel.

The personnel responsible for maintaining the data in the data base will have, at a minimum, a two-year degree in Computer Science or 4 years relevant experience, a working knowledge of DOS, data bases, DBASE III and IV, Lotus 1-2-3, and personal computers. If personnel are used who do not have this background, appropriate training will be provided by the sub-contractor.

EG&G will be responsible for maintaining the RFEDS data base. EG&G will control all updates and fixes to the software. Any program updates will be provided to all subcontractors who are required to use the RFEDS data base.

4.0 REFERENCES

4.1 SOURCE REFERENCES

The following is a list of references reviewed prior to the writing of this procedure:

A Compendium of Superfund Field Operations Methods. EPA/540/P-87/001. December 1987.

Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA. Interim Final. October 1988.

RCRA Facility Investigation Guidance. (EPA). Interim Final. May 1989.

Rocky Flats Plant Environmental Restoration Program, Quality Control Plan. Rockwell International. January 1989.

The Environmental Survey Manual. DOE/EH-0053. Volumes 1-4. August 1987.

4.2 INTERNAL REFERENCES

Related SOPs cross-referenced by this SOP are as follows:

- SOP FO.13, Containerizing, Preserving, Handling, and Shipping of Soil and Water Samples
- SOP GT.1, Logging Alluvial and Bedrock Material
- SOP GT.2, Drilling and Sampling Using Hollow Stem Auger Techniques
- SOP GT.4, Rotary Drilling and Rock Coring
- SOP GT.7, Logging and Sampling of Test Pits and Trenches

- SOP GT.8, Surface Soil Sampling
- SOP GT.9, Soil Gas Sampling and Field Analysis
- SOP GW.1, Water Level Measurements in Wells and Piezometers
- SOP SW.4, Discharge Measurement
- SOP GW.6, Groundwater Sampling
- SOP SW.7, Collection of Tap Water Samples

5.0 PROCEDURES

This procedure is based primarily on the Rocky Flats Environmental Data System User's Manual and conversations held with representatives from EG&G.

5.1 HARDWARE AND SOFTWARE REQUIREMENTS

The purpose of this section is to define the minimum computer system required for the entry and transfer of the field data to EG&G.

- 80286 based micro computer
- 1 parallel port
- 5 1/4 high density disk drive or 3 1/2 high density disk drive
- 40 MB hard-disk drive
- EGA or VGA monitor and compatible drive
- 80-column printer
- 2 MB RAM memory
- Lotus 1-2-3
- DOS, version 3.31 or higher
- DBASE IV
- 60 MB backup tape drive

These requirements may be changed, when necessary, by RFP to comply with their available data transfer needs. RFP will inform all subcontractors of any necessary changes by way of a memo.

5.2 FIELD DATA COLLECTION

All data collected from the field will be recorded on preprinted forms. At a minimum, the sample number, site designation, and initials of the collector will be recorded on the form. To the extent possible, the format of the form will be in the same order as the electronic form in the data base. This will assist the field personnel in entering data into the data base with more efficiency and accuracy. Appendix FO.14A is an example of the field data transmittal form. See Section 7.0 for samples of the RFEDS data entry forms.

5.3 DATA RECEIPT AND COMPLETENESS CHECK

The purpose of the receipt and checking is to start the verification process by receiving and briefly reviewing the data. The preliminary verification will be conducted as soon as possible after receipt of the completed data forms. This task ensures that the forms are complete before entry into the data base.

- The field data form will be delivered to the designated staff person by the field personnel by the end of each day of field operations.

- The designated staff person receiving the form will initial and date the form upon receipt.

- Upon receipt, all forms will be checked for completeness. The Site Supervisor will be consulted to verify that all of the field forms have been received. At this time, any discrepancies will be discussed with the field personnel and clarified or completed

immediately. Any changes to the field forms will be initialed and dated by the person making the changes.

- The following forms will be included with the field data package:
  - Field data transmittal form
  - Appropriate field data forms, depending on the sampling activity
  - Chain of Custody form(s)

5.4 TECHNICAL DATA VERIFICATION

When the data completeness has been verified, a technical verification will be performed on the data by a qualified verifier. This person will be able to technically review the data to ensure that the data are consistent with known chemical and physical properties of the media being sampled. For example, if the dissolved oxygen has a reading of 15, there is an indication of a problem since this is above the level of saturation. The verifier will check all calculations and reported units and all of the data on all of the forms. If the verifier detects an error in the data report sheet, the verifier must confer with the field sampler and the project manager prior to changing any information. Any change made must be reflected in the project manager's logbook.

5.5 DATA ENTRY

Once the field data have been reviewed and found to be complete, the data will be input to the Rocky Flats Environmental Data System (RFEDS) using the field data entry module.

Field tracking information will be entered simultaneously into the RFEDS Field Tracking Module provided by EG&G. This form tracks sample collection and shipping data, including:

- Sample number
- Sample location
- Bottle code and analyte group
- Shipper's initials
- Date sampled
- Date shipped
- Lab
- Chain of custody (COC) number

Note: The preceding data tracking information is documented on the COC form; therefore, the COC form can be used to facilitate data entry.

5.6 DATA VERIFICATION

This step ensures that the data recorded in the electronic data base are the same as the data recorded on the field data forms.

5.6.1 Field Data

When all of the data for the day have been entered into the data base, the data will be printed using the report option of the data base program. The reports (Forms FO.14B through N, see Section 7.0) will then be delivered along with the original field data forms to the designated data verification person. Under no circumstance will the data verifier be the same as the person who entered the data originally.

The original field data form and the printed report will be compared for accuracy. If transcription errors are found, the errors will be highlighted on the printed report and returned to the data entry person for corrections. Errors will be corrected and a new copy of the report will be generated at this time and the old copy destroyed. This process will be repeated until the printed reports match the field data forms. When the verification process is complete, the verifier will initial and date both the original field forms and the printed report.

5.6.2 Borehole Data

The borehole module is integrated with the geologic logging package to aid in the creation of a graphic borehole logs using LOGGER software. The procedure for inputing, verifying and delivering this data is different than for other modules within the field data entry module.

Data entry within the borehole module is done in the same way as the rest of the field data entry module. However, the data verification effort will take place at two stages. After data has been entered into the field module, a QA/QC report will be generated which displays the data from all the borehole forms in one report.

After the data has been verified from the QA/QC report, the data for a given well can be converted into LOGGER format. Once the data has been converted, a graphic geologic log will be generated. This log will then be verified to see that the information is complete. After log verification is complete, a printout of the log will be sent to EG&G for approval. Once this draft log has been approved, the LOGGER log file will be delivered to EG&G. The data from the borehole portion of the RFEDS field module will also be output to a diskette by individual well number and delivered to EG&G.

5.6.3 Tracking Data

The sample tracking information will be entered into the RFEDS Field Tracking Module. When all tracking data has been entered, it will be printed and verified as described above.

When all of the appropriate data are entered into the RFEDS tracking form, it will be printed and given to the person responsible for verifying the data. This subtask will be done at the same time as the field data reports. Under no circumstance will the data verifier be the same as the person who entered the data originally.

When the verification process is complete, the printed form will be initialed and dated by the verifier.

5.7 DATA ARCHIVING AND FILING

Upon completion of the daily verification, a copy of RFEDS field data reports will be made. The initialed, dated reports will then be filed with the original field data forms. A copy of the initialed and dated computer printed report will be sent to EG&G in the weekly data package.

At the end of each week, when all field data for a given week has been verified, the RFEDS Field Module will be backed up onto tape. Then, an RFEDS export file on diskette will be created using the RFEDS file transfer option. This diskette will be labeled with the subcontractor company name, date of diskette, and the type of data it contains (e.g., well data, soil boring data, etc.). A RFEDS tracking data file on diskette containing verified field tracking data will also be created and labeled as described above. Use only 3½-inch double-sided, high-density diskettes for all diskettes to be sent to EG&G. Delivery of the diskettes will be on a schedule determined by EG&G.

The original data diskette containing the data base data, the tracking data diskette, and the diskette chain of custody, along with all of the original data base reports and the field data transmittal forms

will be hand-delivered to the designated EG&G representative. A duplicate copy of these diskettes will be made at this time and filed with the original field data forms and the copies of the verified, initialed, and dated reports. A paper copy of the tracking data will be kept on file for quick reference.

The original data base data will remain on the hard disk in an archived form until removed by EG&G. This is the primary reason for copying the data to a diskette at the same time as the diskette is prepared for EG&G. The computer will be backed up weekly, using a tape drive just before the data disks are produced for EG&G. EG&G will determine the weekly delivery date. At least four weeks of backups will be maintained at any one time, and the tapes will be stored in a locked storage area.

5.8 SECURITY

The computers will be kept in a secure location and locked when not in use. The data base itself will utilize a password security system. The passwords required will be known only to the personnel who enter the data onsite, the onsite manager, and a representative of EG&G.

6.0 DOCUMENTATION

A permanent record of the implementation of this SOP will be kept by documenting field observations and data on field data forms, and verification observations in a data verification notebook. Field observations and data will be recorded with black waterproof ink on field data forms. Data verification observations will be recorded with black waterproof ink in a bound observation notebook with consecutively numbered pages. Documentation of the verification of the data base and the tracking data will be recorded and include the following data.

- Date of verification
- Initials of the verifier
- Date delivered to EG&G

The task manager will be responsible for ensuring that this documentation is completed.

See Section 7.0, Forms for examples of the data forms.

7.0 FORMS

The following data management forms are the current RFEDS requested field data as of February 1991. Data are collected in compliance with the related sampling SOP. Each SOP will include a copy of the appropriate data forms used during sampling.

The current RFEDS data base does not address all the parameters which are collected in the field. These additional parameters are in the field data sampling forms included in the cross-referenced SOPs.

Included within this SOP are the following RFEDS forms:

- Form FO.14A, Field Data Transmittal Form (RFEDS)
- Form FO.14B, Ground Water Sample Results Form
- Form FO.14C, Surface Soil Sample Form
- Form FO.14D, Sediment Sample Form
- Form FO.14E, Borehole Sample Form
- Form FO.14F, Surface Water Form
- Form FO.14G, Well Installation Form
- Form FO14.H, Lithology, Chemical Borehole and Gradational Grain Size Forms
- Form FO14.I, Pit and Trench Form
- Form FO.14J, Biological Sampling Form
- Form FO.14K, Sample Tracking Form

- Form FO.14L, Groundwater Level Measurement Form
- Form FO.14M, Air Flow Tables Form

Forms FO.14B through M are "hard" copies (paper prints) of the computer screen accessed when entering data to RFEDS. The Sample Collection Form must be completed (entered) in conjunction with Forms B, C, D, E, and F.

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM FO.14A

ROCKY FLATS ENVIRONMENTAL DATABASE SYSTEM (RFEDS)
FIELD DATA TRANSMITTAL FORM

DATA FOR THE WEEK OF _____ SUBCONTRACTOR _____

TYPE OF DATA

GROUNDWATER SAMPLING	☐	WELL INSTALLATION/GEOLOGIC LOGGING	☐
SURFACE SOIL SAMPLING	☐	BIOLOGICAL SAMPLING	☐
SEDIMENT SAMPLING	☐	SAMPLE TRACKING	☐
BOREHOLE SAMPLING	☐	GW LEVEL MEASUREMENT	☐
SURFACE WATER SAMPLING	☐	AIR FLOW TABLES	☐
		PITS AND TRENCHING	☐

TOTAL NUMBER OF FORMS _____

FIELD DATA VALIDATION AND VERIFICATION BY _____ DATE _____

COMPUTER ENTRY AND VERIFICATION

DATA ENTERED BY _____ DATE _____
VERIFICATION BY _____ DATE _____
CORRECTIONS BY _____ DATE _____
DISKETTE PREPARED BY _____ DATE _____

DATA AND DISKETTE DELIVERY TO EG&G

RECEIVED BY _____ DATE _____

FIELD DATA DELIVERABLE

SAMPLE NUMBER	LOCATION	DATE	SAMPLE NUMBER	LOCATION	DATE

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT **FORM FO.14B**

ENTER SAMPLE NUMBER: Num

Sample Collection Form

Project Number	:		
Project Name	:		
Sample Number	:	Type:	
Station Code	:	Dry:	(Y/N)
Collection Date	: / /	Quarter:	
Time	:		
Purpose	:		
QC Type	:		
QC Partner	:		
Volume Collected	:	Units:	
Collection Technique	:		

Sample Team Leader :
Member :
Member :
Prepared By :

Press J for Jump to Tracking
N for Next, D for Done, T to Edit This Form: (N/D/T)

Num

Ground Water Sample Results Form

Project Number	:	Name	:		
Sample Number	:	Well Number	:		
Purge Volume	:	Units	:		
Purge Rate	:	Units	:		
Purging Method	:	Depth to Water	:	FT	

Field Analytical Parameters

Specific Conductance	:	US/CM	pH	:		
Conductivity	:	Units:	Eh	:		MV
Conductivity Temperature	:		Color	:		
Sample Temperature	:		Odor	:		
Dissolved Oxygen	:	MG/L	Turbidity	:		NTU
Headspace Reading	:		Nitrate	:		MG/L
Total Alkalinity	:					
Comments	:					

Press N for Next, P for Previous, D for Done, T to Edit This Form: (N/P/D/T)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT **FORM FO.14C**

ENTER SAMPLE NUMBER: Num

Sample Collection Form

Project Number	:		
Project Name	:		
Sample Number	:	Type:	
Station Code	:	Dry:	(Y/N)
Collection Date	: / /	Quarter:	
Time	:		
Purpose	:		
QC Type	:		
QC Partner	:		
Volume Collected	:	Units:	
Collection Technique	:		

Sample Team Leader :
Member :
Member :
Prepared By :

Press J for Jump to Tracking
N for Next, D for Done, T to Edit This Form: (N/D/T)

Num

Surface Soil Sample Form

Project Number: Name:
Sample Number:

Depth of Take: Start End
in
in
in
in

Headspace Reading :
Comments :

Press N for Next, P for Previous, D for Done, T to Edit This Form: (N/P/D/T)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT **FORM FO.14D**

ENTER SAMPLE NUMBER: Num

Sample Collection Form

Project Number	:		
Project Name	:		
Sample Number	:	Type:	
Station Code	:	Dry:	(Y/N)
Collection Date	: / /	Quarter:	
Time	:		
Purpose	:		
QC Type	:		
QC Partner	:		
Volume Collected	:	Units:	
Collection Technique	:		

Sample Team Leader :
Member :
Member :
Prepared By :

Press J for Jump to Tracking
N for Next, D for Done, T to Edit This Form: (N/D/T)

Num

Sediment Sample Form

Project Number: Name:
Sample Number:

Depth of Water	:	FT
Depth of Take	:	INCHES
Comments	:	

Press N for Next, P for Previous, D for Done, T to Edit This Form: (N/P/D/T)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FORM FO.14E

ENTER SAMPLE NUMBER: Num

Sample Collection Form

Project Number :
Project Name :
Sample Number : Type:

Station Code : Dry: (Y/N)
Collection Date : / / Quarter:
Time :
Purpose :
QC Type :
QC Partner :
Volume Collected : Units:
Collection Technique :

Sample Team Leader :
Member :
Member :
Prepared By :

Press J for Jump to Tracking
N for Next, D for Done, T to Edit This Form: (N/D/T)

Borehole Sample Form

Project Number: Name:
Sample Number:

Boring :
Rad Type : OVM Type : Equipment Number :

Depth of Take Start	End	Recovery	OVM	RAD	USCS Soil/Rock Type
FT	FT		ppm	CPM	
FT	FT		ppm	CPM	
FT	FT		ppm	CPM	
FT	FT		ppm	CPM	
FT	FT		ppm	CPM	

Gen OVM : Gen RAD :
Comments :

Press N for Next, P for Previous, D for Done, T for This form: (N/P/D/T)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT **FORM FO.14F**

ENTER SAMPLE NUMBER: Num

Sample Collection Form

Project Number	:		
Project Name	:		
Sample Number	:	Type:	
Station Code	:	Dry:	(Y/N)
Collection Date	: / /	Quarter:	
Time	:		
Purpose	:		
QC Type	:		
QC Partner	:		
Volume Collected	:	Units:	
Collection Technique	:		

Sample Team Leader :
Member :
Member :
Prepared By :

Press J for Jump to Tracking
N for Next, D for Done, T to Edit This Form: (N/D/T)

ENTER DEPTH: Num

Surface Water Form

Project Number :
Sample Number :
Name :
Depth :

Water Body type	:		
Flow Rate	:	Flow Rate Method	:
Stream Width	:	Total Depth	:

Field Analytical Parameters

Air Temperature	:		Units	:	
Salinity	:		Temperature	:	
Saturation	:		eH	:	MV
Dissolved Oxygen	:	PPM	pH	:	
Chlorine	:	PPM	End Point #1	:	
Total Alkalinity	:	MG/L	End Point #2	:	
Specific Conductance	:		End Point #3	:	
Comments	:				

Press: M to Add/change to Another Depth, N for Next
P for Previous, D for Done, T to Edit This Form): (M/N/P/D/T)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FORM FO.14G

SCREENS 1, 2 and 3

RFEDS
Well Installation Form

Well Number:	Project Number: EMAD
Old Well No.:	

Area:		North or Y:	East or X:
Purpose:			
Formation:		Well Status:	
Contractor:		Drilling Method:	
Geologist:		Locator:	
Date Drilled:		Ground Elev:	ft.
Total Depth:	ft.	Stick Up:	ft.
Depth to Bedrock	ft.	Completed Depth:	ft.
Casing Diameter:	in.	Borehole Diam.:	in.
Monitoring Interval:	ft. to	ft.	
Initial Water Level:	ft.	Date:	
Completed Water Level:	ft.	Date:	

Item	From	To	I.D.	Type
Surface Seal:		ft.	ft.	
Protective Casing:		ft.	ft.	in.
Surface Casing:		ft.	ft.	in.
Secondary Casing:		ft.	ft.	in.
Centralizer:		ft.	ft.	in.
Bentonite Seal:		ft.	ft.	in.
Filter Pack:				
Volume:	cu. ft.			
Screen:		ft.	ft.	in.
Slot Size:		in.		
Sump:		ft.	ft.	in.
Backfill Seal:		ft.	ft.	
Backfill:		ft.	ft.	
Volume:	cu. ft.			

Well Number:	Project Number:

*Remarks:

DO NOT ENTER LITHOLOGY DESCRIPTIONS HERE!

SCREEN 1
Num
Lithology Sheet

Well: Interval:
Core Box Number:

Lithology Word: Inter-Bed Word:
Comments

Press D for done, N for Next, T to Edit This Form: (D/N/T)

SCREEN 2
Num
Chemical Borehole Sheet

Well Number: Sample Number:

Interval: 0.00 FT to 0.00 FT

Press D for done, N for Next, T to Edit This Form: (D/N/T)

SCREEN 3
Num
Gradational Grain Size Sheet

Well Number: Sample Number:

Interval: 0.00 FT to 0.00 FT

% Gravel	% Sand	% Sieve	% Silt	% Clay
0	0	0	0	0

Press D for done, N for Next, T to Edit This Form: (D/N/T)

ENTER SAMPLE NUMBER: Num

Sample Collection Form

Project Number :
Project Name :
Sample Number : Type:

Station Code : Dry: (Y/N)
Collection Date : / / Quarter:
Time :
Purpose :
QC Type :
QC Partner :
Volume Collected : Units:
Collection Technique :

Sample Team Leader :
Member :
Member :
Prepared By :

Press J for Jump to Tracking
N for Next, D for Done, T to Edit This Form: (N/D/T)

Pit and Trench Form

Sample Number: New Project Number: EMAD
Station Code:

Total Length: FT Section:
Comments:

Start	End	Length	Rad	OVM	USCS Horizon
FT	FT	FT	CPM	PPM	
FT	FT	FT	CPM	PPM	
FT	FT	FT	CPM	PPM	
FT	FT	FT	CPM	PPM	
FT	FT	FT	CPM	PPM	

Gen OVM: Gen RAD:

Press N for Next, P for Previous, D for Done, T to Edit This Form: (N/P/D/T)

Biological Sampling Data

Project Number:	Name:
Sample Number:	Sample Type:

Location Code	:	Area	:	Time	: :
Location Description	:	Notebook #	:	Page #	:
Accuracy ±	:	FT Grid X,Y	: ,	0	

Sample Sub-Type	:	Aquatic/Terrestrial	:
QA/QC Code	:	Lab ID	:
Number of Containers	:	Container Volume	:
Type of Containers	:	Analytical Suite	:
Tissue Type	:	Quarter	:
Chain of Custody No.	:	Crew Leader	:
Sample Purpose	:	Sample Weight	:
Comments	:		

Initital Sample Date	Final Sample Date	Ship Date	Sample StorageGen
/ /	/ /	/ /	
D for Done, T for This form:		(D/T)	

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT **FORM FO.14K**

ENTER BOTTLE ID: Num Caps

Sample Tracking Form

Project Number:	Name: EMAD		
Sample Number:		Sample Type:	
Bottle ID:		Location Code:	

Area	:	QA/QC Code	:
Lab. ID	:	Number of Bottles	:
Volume of Bottles	:	Shipping Manager	:
Parameter	: VOA-CLP		
Chain of Custody	:		
Comments	:		

Init Date	Final Date	Ship Date
/ /	/ /	/ /

(Press: M to Add/Change Another Bottle ID, N for Next, R for Remove
P for Previous, D for Done, T to Edit This Form): (M/N/P/D/T)

Ground Water Level Measurement Form

WELL NO :

Project Number : EMAD Name:
Well Number :
Date Measured: : / /

Depth to Water : FT
Measured by :
Comments :

Press M to Add/Change Another Well and Date, R to Remove this Level,
D for Done, T to Edit This Form : (M/T/D)

RADIOACTIVE AMBIENT AIR

AIR FLOW TABLE

Project Number: Sample Number:	Project Name:
Temperature: Air Flow: Field Person:	New-Filter Time Pressure: Meter Reading: Notes:
Check-Filter Date: Temperature: Airflow: Field Person:	Time: Pressure: Meter Reading: Notes:
Change-Filter Date: Temperature: Airflow: Field Person:	Time: Pressure: Meter Reading: Notes:

F1 for help - F10 to commit (save) - F6 to clear block
F7 to query (search) - shift F6 to delete - shift F10 to ESC to exit/cancel
Char Mode: Replace Page 1

APPENDIX FO.14A

APPENDIX FO.14A

RFEDS SAMPLE NOMENCLATURE CONVENTION

A.1 RFEDS SAMPLE NUMBERS AND TYPES

The EG&G sample numbers consist of a sample prefix that relates to the type of sample that was collected, a 5 digit number and a two character code indicating the company that collected the sample. In addition, in the case of sampling done for the Operational Units, the company code is followed by a U and the number of the operational unit. No slashes, dashes or spaces are allowed and the sample number entered into the field module must exactly match the sample number on the chain of custody.

A.2 ADDITIONS TO THE SAMPLE NUMBER

For Matrix Spikes and Matrix Spike Duplicates (MS/MSD), add MS or MSD to the end of the sample number. When labs require that lab replicates be taken in the field, these need to be identified by the letters LR added to the end of the sample number. Do not use suffixes to indicate duplicates, rinsates, etc.

SAMPLE PREFIX		SAMPLE TYPE
BI	Biological Samples	BI
BH	Borehole Samples - drilling samples	SB
GW	Groundwater Samples	GW
FT	Field Treatability Samples	FT
NP	NPDES Program Samples For Ponds	SW
SD	Surface Water Sediment Samples	SD
SS	Soil Samples	SS
SW	Surface Water Samples	SW
PW	Special Water Samples	PW
DR	Drum samples	DR
DW	Decon Pad Water Samples	DW
DS	Decon Pad Sediment Samples	DS

SAMPLE SUFFIXES	EXPLANATION
WC	Woodward-Clyde
ST	Stoller
EB	Ebasco
IT	International Technology
AS	ASI
RF	Rocky Flats

A.2.1 ADDITIONAL SAMPLE SUFFIXES FOR OPERATIONAL UNITS ONLY

SUFFIX	AREA	SUFFIX	AREA	SUFFIX	AREA
U1	OU1	U6	OU6	U11	OU11
U2	OU2	U7	OU7	U12	OU12
U3	OU3	U8	OU8	U13	OU13
U4	OU4	U9	OU9	U14	OU14
U5	OU5	U10	OU10	U15	OU15

EXAMPLE SAMPLE NUMBERS:

SW12345WC Surface water sample number 12345 collected by Woodward Clyde.

BHI2345EBU1 Borehole sample number 12345 collected by Ebasco as part of the OU1 investigation.

SSI2345ST Soil sample number 12345 collected by Stoller.

DW12345IT Decon Pad Water Sample 12345 by IT.

A.3 LOCATION CODES

A.3.1 BOREHOLES

00191 First three digits are the assigned numbers for a given Operational Unit, last two digits are the year the borehole was drilled. No spaces, slashes or dashes are allowed.

A.3.2 SURFACE WATER STATIONS

SW001 For every station except the ponds, the first two characters are always SW to indicate a surface water station. The last three numbers represent the station number. No spaces, slashes or dashes are allowed.

A4 Location codes for the pond water samples start with the pond designation followed by an abbreviation of the site where sample was taken. For example A4BG was taken at Pond A4 between the GAC filters. Those people taking pond samples will need to get an expanded list of pond sample locations from EMAD.

A.3.3 DECON PAD WATER TANKS

DW Location code for composite decon water tank samples.
DW1 Location code for Decon Pad Tank 1
DW2 Location code for Decon Pad Tank 2
DW3 Location code for Ocean Pad Tank 3
DW4 Location code for Decon Pad Tank 4
DW5 Location code for Decon Pad Tank 5

A.3.4 SEDIMENT STATIONS

SED001 Every sediment station has a prefix of SED followed by the number of the station. No spaces, slashes or dashes are allowed.

A.3.5 SOIL SAMPLES

No nomenclature system has yet been developed for the soil sampling location codes.

A.3.6 BIOLOGICAL SAMPLES

All biological locations will begin with the letters BI followed by 3 digits. Ebasco will have locations BIOO1 through BI200; Stoller will have BI201 through BI400. An example is shown below.

BI123 Biological Location 123

A.3.6 FIELD TREATABILITY STUDIES

FT001 All sites will have a prefix of FT followed by the number of the site. No spaces, slashes or dashes are allowed.

A.4 FIELD QA/QC CODES

CODE	EXPLANATION
RNS	Equipment Rinsate
REAL	Actual Sample (QC Partner)
DUP	Field Duplicate
TB	Trip Blank
FB	Field Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
LR	Lab Replicate

A.4.1 BOTTLE ID CODES

The following is a list of the bottle codes and the associated EPA analysis methods. These codes will be used for input into the RFEDS field tracking module.

METHOD CODES

CODE	DESCRIPTION		GRAASP
V	**CLP VOA PACKAGE**	**1.1**	**VOACLP**
VAR	VOA EPA METHOD 624 REGULATED LIST	1.2	VOA624
VAC	VOA EPA METHOD 624 COMPLETE LIST	1.3	VOA624
VBR	VOA EPA SW-846 METHOD 8240 REG. LIST	1.4	VOA8240
VBC	VOA EPA SW-846 METHOD 8240 COMP	1.5	VOA8240

VCR	VOA EPA METHOD 524.2 REGULATED LIST	1.6	VOA524.2
VCC	VGA EPA METHOD 524.4 COMPLETE LIST	1.7	VOA524.2
VDR	VOA EPA METHOD 502.2 REGULATED LIST	1.8	VOA502.2
VDC	VOA EPA METHOD 502.2 COMPLETE LIST	1.9	VOA502.2
VER	VOA EPA METHOD 601 REGULATED LIST	1.10	VOA601
VEC	VOA EPA METHOD 601 COMPLETE LIST	1.11	VOA601
VF	VOA EPA METHOD TO-14	1.12	VOATO-14
B	**SEMI-VOLS EPA CLP METHOD**	**1.13**	**BNACLP**
BAR	SEMI-VOLS EPA METHOD 625 REGULATED LIST	1.14	BNA625
BAC	SEMI-VOLS EPA METHOD 625 COMPLETE LIST	1.15	BNA625
BB	SEMI-VOLS EPA METHOD 625 BASE/NEUTRAL E	1.16	BNA625B
BCR	SEMI-VOLS EPA METHOD 1625 REGULATED L.	1.17	BNA1625
BCC	SEMI-VOLS EPA METHOD 1625 COMPLETE L.	1.18	BNA1625
BDR	SEMI-VOLS EPA METHOD 8270 REGULATED L.	1.19	BNA8270
BDC	SEMI-VOLS EPA METHOD 8270 COMPLETE L.	1.20	BNA8270
BER	SEMI-VOLS EPA METHOD 525 REGULATED L.	1.21	BNA525
BEC	SEMI-VOLS EPA METHOD 525 COMPLETE L.	1.22	BNA525
P	**PESTICIDES/PCB CLP METHOD**	**1.23**	**PESTCLP**
P	PCB CLP METHOD	1.23	PESTCLP
PAR	ORGANOCHLORINE PEST/PCB METHOD 608 REG.	1.24	PEST608
PAC	ORGANOCHLORINE PEST/PCB METHOD	1.25	PEST608

	608 COM.		
PBR	ORGANOCHLORINE PEST/PCB METHOD 505 REG.	1.26	PEST505
PBC	ORGANOCHLORINE PEST/PCB METHOD 505 C0M.	1.27	PEST505
PCR	ORGANOCHLORINE PEST/PCB METHOD 8080 REG.	1.28	PEST8080
FCC	ORGANOCHLORINE PEST/PCB METHOD 8080 COM.	1.29	PEST8080
PD	PCBS ONLY, BY EPA METHOD 8080 COMPLETE	1.30	PCB8080C
PE	CHLORINATED HERBICIDES METHOD 615	1.31	CLHERB615
PF	ORGANOCHLORINE HERBICIDES METHOD	1.32	HERB8150
PGR	CHLORINATED HERBICIDES METHOD 508 REG.	1.33	HERB508
PGC	CHLORINATED HERBICIDES METHOD 508 COM.	1.34	HERB508
PH	TRIAZINE PESTICIDES METHOD 619	1.35	TRIPES619
PI	TRIAZINE PESTICIDES METHOD 507	1.36	TRIPES5O7
PJ	PEST/PCB/HERB BY LIQUID CHROMATOGRAPHY MASS SPECTROMETRY DETECTION	1.37	PESTMS
PK	PEST/PCB/HERB BY LIQUID CHROMATOGRAPHY FLUORESCENCE DETECTION	1.38	PESTLC
PL	NITROSO-AMINES EPA METHOD 607	1.39	NAPEST607
PM	POLYNUCLEAR AROMATIC HYDROCARBONS METHOD 610	1.40	PHPEST61O
PN	DIOXIN (2,3,7,8-TCDD) EPA METH 613	1.41	DPEST6l3
M	**METALS (STANDARD & ADDITIONAL) CLP**		**METCLP**
M*	**METALS (STANDARD & ADD.) CLP DISSOLVED**		**DMETCLP**
MA	METALS STANDARD CLP	1.42	SMETCLP
MA*	METALS STANDARD CLP DISSOLVED	1.42	DSMETCLP

MB	ADD. CLP METALS (CS,CR,LI,MO,SI,SR,SN)	1.43	METADD
MB*	ADD. CLP METALS (CS,CR,LI,MO,SI,SR,SN)	1.43	DMETADD
MC	METALS BY ATOMIC ADSORPTION		METCLPAA
MC*	METALS BY ATOMIC ADSORPTION DISSOLVED		DMETCLPAA
W	STANDARD WATER QUALITY SUITE	1.44	WQPL
WA	TSS, TDS, CL, F, SO4, CO3, HCO3	1.44	WQPL
WBA	AMMONIA (NH4)	1.44	WQPL
WBB	TOTAL PHOSPHOROUS	1.44	WQPL
WBC	NITRATE/NITRITE as N (NO3/NO2 as N)	1.44	WQPL
WBD	TOTAL PHOSPHORUS & AMMONIA (NH4)	1.44	WQPL
WBE	NO3/NO2 as N, TOTAL PHOSPHOROUS & AMMONIA (NH4)	1.44	WQPL
WBF	NO3/NO2 as N, TOTAL PHOSPHOROUS	1.44	WQPL
WBG	NO3/NO2 as N, AMMONIA (NH4)	1.44	WQPL
WBH	NO3, AMMONIA (NH4)	1.44	WQPL
WC	OIL & GREASE	1.44	WQPL
WDA	O-PHOSPHATE	1.44	WQPL
WDB	NO2	1.44	WQPL
WDC	O-PHOSPHATE, NO2	1.44	WQPL
WE	CN	1.44	WQPL
WF	FECAL COLIFORMS, COLIFORM	1.50	WQPL
WG	COD	1.44	WQPL
WH	TOC	1.44	WQPL
WI	DOC	1.44	WQPL
WJ	SULFIDE AS H2S	1.44	WQPL

WK	CR6	1.44	WQPL
WL	pH and ALKALINITY	1.44	WQPL
WM	TOTAL KJELDAHL NITROGEN	1.44	WQPL
WN	BOD5, CBOD5	1.49	WQPL
WP	ACUTE TOXICITY TESTING	1.51	WQPL
WQ	BIOTA-OTHER	1.52	WQPL
R	TOTAL RADIONUCLEIDES (RA,RB,RC,RD,RE,RF,RG)		TRADS
R*	DISSOLVED RADIONUCLEIDES (RA,RB,RC,RD,RE,RF,RG)		DRADS
RA	GROSS ALPHA/BETA		TRADS
RA*	GROSS ALPHA/BETA DISSOLVED		DRADS
RB	PU239/240. AM241		TRADS
RB*	PU239/240, AN241 DISSOLVED		DRADS
RC	U233/234, U235, U238		TRADS
RC*	U233/234, U235, U238 DISSOLVED		DRADS
RD	SR89/90, CS137 (+CS134 WHEN BY GAMMA)		TRADS
RD*	SR89/90, CS137 DISS (+CS134 WHEN BY GAMMA)		DRADS
RE	RA226, RA228		TRADS
RE*	RA226, RA228 DISSOLVED		DRADS
RF	THORIUM 230/232, CM 244, NP 237		TRADS
RF*	THORIUM 230/232, CM 244, NP 237 DISSOLVED		DRADS
RG	TRITIUM		TRADS
RG*	TRITIUM DISSOLVED		DRADS
RH	RAD SCREEN		RS
RI	RA+RB+RC+RD (TYPICALLY SURFACE WATER)		TRADS
RI*	RA*+RB*+RC*+RD* (TYPICALLY SURFACE WATER)		DRADS

RJ	RA+RB+RC+RD+RG (TYPICALLY SEDIMENTS)		TRADS
RJ*	RA*+RB*+RC*+RD*+RG* (TYPICALLY SEDIMENTS)		DRADS
RK	RA+RC+RD+RE (TYPICALLY GROUNDWATER)		TRADS
RK*	RA*+RC*+RD*+RE* (TYPICALLY GROUNDWATER)		DRADS
RL	RA+RB+RC+RD+RF (TYPICALLY MONTHLY PONDS)		TRADS
RL*	RA*+RB*+RC*+RD*+RF* (TYPICALLY MONTHLY PONDS)		DRADS
RM	RA+RC (TYPICALLY GROUNDWATER)		TRADS
RM*	RA*+RC* (TYPICALLY GROUNDWATER)		DRADS
RN	RB+RC (PU239/240,AN241,U233/234 , U235,U238)		TRADS
RN*	RB*+RC*(PU239/240,AN241,U233/234 ,U235,U238)		DRADS
RP	RD+RE (TYPICALLY GROUNDWATER)		TRADS
RP*	RD*+RE* (TYPICALLY GROUNDWATER)		DRADS
RQ	RA+RB+RC+RD+RE (TYPICALLY FOR CORE SAMPLES)		
RQ*	RA*+RB*+RC*+RD* (TYPICALLY FOR CORE SAMPLES DISSOLVED)		
SA	OTHER SPECIAL ANALYSIS METHODS RADS		SPRAD
SB	OTHER SPECIAL ANALYSIS METHODS ORGANIC		SPORG
SC	OTHER SPECIAL ANALYSIS METHODS METALS		SPMET
SD	OTHER SPECIAL ANALYSIS METHODS WATER QUALITY		SPWQL
SE	OTHER SPECIAL ANALYSIS METHODS PEST/PCB		SPPPB
SF	EPA-TCLP GRANULATED ACTIVATED CARBON, FABRIC, PLASTICS REGULATED LIST	1.45	GACR
SG	EPA-TCLP GRANULATED ACTIVATED CARBON FABRIC, PLASTICS	1.46	GACC
SH	RCRA HAZ-WASTE CHAR. IGNITABILITY, CORROSIVITY, REACTIVITY, TOXICITY	1.47	ICRT
SI	SEQUENTIAL EXTRACTION OF TRACE ELEMENTS	1.48	OTHER

A.5 LIST OF RFEDS LAB CODES FOR ANALYTICAL LABS

LAB CODE	LABORATORY
123	123 LAB - ROCKY FLATS
881	881 LAB - ROCKY FLATS
ACCU	ACCULABS - WHEATRIDGE
ALPL	ALPHA LABS
ANAL	ANALYTICA
APPL	APPL LABS - FRESNO
ARNL	ARGONNE NATIONAL LABS
CHAD	CHADWICK
ECTC	ECO TEC
ITLC	IT LABS - CERRITOS
ITLK	IT LABS - KNOXVILLE/MIDDLEBROOK
ITLO	IT LABS - OAK RIDGE
ITPA	IT LABS - PITTSBURGH
ITLR	IT LABS - RICHLAND
NETL	NET LABS
RMAL	ROCKY MOUNTAIN ANALYTICAL - WHEAT RIDGE
RFWL	ROY F. WESTON ANALYTIC LAB - LIONVILLE
RFWS	ROY F. WESTON ANALYTIC LAB - STOCKTON
SAIR	SAIC LABS - ROCKVILLE .
SAIS	SAIC LABS - SAN DIEGO
TELI	TELEDYNE ISOTOPES
TMAE	TMA LABS - EBERLINE
TMAN	TMA LABS - NORCAL
TMAS	SKINNER & SHERMAN LABS - S&S
VIST	VISTA LABS - WHEATRIDGE
RFWG	WESTON-GULF COAST ANALYTICAL
SCTK	SCIENCE TECHNOLOGY
ITLSL	IT LAB, ST. LOUIS
ITLDL	IT TECH DEV LAB, KNOXVILLE