

ROCKY FLATS ENVIRONMENTAL
TECHNOLOGY SITE

EMD OPERATING
PROCEDURES MANUAL
VOL I: FIELD OPERATIONS

Manual No.: 5-21000-OPS-FO
New Manual No.: 4-11000-ER-OPS-FO
Procedure No.: Table of Contents, Rev 71
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Effective Date: 09/09/94
Organization: Environmental Management

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)

**EG&G
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FO.08	Handling of Drilling Fluids and Cuttings	2	05/12/92
FO.09	Handling of Residual Samples	2	05/12/92

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94-DMR-000558	Form Modification	2	04/15/94
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93-DMR-000530	Section FO.13 Modification	2	11/04/93
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94-DMR-000148	Section FO.23 Modifications	0	02/09/94
94-DMR-001108	Buried Instrumentation and Existing Soil	0	06/14/94
94-DMR-001350	Various Text Additions and Deletions Regarding Drums and Use of SOP FO.29	0	08/16/94

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FO.27	4-BO1-ER-OPS-FO.27 Collection of Floor/Equipment Hot Water Rinsate Samples	0	07/26/93
DCN 93.02	Fresh Water Samples	0	08/30/93
FO.29	4-H46-ENV-OPS-FO.29 Disposition of Soil and Sediment Investigation-Derived Materials	0	06/24/94
94-DMR-001226	Allowance of Procedural Use for Waste Piles	0	07/15/94
FO.32	4-I50-ENV-OPS-FO.32 Treated Effluent Discharge Operable Unit 1, Building 891	0	04/13/94

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Rocky Flats Environmental Technology Site

4-B29-ER-OPS-FO.14

REVISION 3

FIELD DATA MANAGEMENT

APPROVED BY: S.G. Stiger | S.G. Stiger | 7-27-94
 Director, Print Name Date
 EG&G Environmental Restoration Program Division

Steve Luker | R S LUKER | 7-26-94
 Quality Assurance Program Manager Print Name Date
 Data Management and Reporting Services

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Responsible Organization: Environmental Restoration Program Division Effective Date: 09/09/94 *lme*

CONCURRENCE BY THE FOLLOWING DISCIPLINES WILL BE DOCUMENTED IN THE PROCEDURE HISTORY FILE:

- Environmental Data Management and Reporting
- Environmental Operations Management
- ERM Solar Pond Projects
- Group 1 Closures
- Industrial Area OU Closures/D&D Team
- OU 2 Closure
- OU 4 Closure
- OU 5,6,7 Closures
- Performance Assurance

USE CATEGORY 3

ORC review not required

The following have been incorporated in this revision:
93-DMR-000490

This procedure supersedes procedure 5-21000-OPS-FO.14, Revision *2*

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1. PURPOSE

This procedure provides the method by which field data is recorded, entered into electronic form, validated, transferred, and filed at the Rocky Flats Environmental Technology Site (RFETS).

2. SCOPE

This procedure applies to all EG&G Rocky Flats, Inc. (EG&G) employees and subcontractors working with field data generated by any field-related sampling activities performed for RFETS Environmental Restoration Program Division (ERPD). This procedure encompasses information exchanged before field activities, the data handling process from the point of data collection by field personnel, and the filing and transmission of data to EG&G Rocky Flats Environmental Database System (RFEDS) personnel.

This procedure addresses the following topics:

- Preparations before sampling
- Data handling
- Data entry
- Sampling coordinate data
- Data transmittal to RFEDS.
- Security

This procedure is a total rewrite, and revision bars are omitted. This revision supersedes 5-21000-OPS-FO.14, Revision 2.

3. OVERVIEW

This procedure implements the requirements in the work plans, treatability studies, Quality Assurance Project Plan, and equivalent documents which direct the handling of data. In association with the documents specified above, this procedure implements the requirements for collection, handling, and entry of field data into the Environmental Database (EDB). This procedure is based primarily on the Rocky Flats Environmental Database Documentation Manual, Field Data Capture (Datacap) Users Guide, and conversations with representatives from EG&G. This procedure establishes minimum requirements, based on consultation with the Environmental Protection Agency (EPA) and Colorado Department of Health (CDH), to provide a sample to the laboratories for analysis, which will result in validated and defensible data.

4. PREREQUISITE ACTIONS

4.1 Planning and Coordination

Subcontractor or Project Manager

- [1] Identify the sample manager.
- [2] Designate a field data manager.
- [3] Ensure that the field data manager has the following qualifications:
 - A 2-yr degree in computer science, or 4 yr of relevant experience
 - A working knowledge of DOS, databases, dBase IV, and personal computers
- [4] Designate a technical reviewer for the data who is not involved with recording the data.
- [5] Ensure that the technical reviewer is qualified to verify the following:
 - That 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.

 - That all calculations, reported units, and all data are on all forms
- [6] Designate a Data Verifier to perform a quality control check of data entry.

RFEDS User System Manager (USM)

- [7] Designate an RFEDS data reviewer for the data.
- [8] Ensure that the RFEDS data reviewer is qualified to verify the consistency between the original data forms and the data in the EDB.
- [9] Train the subcontractor, and provide support on this system, as necessary.

4.2 Materials and Equipment

EG&G Project Managers

- [1] Ensure that the computer system has the following minimum requirements for the entry and transfer of the field data to EG&G:
 - 80386-based microcomputer
 - One parallel port
 - 3 1/2-in. high density disk drive
 - 20 MB of hard-disk space dedicated to Datacap

4.2 Materials and Equipment (continued)**EG&G Project Managers (continued)**

- VGA monitor and compatible drive
- Laser printer
- 2 MB RAM memory
- DOS, version 5.0 or higher
- Virus check software
- DBase IV, version 1.1
- Surge protector
- Computer backup capabilities to external media
- Secure disk storage

- [2] **IF** equipment other than that listed in Step [1] is required,
THEN obtain approval from RFEDS before using that equipment.

RFEDS USM

- [3] Inform all subcontractors and project managers of computer system changes or upgrades by memo.

5. INSTRUCTIONS-PREPARATIONS BEFORE SAMPLING**EG&G Project Manager**

- [1] Ensure that field data managers and data verifiers have been trained on the use of Datacap:

Field data managers, and data verifiers are required to be trained on Datacap before sampling. Documentation of Datacap training is required, with original documentation transmitted to the ERPD Central Records Center. Only the personnel trained by the RFEDS USM are permitted to enter data into the program. It is not acceptable for a subcontractor to train another subcontractor on Datacap. It is not acceptable for subcontractor personnel to train other personnel in the organization on Datacap. The field data manager is required to enter field parameters, sample event (sample collection), and tracking Chain of Custody (COC) information into Datacap.

- [2] Provide the following information in writing to the RFEDS USM before sampling:

- Project name and analytical charge number

The project name clearly defines the EG&G RFETS project. The analytical charge number is recorded on the top right-hand corner of the COC. Both the project name and charge number are entered into Datacap.

- EG&G project manager's name, group name, building number, office number, and phone number

The EG&G project manager is the point of contact for correspondence, management questions, data deliverable issues, and meetings.

- Subcontractor project manager and subcontractor data manager
- Scope of the project

The scope of a project corresponds to the types of samples obtained from the Field Sampling Plan in the OU work plan. In order for RFEDS to support the tracking of samples, and assignment of sample numbers and location codes, RFEDS is to be aware of all sample types for every project. Groundwater, surface water, surficial soil, sediment, bore hole, storm event, air monitoring, biological, soil trench, and buildings are all examples of EG&G RFETS sample types.

5. INSTRUCTIONS-PREPARATIONS BEFORE SAMPLING (continued)**EG&G Project Manager (continued)**

- Expected analytical suite

The RFEDS is provided with a list of the expected analytical suites for each medium to be sampled. Each analytical suite has an associated bottle code. These codes are used for the COC, and input into the Datacap module.

- Projected start date and project duration

In order for RFEDS to assign location codes, track samples, and provide field data deliverable reports, RFEDS is to know the project start date and expected duration of the project.

- Projected number of new location points and number of samples collected

RFEDS supplies blocks of location codes and sample numbers for all projects. The location code is the actual physical location at RFETS and surrounding areas. The sample number is a unique identifier for a sample. Typically one location has many sample numbers. The project manager provides the total numbers of anticipated locations and samples per location (including quality control samples) to RFEDS.

- Confirmation of naming convention of existing locations

The project manager confirms the existing location codes with the Geographical Information Systems (GIS) group in RFEDS. For example, if a sample is collected from a Rocky Flats pond, the actual pond name needs to be confirmed.

- [3] Inform RFEDS in writing of the unused location codes and sample numbers at the completion of a project.

RFEDS USM

- [4] **WHEN** information is received from the EG&G project manager, **THEN** provide the following information or verification in writing to the EG&G project manager within 5 working days:

- Existing location verification

Many of the media sampled at RFETS use existing locations. When an existing location is used at RFETS, the project manager confirms the location with RFEDS. The confirmation process includes the validity of the location code, and the presence of survey coordinates in the EDB.

5. INSTRUCTIONS-PREPARATIONS BEFORE SAMPLING (continued)**RFEDS USM (continued)**

- New location assignment

RFEDS generates and provides to the project manager all new location codes, to ensure standardized and unique location codes. The new location codes are provided to the project manager. Appendix 1, ERPD Location Identifier Nomenclature Convention provides further information on location codes. RFEDS verifies all location codes transmitted by Datacap against existing locations or new locations assigned by RFEDS.

- Sample number assignment

RFEDS generates and provides to the project manager all new sample numbers, to ensure standardized and unique sample numbers. Appendix 2, ERPD Sample Number Nomenclature Convention provides further information on sample numbers. RFEDS verifies all sample numbers transmitted by Datacap against new sample numbers assigned by RFEDS, and a check for errors and duplicates.

- COC number

The COC number is preprinted on the top right portion of the COC. Procedure 2-B35-ER-OPS-FO.13, Containerization, Preserving, Handling, and Shipping of Soil and Water Samples, provides detailed instructions on the COC.

- Codes and abbreviations

RFEDS provides applicable lists of the codes and abbreviations. Appendixes 3 through 9 provide examples of codes and abbreviations that are required in data transmissions to RFEDS. The RFEDS USM is contacted for a current complete listing of these ERPD codes and abbreviations. This information is stored in the EDB in the following tables:

- Project name and analytical charge number: LU_PROJECT_NAME
- Subcontractors: LU_SAMPLE_CONTRACTOR
- Sample types: LU_SAMPLE_TYPE
- Dispositions: LU_DISPOSITIONS
- Quality control codes for field samples: LU_SAMPLE_QC_CODE
- Analytical and geotechnical laboratories: LU_LABID
- Sample preservatives: LU_PRESERVATIVE
- Sampling media: LU_MEDIA
- Bottle codes for analytical suites: LU_BOTTLEID

5. INSTRUCTIONS-PREPARATIONS BEFORE SAMPLING (continued)**EG&G Project Manager**

- [5] **WHEN** information is received from the RFEDS group,
THEN provide the following information in writing to the subcontractor or others collecting the samples:
- Location codes
 - Sample numbers
 - Codes and abbreviations

6. INSTRUCTIONS-DATA HANDLING**6.1 Field Data Collection****Sample Crew Personnel**

- [1] Complete all applicable entries on the forms listed in Step 6.2[4] in the field.
- [2] Keep a permanent record of the implementation of this procedure by documenting field observations and data on field data forms.
- [3] Record the field observations and data with black waterproof ink on field data forms.
- [4] Record all data collected from the field on pre-printed forms (Appendix 10).

Data are collected in compliance with the related sampling procedure. Each procedure includes a copy of the appropriate data forms used during sampling. The current Datacap module 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 procedures. Included within this procedure 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, Pit and Trench Form
- Form FO.14H, Biological Sampling Form
- Form FO.14I, Groundwater Level Measurement Form
- Form FO.14J, Soil Gas Form
- Form FO.14K, Radioactive Ambient Air Flow Form
- Form FO.14L, Sample Collection Form

6.1 Field Data Collection (continued)**Sample Crew Personnel (continued)**

Forms FO.14B through J and L match the computer screen accessed when entering data into Datacap. Each field of each form is defined in the Datacap Users Guide, version 1.1.

To the extent possible, the format of the form is in the same order as the electronic form in Datacap to assist the field personnel in entering data into Datacap with more efficiency and accuracy. Appendix 10, Datacap Data Entry Forms, provides the Datacap data entry forms.

6.2 Data Receipt and Completeness Check

The purpose of this section is to start the verification process by receiving and briefly reviewing the data. This task ensures that the forms are complete before entry into Datacap.

Sample Crew Personnel

- [1] Deliver the field data forms and corresponding COCs to the sample manager by the end of each day of field operations.

Sample Manager

- [2] Initial and date the form.
- [3] Review the field data forms for completeness, and verify that all of the field forms have been received.
- [4] Discuss and resolve any discrepancies with sample crew personnel, and clarify or complete immediately.
- [5] Record any and all corrections, changes, or insertions made as a result of discrepancy resolution in the Sample Manager's log.
- [6] **IF** a discrepancy cannot be resolved legitimately, **THEN** inform the project manager in writing.

6.3 Technical Data Verification**Qualified Technical Reviewer**

- [1] Perform a technical verification on the data.
 - [A] 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.
 - [B] Verify all calculations, reported units, and all data on all forms.
 - [C] Verify that the correct number of quality control samples were collected.
 - [D] **IF** potential errors are detected in the data report sheet,
THEN confer with sampling crew personnel before changing any information.
 - [E] Ensure that documentation of the verification of data in this record includes the date of verification and the initials of the verifier.
 - [F] Record any and all corrections, changes, or insertions made as a result of discrepancy resolution in the Technical Reviewer's log.
 - [G] **IF** a discrepancy cannot be resolved legitimately,
THEN inform the project manager in writing.

6.4 Delivered COC Copy**Sample Manager**

- [1] Verify that the COC is complete and error-free in accordance with 2-B35-ER-ADM-FO.13.
- [2] **WHEN** the COCs are complete, accurate, and error-free,
AND before samples are shipped to the contract laboratory,
THEN copy all COCs on a daily basis.
- [3] Place the copies of the COCs in the marked in-box at Trailer T891E in the EG&G RFETS subcontractor's trailer yard.

Delivery of this copy is to be no later than 9:00 A.M. of the working day following sample shipment.

6.5 Capture of Extraordinary Data

NOTE *The database is populated from environmental sample collection crews through two sources. The initial source is the COC that is copied before shipment, identified in Section 6.4, Delivered COC Copy. The primary source is the field data capture program known as Datacap. The RFEDS group is responsible for managing all data in the EDB.*

EG&G Project Manager

- [1] **IF** field information is extraordinary and **NOT** entered into Datacap, **THEN** perform one of the following:
- [A] Work with the RFEDS USM to develop a new module in the Datacap program.
 - [B] New modules are developed in Datacap when unusual field sampling activities become common.
 - [C] Work with the RFEDS USM to upload extraordinary field sampling information by methods other than Datacap.
- [2] **IF** sampling data is **NOT** going to be stored in the EDB, **THEN** document in interoffice correspondence to the RFEDS USM where:
- The information is stored.
 - Who is storing the information.
 - Why the EDB does not have the information.

7. **INSTRUCTIONS-DATA ENTRY**

Sample Manager

- [1] **WHEN** the field data have been reviewed and found to be complete, **THEN** provide information to the field data manager who inputs the data into Datacap in accordance with the instructions presented in Sections 6.3.1 through 6.3.6.

7.1 Sample Collection Data Entry

Field Data Manager

- [1] Enter the sample collection data:
- [A] Enter the following basic sample collection data into the Sample Collection section of Datacap within 48 hr of the sampling event:
 - Sample number
 - Location
 - Type of sample
 - Quality control code (such as DUP, RNS, FB, OR TB)

7.1 Sample Collection Data Entry (continued)**Field Data Manager (continued)**

- [B] IF a sample was scheduled to be collected,
AND no sample was taken due to a particular circumstance, such as a dry well,
THEN record this information in the Sample Collection section of Datacap with
an appropriate disposition describing why no sample was collected.

7.2 Field Parameters Data Entry**Field Data Manager**

- [1] IF field parameters are measured,
THEN enter field parameters into the appropriate Datacap module within 48 hr of the
sampling event, preferably immediately after entering the sample collection data.

Field parameters include, but are not limited to, the following:

- Sample depth
- Water temperature
- pH
- Dissolved oxygen
- Specific conductivity

- [2] Ensure that all parameters taken (all those required by the procedure for this
medium) are entered into Datacap.

7.3 Tracking Data Entry**Field Data Manager**

- [1] Enter COC information (also referred to as tracking information) into the Tracking
section of Datacap within 2 days of sample shipment to the contract laboratory.
- [A] Obtain the COC information from the COC form that accompanies the sample.
- [B] Ensure that the COC information entered includes:
- Sample contractor or subcontractor.
 - Charge number.
 - COC number.
 - Destination laboratory.
 - Sample number.
 - Sample location.
 - Contact person and phone number.
 - Sample team members.
 - Date sampled.
 - Time sampled.
 - Media sampled.

7.3 Tracking Data Entry (continued)**Field Data Manager (continued)**

- Analytical rush request.
- Analytical out of specification report request.
- Filtered or unfiltered.
- Preservatives added.
- Bottle code and requested analytical suite.
- Date and time shipped.
- Shipment method.
- Airbill number.

7.4 Feedback to Subcontractor from Contract Laboratory**EG&G Project Manager**

- [1] **WHEN** a contract laboratory informs the subcontractor or project manager that sample(s) arrived broken or unsealed,
THEN:

[A] Immediately notify the sample manager by phone.

[B] Notify the RFEDS USM by memo.

- [2] **IF** changes are made after the COC copy has been sent to RFEDS, or after samples have been sent to analytical laboratories,
THEN communicate all changes to the EG&G RFEDS USM, analytical laboratories, and the EG&G Contract Technical Representative representing the validation contractor by memo.

The validation contractor reviews information received by analytical laboratories and provides codes of data acceptance.

- [3] Ensure that the memos identified in Steps [1] and [2] include:
- COC number.
 - Description of the change.
 - An attached copy of the original COC with the correction.
 - Person contacted at analytical laboratory and date of contact.
- [4] Report all changes as stated above within 48 hr of the correction.
- [5] Implement 2-B35-ER-OPS-FO.13 to correct the COC.

7.4 Feedback to Subcontractor from Contract Laboratory (continued)**RFEDS USM**

- [6] Adjust the appropriate records in the EDB to reflect the change in sample status.
- [7] Provide written documentation to the project manager that the memos identified in Steps 7.4[1] and 7.4[2] were received and acted upon.

7.5 Data Verification

NOTE *This step ensures that the data recorded in Datacap are the same as the data recorded on the field data forms.*

Field Data Manager

- [1] Print the data using the report option of the Datacap program.
- [2] Arrange for the reports (Forms FO.14B through L) to be delivered with the original field data forms to the designated data verifier.

A data verifier confirms that the data were correctly input by the field data manager. The data verifier is not to be the same person who entered the data originally.

Data Verifier

- [3] Compare the original field data form and the printed report for accuracy.
- [4] **IF** transcription errors are found,
THEN:
 - [A] Mark the errors in red on the printed report.
 - [B] Return the report to the data entry person for corrections.
- [5] Ensure documentation of verification by recording the following information on the printed Datacap report:
 - Date of verification
 - Initials of the verifier

Field Data Manager

- [6] Correct errors, and generate a new copy of the report.

7.5 Data Verification (continued)**Field Data Manager (continued)**

- [7] **WHEN** verification of the corrections is complete,
THEN cancel the obsolete copy by completing the following steps.
- [A] Draw a line diagonally across the copy.
 - [B] Write *Replaced* on the obsolete copy.
 - [C] Initial and date obsolete copy.
 - [D] Place obsolete copy in the history file.
- [8] Perform a final quality check of the data entered in Datacap to verify that all samples intended to be collected were:
- Collected.
 - Shipped.
 - Entered into Datacap.
- [9] Verify that samples that were intended to be collected, but not collected, are:
- Clearly noted.
 - Verified.
 - Entered into Datacap.

7.6 Geologic Logging Data

NOTE *The borehole logging module is integrated with the geologic logging package to aid in the creation of a graphic borehole log. The commercial geologic logging package is Rockware's LOGGER software. The procedure for inputting, verifying, and delivering this data is provided in this section.*

Sample Crew Personnel

- [1] Complete and verify the appropriate forms outlined in 5-21000-OPS-GT.01, Logging Alluvial and Bedrock Material, and in 5-21000-GT.06, Monitoring Wells and Piezometer Installation.

All drilled boreholes and wells have the corresponding documentation completed from GT.01 and GT.06.

- [2] Submit forms GT.01A and GT.06 to the EG&G logging supervisor for approval.
- [3] **WHEN** approval by the EG&G logging supervisor is received,
THEN give the documentation required in GT.01 and GT.06 to the field data manager for entry into the database.

7.6 Geologic Logging Data (continued)**Field Data Manager**

- [4] Enter the information provided on the GT.01 and GT.06 forms into the log field data capture program known as *Logit*.

Detailed data entry information is in the Logit Users Guide. All updates, corrections, or deletions are made using the Logit program.

- [5] Print the borehole logger data using the *Print QA/QC Report* option of the Logit program.
- [6] Arrange for the Logit QA/QC reports to be delivered along with the original field logs to the designated data verifier.

Data Verifier

- [7] Compare the original field log and the Logit QA/QC report for accuracy.

- [8] **IF** transcription errors are found,
THEN:

[A] Mark the errors in red on the Logit QA/QC report.

[B] Return the marked report to the field data manager for corrections.

- [9] Document the report verification by dating and initialing the Logit QA/QC report.

Field Data Manager

- [10] **IF** the data verifier returns a Logit QA/QC report containing errors,
THEN:

[A] Correct errors in the Logit program.

[B] Generate a new copy of the Logit QA/QC report.

[C] Verify that the corrections were made.

[D] Cancel the old copy of the Logit QA/QC report in accordance with Step 7.5[7].

- [11] **WHEN** the data are:

- Complete,
- Correct,
- Verified,

THEN convert the data for a given well into **LOGGER** format using Logit.

7.6 Geologic Logging Data (continued)**Field Data Manager (continued)**

- [12] **WHEN** the data has been converted,
THEN generate a graphic geologic log using the **LOGGER** program.

Data Verifier

- [13] Compare the graphic geologic log to the Logit QA/QC report to verify that the information is complete.
- [14] **IF** the information in the Logit QA/QC report is complete,
THEN go to Step [16].
- [15] **IF** the information in the Logit QA/QC report is **NOT** complete,
THEN return the incomplete report to the Field Data Manager for completion.

Logging Geologist

- [16] Compare the graphic geologic log to the original field log sheets to verify that the information is correct.
- [17] **IF** discrepancies are found between the graphic geologic log and the original field log sheets,
THEN:
- [A] Correct the errors using a red pen.
- [B] Return the marked graphic geologic log to the field data manager to initiate a repeat of Steps [8] through [12].

All changes, updates, corrections, and deletions are made using the Logit program.

- [18] **IF** discrepancies are **NOT** found between the graphic geologic log and the original field log sheets,
THEN document the report verification by dating and initialing the printed graphic geologic log.
- [19] Deliver the graphic geologic log and the corresponding field log sheets to the EG&G logging supervisor.

EG&G Logging Supervisor

- [20] Review the graphic geologic log and corresponding field log sheets.
- [21] **IF** the graphic geologic log is acceptable,
THEN:
- [A] Identify the graphic geologic log as a *DRAFT* log.

7.6 Geologic Logging Data (continued)**EG&G Logging Supervisor (continued)**

[B] Submit the draft log to the EG&G project manager for approval.

[22] **IF** the graphic geologic log is **NOT** acceptable,
THEN:

[A] Mark all necessary changes in red.

[B] Return the marked-up graphic geologic log to the field data manager to initiate a repeat of Steps [8] through [18].

EG&G Project Manager

[23] Review the graphic geologic log and corresponding field log sheets.

[24] **IF** the graphic geologic log is acceptable,
THEN:

[A] Identify the graphic geologic log as a *FINAL*.

[B] Notify the field data manager by way of memo that the graphic geologic log is in final format.

[25] **IF** the graphic geologic log is **NOT** acceptable,
THEN:

[A] Mark all necessary changes in red.

[B] Return the marked-up graphic geologic log to the EG&G logging supervisor.

EG&G Logger Supervisor

[26] **IF** a graphic geologic log is received from the EG&G project manager for corrections or additional work,
THEN return the unacceptable graphic geologic log to the field data manager to initiate a repeat of Steps [8] through [23].

Field Data Manager

[27] **WHEN** a memo is received from the project manager announcing that the graphic geologic log is in final format,
THEN:

[A] Transmit the logger data to the RFEDS USM using the transmit option of Logit.

[B] Provide a copy of this transmitted data to the EG&G Logger Supervisor.

7.6 Geologic Logging Data (continued)**RFEDS USM**

- [28] Upload the Logit transmitted logger information into the EDB.
- [29] Produce and provide graphic geologic logs to the EG&G logger supervisor.

EG&G Logger Supervisor

- [30] Perform a final quality control check, comparing the final log to the graphic geologic log produced from RFEDS.
- [31] **IF** discrepancies are found,
THEN transmit a memo to RFEDS requesting that the *incorrect information* in EDB be corrected.
- [32] **IF** discrepancies are **NOT** found,
THEN notify RFEDS by way of memo that the graphic geologic log in the EDB is correct.

RFEDS USM

- [33] **IF** discrepancies are identified by the EG&G logger supervisor between the final log and the graphic geologic log produced from the EDB,
THEN:
 - [A] Make the necessary corrections.
 - [B] Transmit a discrepancy report to the EG&G project manager on the changes that were made to the EDB.

8. INSTRUCTIONS-SAMPLING COORDINATE DATA

NOTE *The maximum allowable delivery date for the information requested in this section is 60 days after completion of the program.*

EG&G Project Manager

- [1] Provide location coordinates for the sampling sites to the EG&G Sample Management GIS group in either ASCII format or on a topographic map.
- [2] **IF** a format other than ASCII or a topographic map is required,
THEN obtain approval from the RFEDS GIS manager for the use of a different format.

8.1 Surveyed Sampling Sites**EG&G Project Manager**

- [1] Provide the information for the surveyed sampling sites in an ASCII format on a 3 1/2-in. double-sided diskette with the following information:
 - Location code
 - X coordinate (easting) in State Plane Units (feet), Zone 3476, NAD27
 - Y coordinate (northing) in State Plane Units (feet), Zone 3476, NAD27
 - Elevation in feet
 - Survey method (survey, global positioning system, tape and measure)
 - Survey source (company that surveyed location)

8.2 Digitized from a Map**EG&G Project Manager**

- [1] Provide sampling sites identified with a location code on a (topographic) map to the RFEDS GIS group.
- [2] Ensure that the map contains X and Y coordinate reference points, and is on the smallest scale possible, to increase location accuracy.

EG&G Sample Management GIS Group

- [3] Digitize this information, or arrange for it to be done by a subcontractor.

9. INSTRUCTIONS-DATA TRANSMITTAL TO RFEDS

NOTE *Field information and sample event data are to be transmitted to RFEDS within 5 working days after the sample date. Tracking data are to be submitted to RFEDS within 5 days after samples are relinquished to the analytical laboratories.*

Field Data Manager

- [1] Transmit the field information and sample event (sample collection) data to RFEDS.
- [2] Submit the tracking data (COC) to RFEDS.
- [3] Perform a backup of the Datacap databases before transmitting data.
- [4] Create export files onto a 3 1/2-in. high density double-sided diskette using the Datacap transfer option.

9. INSTRUCTIONS-DATA TRANSMITTAL TO RFEDS (continued)**Field Data Manager (continued)**

- [5] Identify the diskettes with:
- Subcontractor company name.
 - Project name.
 - Date of transmittal.
 - Type of data.
- [6] If a subcontractor name is not applicable, the responsible ERPD organization name is to be used.
- [7] Include the following with the data transmittal, and hand-deliver the data package to the designated EG&G RFEDS representative:
- 3 1/2-in. data diskette containing Datacap data
 - Field Data Transmittal Form (FO.14A)
 - All corresponding blue copies of the COCs
- [8] Make a duplicate copy of these diskettes, and file the diskettes with the original field data forms and the copies of the verified, initialed, and dated reports at the subcontractor's field facilities.

Datacap automatically copies all transmitted data to the hard disk in an archived form.

RFEDS USM

- [9] Verify all transmitted records for accuracy and completeness.
- [10] Report all potential discrepancies to the EG&G project manager.
- [11] **IF** any discrepancy potentially affects data quality or validity,
THEN initiate a discrepancy report to the data originator.

10. INSTRUCTIONS-SECURITY

Access and backup requirements for the RFEDS data base server are contained within the RFEDS Computer Protection Plan approved by Technical Security.

Field Data Manager

- [1] Ensure that all of the computers utilizing Datacap for field data collection are kept in a secure location, and utilize a power on password.
- [2] **WHEN** the Datacap data bases are used,
THEN perform a backup to external media by the end of the working day, and maintain the backup for a minimum of four weeks.

11. RECORDS

All of the records generated as a result of this procedure are considered quality records and are a part of the Administrative Record for the site for which the records are generated. These records are transmitted to the ERPD Central Records Center (CRC) in accordance with 2-G18-ER-ADM-17.01, Quality Assurance Records Management, and 3-21000-ADM-17.02, Administrative Records Screening and Processing.

EG&G Project Manager

Ensure that the following authenticated quality-related records and Administrative Records are transmitted to the CRC:

- Field forms FO.14A through FO.14L (Appendix 10)
- Original COC forms
- Field forms presented in 5-21000-OPS-FO.01
- Original field logs
- Graphic geologic logs
- Digital logs
- Correspondence concerning field data
- Data discrepancy reports
- Survey data on sample collection locations

12. REFERENCES

Datacap Users Guide, version 1.1

Datacap Users Guide, version 2.0

Field Data Capture (Datacap) Users Guide

Logit Users Guide

Rocky Flats Environmental Database Documentation Manual

2-B35-ER-OPS-FO.13, Containerization, Preserving, Handling, and Shipping of Soil and Water Samples (use 3-21000-OPS-FO.13 until reissued)

2-G18-ER-ADM-17.01, Quality Assurance Records Management (use 3-21000-ADM-17.01 until reissued)

3-21000-ADM-17.02, Administrative Records Screening and Processing

5-21000-OPS-GT.01, Logging Alluvial and Bedrock Material

5-21000-OPS-GT.06, Monitoring Wells and Piezometer Installation

APPENDIX 1

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ERPD LOCATION IDENTIFIER NOMENCLATURE CONVENTION**LOCATION CODES**

A location code identifies where an environmental sample was collected. All location codes are to originate from the RFEDS USM. If a location has already been identified, the RFEDS USM is to be contacted for the correct existing name. In the following sections, individual location code nomenclature is defined. When defining a location that is not listed in the following sections, the RFEDS USM is to be contacted. Existing location codes in the EDB may or may not follow the nomenclature listed below, as in many cases, standards were not established on historical locations. As established with this procedure, the location code suffix is a two-digit identifier representing the year the location was scheduled to be assigned. The two-digit year identifier may conflict with the current year when a project extends across more than 1 year. This conflict is acceptable to the EDB; however, if this is not acceptable with the project manager, then the project manager is responsible for requesting reassignment of location codes. If a reassignment is deemed necessary, then it is done through the RFEDS USM.

New Wells and Borehole Location Codes

Location codes for new wells and boreholes are assigned in advance by the RFEDS USM. One number is assigned to a borehole if a well is installed. If a well, piezometer, or other monitoring device is installed in the borehole, the number remains the same as that of the borehole. Multiple completion wells in the same borehole are numbered on a case-by-case basis, as determined jointly by RFEDS and Geosciences.

The well and borehole numbering system consists of five digits. The first three digits represent a number from an assigned block of sequential numbers, followed by two digits representing the year the borehole was scheduled to be drilled. No spaces, slashes, or dashes are permitted in wells or borehole location codes.

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Surface Water Location Codes

Surface water location codes are assigned in advance by the RFEDS USM. Surface water location codes, except the ponds, consist of seven alphanumeric characters. The two-character prefix is SW indicating a surface water location. The next three digits represent a number from an assigned block of sequential numbers, and the last two digits represent the year the new surface water station was scheduled to be identified. No spaces, slashes, or dashes are permitted in the surface water location code. Written approval from the RFEDS USM is required when this surface water nomenclature is not followed.

Ponds are represented by a two-character identifier. Existing pond location codes have been identified in the EDB. When further location identification for the ponds is necessary, an expanded list is obtained from the RFEDS USM.

Decon Pad Water Tanks Location Codes

Decon pad water tanks are represented by three alphanumeric characters. Existing decon pad water tanks have been identified in the EDB. When it is necessary to composite more than one location together for a sample, or if additional location identifiers are required, the RFEDS USM is to be contacted on the appropriate location identifier.

Sediment Location Codes

Sediment location codes are assigned in advance by the RFEDS USM. Sediment location codes consist of eight alphanumeric characters. The three-character prefix is SED indicating a sediment location. The next three digits represent a number from an assigned block of sequential numbers, and the last two digits represent the year the sediment location was scheduled to be identified. No spaces, slashes, or dashes are permitted in sediment location codes. Written approval from the RFEDS USM is required when this sediment nomenclature is not followed.

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Surficial Soil Location Codes

Surficial soil location codes are assigned in advance by the RFEDS USM. Surficial soil location codes consist of eight alphanumeric characters. The two-character prefix is SS indicating a surficial soil location. The next four digits represent a number from an assigned block of sequential numbers, and the last two digits represent the year the surficial soil location was scheduled to be identified. No spaces, slashes, or dashes are permitted in the surficial soil location codes. Written approval from the RFEDS USM is required when this surficial soil nomenclature is not followed.

Biological Location Codes

Biological location codes are assigned in advance by the RFEDS USM. Biological location codes consist of eight alphanumeric characters. The first two-character prefix is BI indicating a biological location. The next four digits represent a number from an assigned block of sequential numbers, and the last two digits represent the year the biological location was scheduled to be identified. No spaces, slashes, or dashes are permitted in biological location codes. Written approval from the RFEDS USM is required when this biological nomenclature is not followed.

Air Monitoring Location Codes

Air monitoring location codes are assigned in advance by the RFEDS USM. Air monitoring location codes consist of seven alphanumeric characters. The first two-character prefix is AM indicating an air monitoring location. The next three digits represent a number from an assigned block of sequential numbers, and the last two digits represent the year the air monitoring location was scheduled to be identified. No spaces, slashes, or dashes are permitted in the air monitoring location codes. Written approval from the RFEDS USM is required when this air monitoring nomenclature is not followed.

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Trench Location Codes

Trench location codes are assigned in advance by the RFEDS USM. Trenching location codes consist of seven alphanumeric characters. The two-character prefix is TR indicating a trench location. The next three digits represent a number from an assigned block of sequential numbers, and the last two digits represent the year the trench was scheduled to be identified. No spaces, slashes, or dashes are permitted in the trench location codes. Written approval from the RFEDS USM is required when this trench nomenclature is not followed.

Soil Gas Location Codes

Soil gas location codes are assigned in advance by the RFEDS USM. Soil gas location codes consist of eight alphanumeric characters. The two-character prefix is SG indicating a soil gas location. The next four digits represent a number from an assigned block of sequential numbers, and the last two digits represent the year the soil gas location was scheduled to be identified. No spaces, slashes, or dashes are permitted in the soil gas location codes. Written approval from the RFEDS USM is required when this soil gas nomenclature is not adhered to.

APPENDIX 2

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ERPD SAMPLE NUMBER NOMENCLATURE CONVENTION

The ERPD sample numbers consist of a two-character sample prefix that relates to the type of sample that was collected, followed by a five digit-number, and a two-character code indicating the company that collected the sample. The RFEDS USM is to be contacted for a block of unique sample numbers.

Rules for Assigning Sample Numbers

A sample number is associated with an environmental sample collected. Each sample has a unique sample number, but one sample number may correspond to many analytical suites. With the exception of Matrix Spikes, Matrix Spike Duplicates (MS/MSD), and Lab Replicates, quality control samples receive their own unique sample number.

Unique Borehole Sample Number Assignment

At RFETS, borehole sampling is conducted in increments of 2 ft to enhance sample recovery. A composite sample is made up of a 6-ft take. This composite receives one sample number. A Volatile Organic Analysis (VOA) sleeve in a borehole receives its own unique sample number due to the sleeve collection method instead of a composite method.

APPENDIX 3

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ERPD SUBCONTRACTORS

All contractors or subcontractors who collect environmental samples for EG&G RFETS have a two-character abbreviation corresponding to the company name. These abbreviations are assigned by the RFEDS USM. The following is a partial listing of the contractor or subcontractor's name along with the abbreviation. The RFEDS USM is to be contacted for a complete list of sampling contractors. This information is stored in the EDB in a table named LU_SAMPLE_CONTRACTOR.

<u>CONTRACTOR/ SUBCONTRACTOR ABBREVIATION</u>	<u>CONTRACTOR/ SUBCONTRACTOR COMPANY NAME</u>
AE	Rust Environment and Infrastructure
AS	Advanced Sciences Incorporated (ASI)
CH	CH2MHill
DM	Dames and Moore
EB	Ebasco Environmental
EG	EG&G Rocky Flats
ER	ERPD - Rocky Mountain
GS	United States Geological Survey (USGS)
IT	International Technology Corporation
JE	Jacobs Engineering
RE	Riedel Environmental
RG	Resource Technology Group
SA	Science Applications International Corporation (SAIC)
ST	S. M. Stoller
WA	Wastren Incorporated
WC	Woodward Clyde
WS	R. F. Weston

APPENDIX 4

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ERPD SAMPLE TYPES

Listed below are examples of sample types and the corresponding two-character abbreviation. The RFEDS USM is to be contacted for a complete listing of sample types. This information is stored in the EDB in the table named LU_SAMPLE_TYPE.

<u>SAMPLE TYPE</u> <u>ABBREVIATION</u>	<u>TYPE</u>
AM	Air Monitoring Sample
AS	Asphalt Sample
BH	Borehole Sample - Drilling Sample
BI	Biological Sample
BU	Building Sample
DR	Drum Sample
DS	Decon Pad Sediment Sample
DW	Decon Pad Water Sample
FP	Filter Process
FT	Field Treatability Sample
GW	Groundwater Sample
HY	Fire Hydrant Water Sample
PT	Pit or Trench Sample
SD	Sediment Sample
SG	Soil Gas Sample
SS	Surficial Soil Sample
SW	Surface Water Sample
VE	Vadose Zone Water Extraction Sample
VW	Surveillance Surface Water Sample
WT	Waste Sample

APPENDIX 5

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ERPD DISPOSITIONS

The disposition describes why a sample that was scheduled to be collected, for some reason, was not collected. EDB disposition default for collected samples is sampled, otherwise the following are examples of possible dispositions. The RFEDS USM is to be contacted for a complete disposition list. This information is stored in the EDB in a table named LU_DISPOSITION.

<u>DISPOSITION</u>	<u>DESCRIPTION</u>
SAMPLED	SAMPLE WAS COLLECTED
NEVER SHIPPED	SAMPLE WAS COLLECTED BUT NEVER SHIPPED TO THE LABORATORY
WET	SOIL SAMPLE WAS COLLECTED BELOW THE WATER TABLE
BROKEN BOTTLE	NO SAMPLE TAKEN, BOTTLE WAS BROKEN
DRY	NO SAMPLE TAKEN, WELL WAS DRY
EQUIPMENT	NO SAMPLE TAKEN, EQUIPMENT PROBLEMS
FROZEN	NO SAMPLE TAKEN, WATER SURFACE WAS FROZEN
NO DISCHARGE	NO SAMPLE TAKEN, NO DISCHARGE OCCURRED
NO FLOW	NO SAMPLE TAKEN, NO WATER FLOW AT LOCATION POINT
RESTRICT ACCESS	NO SAMPLE TAKEN, SECURITY OR CONSTRUCTION PROBLEM
VEHICLE	NO SAMPLE TAKEN, VEHICLE PROBLEMS
WEATHER	NO SAMPLE TAKEN, INCLEMENT WEATHER

APPENDIX 6

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ERPD QUALITY CONTROL CODES FOR FIELD SAMPLES

The collection of EG&G RFETS environmental samples include a primary sample and quality control samples. A quality control sample is a sample that is introduced into the process of environmental sampling to monitor the performance of the analytical system. The following abbreviations identify the most commonly used quality control samples. The primary sample has the code of REAL. The RFEDS USM is to be contacted for a complete listing of quality control codes. This information is stored in the EDB in the table named LU_SAMPLE_QC_CODE.

<u>CODE</u>	<u>EXPLANATION</u>
REAL	Primary Environmental Sample
RNS	Equipment Rinsate - A sample that is collected resulting from rinsing of equipment
DUP	Field Duplicate - A split of one sample from a single site taken in the field and submitted to the same laboratory as a separate sample. The results act as an external check on the precision for sampling.
TB	Trip Blank - A sample to which no analyte of interest has been added and which is introduced into the sampling and analyzing process to determine if sample contamination is due only to sample transport from the field to the laboratory.

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<u>CODE</u>	<u>EXPLANATION</u>
FB	Field Blank - A standard matrix sample, to which no analyte of interest has been added, that is transported to the sampling site and back, to ensure that no contamination is introduced at collection. This sample may be opened near a sampling location or may be unopened, depending on the type of information desired.
MS	Matrix Spike (spiked sample) - A sample to which a known amount of analyte(s) is added and is carried through the complete analytical method
MSD	Matrix Spike Duplicate - A duplicate of a matrix spike
SPLT	Split Sample - A representative split of one sample from a single site taken in the field and submitted to different laboratories as separate samples. The results act as an external check on laboratory performance.
CTRL	Biological Control Sample
REP	Biological Replicate Sample
MB	Matrix Blank (Air)

APPENDIX 7

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ERPD ANALYTICAL AND GEOTECHNICAL LABORATORIES

The following list represents the most common analytical and geotechnical laboratories. The lab code is entered into Datacap. The laboratory name and location is listed on the COC. The laboratory is to be approved by the EG&G Rocky Flats Environmental Management Sample Management Office before shipment. The RFEDS USM is to be contacted for a complete listing of laboratory codes. This information is stored in the EDB in the table named LU_LABID.

<u>LAB CODE</u>	<u>LAB NAME AND LOCATION</u>
123	123 LAB, ROCKY FLATS, CO
881	881 LAB, ROCKY FLATS, CO
ACCU	ACCU LABS, GOLDEN, CO
AEB	AEB CONSULTANTS, LITTLE ROCK, AR
ATC	ATC ENVIRONMENTAL LAB, DENVER, CO
ATOXL	AIR TOXICS LIMITED, RANCHO CORD.,CA
AMAX	AMAX R&D CENTER, GOLDEN, CO
APPL	APPL LABS, FRESNO, CA
ARNL	ARGONNE NATIONAL LABS, CHICAGO, IL
ATTL	ATT LAKEWOOD, LAKEWOOD, CO
NFT	CKY INCORPORATED, WHEATRIDGE, CO
CSU	CSU SOIL TESTING LABORATORY, FORT COLLINS,CO
ECTC	ECO TEK, ATLANTA, GA
HUFF	HUFFMAN LAB, GOLDEN, CO
ITAUS	IT AUSTIN LAB, AUSTIN, TX
ITLC	IT CERRITOS, CERRITOS, CA
ITCIN	IT CINCINNATI, CINCINNATI, OH
ITED	IT EDISON, EDISON, NJ
ITLK	IT KNOXVILLE, KNOXVILLE, TN
ITLO	IT OAK RIDGE, OAK RIDGE, TN

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<u>LAB CODE</u>	<u>LAB NAME AND LOCATION</u>
ITPA	IT PITTSBURGH, EXPORT, PA
ITLR	IT RICHLAND, RICHLAND, WA
ITLSL	IT ST. LOUIS, ST. LOUIS, MO
ITTDL	IT TECHNICAL DEVELOPMENT LAB, KNOXVILLE, TN
LOCK	LOCKHEED, LAS VEGAS, NV
LANL	LOS ALAMOS NATIONAL LAB, LOS ALAMOS, NM
SCTK	SCIENTECH, CARROLLTON, TX
SCRST	SEACREST GROUP, BROOMFIELD, CO
SLEA	SOLEA TESTING GROUP, CONCORD, CA
T690J	T690J, ROCKY FLATS, CO
TCT	TCT - ST. LOUIS, ST. LOUIS, MO
TELI	TELEDYNE ISOTOPES, WESTWOOD, NJ
TMAE	TMA EBERLINE, ALBUQUERQUE, NM
TMAN	TMA NORCAL, RICHMOND, CA
TMAS	TMA SKINNER & SHERMAN, WALTHAM, MA
VESM	VERSAR, ESM OPERATIONS, COLUMBIA, MD
VIST	VISTA LABS, BROOMFIELD, CO
RFWG	WESTON GULF COAST, UNIV. PARK, IL
RFWL	WESTON LIONVILLE, LIONVILLE, PA
RFWS	WESTON STOCKTON, STOCKTON, CA

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ERPD SAMPLE PRESERVATIVES

The following list represents the most common preservatives that are added to environmental samples. The preservative abbreviation is listed on the COC and entered into Datacap. The RFEDS USM is to be contacted for a complete listing of preservatives. This information is stored in the EDB in the table named LU_PRESERVATIVE.

PRESERVATIVE**ABBREVIATIONPRESERVATIVE**

10%FORMALIN	10% FORMALIN SOLUTION
5%FORMALIN	5% FORMALIN SOLUTION
ASC ACID/4C	ASCORBIC ACID AND COOLED TO 4°C
4C	COOLED TO 4°C
FROZEN	FROZEN SAMPLE
HCL	HYDROCHLORIC ACID
HCL/4C	HYDROCHLORIC ACID AND COOLED TO 4°C
HNO3	NITRIC ACID
HNO3/4C	NITRIC ACID AND COOLED TO 4°C
NOPRSV	NO PRESERVATIVE USED
H3PO4	PHOSPHORIC ACID
H3PO4/4C	PHOSPHORIC ACID AND COOLED TO 4°C
NAOH	SODIUM HYDROXIDE
NAOH/4C	SODIUM HYDROXIDE AND COOLED TO 4°C
NAOH/ZNACT	SODIUM HYDROXIDE AND ZINC ACETATE
NAOH/ZNACT/4C	SODIUM HYDROXIDE/ZINC ACETATE/COOLED TO 4°C
NA2S2O3	SODIUM THIOSULFATE
NA2S2O3/4C	SODIUM THIOSULFATE AND COOLED TO 4°C
H2SO4	SULPHURIC ACID
H2SO4/4C	SULPHURIC ACID AND COOLED TO 4°C

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ERPD SAMPLING MEDIA

The media corresponds to the type of environmental sample. The standard types of media are listed below. The RFEDS USM is to be contacted for a complete listing of media. This information is stored in the EDB in the table named LU_MEDIA.

<u>MEDIA CODE</u>	<u>MEDIA DESCRIPTION</u>
A	SAMPLES OF CONFINED AIR, CARTRIDGES ONLY
C	ANY TYPE OF MATERIAL USED FOR A WIPE SAMPLE
F	ANY SAMPLE COMPOSED OF ANY TYPE OF FILTER
M	SLUDGE MIXTURES OR CHEMICAL SLUDGE
P	PLANT SAMPLES
S	SOIL, SEDIMENT, OR SOLID SAMPLES
T	ALL ANIMAL TISSUES OR BODIES
W	ALL WATER OR LIQUID SAMPLES

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**U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT
 GROUND WATER SAMPLE RESULTS FORM**

FORM FO.14B
 Revision 23-SEP-93

Sample Collection Form	
Project Number : Sample Number :	Contractor : Type : GW
Station Code : Collection Date : Time : Purpose : QC Type : QC Partner : Volume Collected : Collection Technique:	Field Disposition : Quarter : Units :
Sample Team Leader : Member : Member :	: : :
Prepared by:	

Ground Water Sample Results Form	
Purge Volume: Purge Rate : Purging Method:	Units : Units : Depth to Water FT
Field Analytical Parameters	
Specific Conductance: Sample Temperature: Dissolved Oxygen : Headspace Reading : Total Alkalinity:	pH : Color : Odor : Turbidity: NTU Nitrate : MG/L Nitrite : MG/L
Comments:	

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**U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT
SURFICIAL SOIL SAMPLE FORM**

FORM FO.14C
Revision 23-SEP-93

Sample Collection Form	
Project Number :	
Sample Number :	Type : SS
Contractor :	
Station Code :	
Collection Date :	Quarter: Disposition:
Collection Time :	Purpose:
Sample Location :	
Composite (Y/N) :	
Composite Desc :	
QC Type :	Partner:
Collection Method :	
Sample Team Leader :	
Member :	
Member :	
Volume Collected :	Units:
Prepared By :	

Surface Soil Sample Form		
Depth of Take	Start	End
	in	
Headspace Reading		
Comments		

Sample Crew Member: _____

Print Name

Signature Date

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U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT
SEDIMENT SAMPLE FORM

FORM FO.14D
Revision 23-SEP-93

Sample Collection Form	
Project Number :	
Sample Number :	Type : SD
Contractor :	
Station Code :	
Collection Date :	Quarter: Disposition:
Collection Time :	Purpose:
Sample Location :	
Composite : (Y/N)	
Composite Desc :	
QC Type :	Partner:
Collection Method :	
Sample Team Leader	
Member	
Member	
Volume Collected :	Units:
Prepared By :	

Sediment Sample Form	
Depth of Water	FT
Depth of Take	INCHES
Comments:	

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U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT
SURFACE WATER FORM

FORM FO.14F
 Revision 23-SEP-93

Sample Collection Form	
Project Number :	
Sample Number :	Type : SW
Contractor :	
Station Code :	
Collection Date :	Quarter: Disposition:
Collection Time :	Purpose:
Sample Location :	
Composite :	(Y/N)
Composite Desc :	
QC Type :	Partner:
Collection Method :	
Sample Team Leader :	
Member :	
Member :	
Volume Collected :	Units:
Prepared By :	

Surface Water Form	
Depth:	
Water Body Type:	
Flow Rate:	Flow Rate Method:
Stream Width:	Total Depth:
Field Analytical Parameters	
Air Temperature :	Units :
Salinity :	Temperature :
Saturation :	eH :
Dissolved Oxygen :	pH :
Chlorine :	End Point #1 :
Total Alkalinity :	End Point #2 :
Specific Conductance:	End Point #3 :
Comments :	

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U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT
PIT AND TRENCH FORM

FORM FO.14G
Revision 23-SEP-93

Sample Collection Form	
Project Number :	
Sample Number :	Type : PT
Contractor :	
Station Code :	
Collection Date :	Quarter: Disposition:
Collection Time :	Purpose:
Sample Location :	
Composite : (Y/N)	
Composite Desc :	
QC Type :	Partner:
Collection Method :	
Sample Team Leader :	
Member :	
Member :	
Volume Collected :	Units:
Prepared By :	

Pit and Trench Form	
Depth of Take	
Start	End
FT	FT
Comments:	

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**U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT
 BIOLOGICAL SAMPLING FORM**

FORM FO.14H
 Revision 23-SEP-93

BIOLOGICAL SAMPLING DATA	
Project number: Sample number:	Sample type: BI
Location code:	Collection date:
Location description:	Time:
Subcontractor name:	QA/QC Code: Quarter:
Sample sub-type:	<A> aquatic or <T> terrestrial:
Water depth and units:	Sample depth and units:
Notebook #:	Page #:
Tissue Type:	Sample weight and units:
Transect/plot # or trap #:	Replicate #:
Sampling method:	Habitat type code:
Sample purpose:	
Comments:	
Sample crew leader: crew member: crew member:	
Prepared by:	

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U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT
GROUNDWATER LEVEL MEASUREMENT FORM

FORM FO.14I
Revision 23-SEP-93

Groundwater Level Measurement Form
Well Number: Date Measured: Project Name: Depth to Water: Measured By: Comments:

Sample

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U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT
SOIL GAS FORM

FORM FO.14J
Revision 23-SEP-93

Sample Collection Form	
Project Number :	
Sample Number :	Type : SG
Contractor :	
Station Code :	
Collection Date :	Quarter: Disposition:
Collection Time :	Purpose:
Sample Location :	
Composite : (Y/N)	
Composite Desc :	
QC Type :	Partner:
Collection Method :	
Sample Team Leader :	
Member :	
Member :	
Volume Collected :	Units:
Prepared By :	

Soil Gas Field Parameters	
Drilling Company:	
Driller:	
Total Depth of Bore :	Units:
Bore Diameter:	Units:
Was water encountered?	
At what Depth :	Units:
Comments:	

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U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT
RADIOACTIVE AMBIENT AIR FLOW TABLE

FORM FO.14K
Revision 23-SEP-93

AIR FLOW FORM

Project Number:
Sample Number:

Project Name:
Sample Type: AM

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:

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U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT
SAMPLE COLLECTION FORM

FORM FO.14L
Revision 23-SEP-93

Sample Collection Form	
Project Number :	Type :
Sample Number :	
Contractor :	
Station Code :	
Collection Date :	Quarter: Disposition:
Collection Time :	Purpose:
Sample Location :	
Composite : (Y/N)	
Composite Desc :	Partner:
QC Type :	
Collection Method :	
Sample Team Leader :	
Member :	
Member :	
Volume Collected :	Units:
Prepared By :	