LOCKHEED MARTIN

Y/ER-316

**ENVIRONMENTAL
RESTORATION
PROGRAM**

**Reduction of Mercury in Plant Effluents
Data Management Implementation Plan
FY 1998
Oak Ridge Y-12 Plant,
Oak Ridge, Tennessee**

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LOCKHEED MARTIN ENERGY SYSTEMS, INC.
FOR THE UNITED STATES
DEPARTMENT OF ENERGY

**Reduction of Mercury in Plant Effluents
Data Management Implementation Plan
FY 1998
Oak Ridge Y-12 Plant,
Oak Ridge, Tennessee**

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Date Issued—March 1998

Prepared for the
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Environmental Management Activities at
OAK RIDGE Y-12 PLANT
Oak Ridge, Tennessee 37831
managed by
LOCKHEED MARTIN ENERGY SYSTEMS, INC.
for the
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APPROVALS

**Reduction of Mercury in Plant Effluents
Data Management Implementation Plan
FY 1998
Oak Ridge Y-12 Plant,
Oak Ridge, Tennessee
(Y/ER-316)**

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PREFACE

The *Reduction of Mercury in Plant Effluents Data Management Implementation Plan FY 1998, Oak Ridge Y-12 Plant, Oak Ridge, Tennessee (Y/ER-316)* documents the requirements and responsibilities for managing, using, and archiving data for the Reduction of Mercury in Plant Effluents Project. This work was performed under Work Breakdown Structure 1.12.1.10.01.08.55, Mercury Integration (Activity Data Sheet 2300W, Y-12 Remedial Action).

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ABBREVIATIONS

ASCII	American Standard Code for Information Interchange
ASO	Analytical Services Organization
BEIDMS	Bechtel Environmental Integrated Data Management System
BMAP	Biological Monitoring and Abatement Program
COC	chain of custody
CPED	Computational Physics and Engineering Division, a division of LMER
DMC	Document Management Center
DMIP	Data Management Implementation Plan
DOE	Department of Energy
DOS	disk operating system
DRG	Data Receipt Group
DSD&M	Data Systems Development & Maintenance, a division of LMES
ECO	Environmental Compliance Organization
EDD	Electronic Data Deliverable
EFPC	East Fork Poplar Creek
EIM	Environmental Information Management, formerly an LMES EMEF organization
ELIMS	Environmental Laboratory Information System
EMEF	Environmental Management and Enrichment Facilities of LMES; formerly known as ER
EMMIS	Environmental Monitoring Management System
ENG	Engineering, a division of LMES
ER	Environmental Restoration, a former unit of LMES now known as EMEF
ESD	Environmental Sciences Division, a division of LMER
ESLIMS	Energy Systems Laboratory Information System
FY	fiscal year
GIS	Geographic Information System
GUI	graphical user interface
LMER	Lockheed Martin Energy Research Corporation
LMES	Lockheed Martin Energy Systems
NPDES	National Pollutant Discharge Elimination System
NT	Windows NT, a Microsoft operating system for personal computers
OREIS	Oak Ridge Environmental Information System
ORNL	Oak Ridge National Laboratory
ORR	Oak Ridge Reservation
PA	Program Analyst
PC	personal computer
PDC	Project Data Coordinator
PE	Project Execution, a division of LMES
PEMS	Project Environmental Measurements System
PM	Project Manager
QA	quality assurance
QC	quality control
RI	Remedial Investigation

RMPE	Reduction of Mercury in Plant Effluents
RTL	ready-to-load file
SOW	statement of work
UEFPC	Upper East Fork Poplar Creek
UID	user ID for LMER/LMES computers
WM	Waste Management, a division of LMES
WO	work order
Y-12	Oak Ridge Y-12 Plant

EXECUTIVE SUMMARY

The purpose of the Data Management Implementation Plan (DMIP) is to document the requirements and responsibilities for managing, using, and archiving data used for the Reduction of Mercury in Plant Effluents (RMPE) project. The DMIP was created for the RMPE project in accordance with the guidance given in *Environmental Data Management Implementation Handbook for the Environmental Restoration Program* (ES/ER/TM-88/R1) and in "Developing, Implementing, and Maintaining Data Management Implementation Plans" (EMEF/ER-P2216, Rev. 0). This document reflects the state of the RMPE project and the types of environmental monitoring planned as they existed through March 16, 1998.

The scope of this document is the management of the RMPE project's environmental information, which includes electronic or hard copy records describing environmental processes of conditions. Information generated by the project (e.g., analytical results from samples collected by the project) is within the scope of this document, as are records associated with sample collection and data (logbooks, chain-of-custody forms, sampling forms, etc.). Certain types of information, such as personnel or financial records, are outside the scope of this document.

The RMPE program was established as a Best Management Practice to address sources in the Y-12 Plant that contribute mercury to plant effluents being discharged to Upper East Fork Poplar Creek (UEFPC). Past operations on the Department of Energy Oak Ridge Reservation (ORR) led to the propagation of mercury to the environment. Since this problem was identified, substantial effort has been expended on the ORR and the Y-12 Plant to measure, remediate, limit, and control mercury contamination.

The original and continuing mission of RMPE is to mitigate current mercury sources from selected Y-12 Plant buildings that contribute mercury to plant effluents to UEFPC. The strategy is multifaceted: (1) reroute clean water through clean conduits; (2) clean, reline, and/or replace mercury-contaminated water conduits; (3) eliminate or reduce accumulations of mercury in tanks and sumps; (4) isolate inaccessible mercury from contact with water; and (5) install treatment capability for streams where the source(s) cannot be eliminated or mitigated to acceptable levels.

The RMPE project database consists of data from surface water monitoring and sediment sampling at locations of interest within the Y-12 Plant. The analyte of interest is usually mercury. This DMIP describes the types and sources of RMPE data, other data systems relevant to the RMPE project, the different data management interactions and flow of information involved in processing RMPE data, and the systems used in data management.

1. INTRODUCTION

The purpose of this Data Management Implementation Plan (DMIP) is to document the requirements and responsibilities for managing, using, and archiving data used for the Reduction of Mercury in Plant Effluents (RMPE) project.

The scope of this document includes the management of the RMPE project's environmental information, which includes electronic or hard copy records obtained by a project that describe environmental processes or conditions. Information generated by the project (e.g., analytical results from samples collected by the project) and obtained from sources outside the project (e.g., historical data) fall within the scope of this document. Certain types of information, such as personnel or financial records, are outside the scope of this document.

1.1 PROJECT MISSION

The RMPE program was established as a Best Management Practice to address mercury sources in the Y-12 Plant that contribute to plant effluents being discharged to Upper East Fork Poplar Creek (UEFPC). Past operations on the Department of Energy (DOE) Oak Ridge Reservation (ORR) led to the propagation of mercury to the environment. Much of this contamination resulted from activities associated with facilities at the Oak Ridge Y-12 Plant. Large quantities of mercury-contaminated environmental media were transported off site via East Fork Poplar Creek (EFPC). Since this problem was identified, substantial effort has been expended on the ORR and the Y-12 Plant to measure, remediate, limit, and control mercury contamination.

The initial mercury remediation work at the Y-12 Plant was performed between 1985 and 1991 under Phase I of the RMPE effort. In 1993 Phase II of the RMPE effort began.

The RMPE's mission is to mitigate current sources of mercury from selected Y-12 Plant buildings that contribute mercury to plant effluents to UEFPC. The strategy is multifaceted: (1) reroute clean water through clean conduits; (2) clean, reline, and/or replace mercury-contaminated water conduits; (3) eliminate or reduce accumulations of mercury in tanks and sumps; (4) isolate inaccessible mercury from contact with water; and (5) install treatment capability for streams where the source(s) cannot be eliminated or mitigated to acceptable levels.

1.2 DATA TYPES NEEDED BY RMPE

The RMPE project routinely samples surface water from locations of interest within the Y-12 plant. The analyte of interest is usually mercury. Sometimes, testing for total suspended solids and other analytes is also done. The RMPE project has also taken a small number of soil/sediment samples.

Measuring water flow is of key importance to the RMPE project. Some sampling locations include equipment to record water flow and collect samples. At other locations, the flow must be estimated visually. At times, equipment problems may make the flow readings suspect. These

instances are documented in the sampling logbooks. Occasionally, other field measurements are also taken, including temperature, conductivity, dissolved oxygen, and chlorine.

Mercury loading values, calculated from mercury concentration and water flow, are also important to the RMPE project. When samples are taken to be tested for mercury, an instantaneous flow measurement is often made at the same time so that loading can be computed. Although loading calculations are not currently stored in the project database, the calculating, documenting, and qualifying of flow and loading values in the project database are underway.

A substantial amount of historical surface water data has been loaded into the RMPE project database. Some analytical results from sampling done for the UEFPC Remedial Investigation (RI) and some results from monitoring for National Pollutant Discharge Elimination System (NPDES) compliance are of interest to RMPE. These data were delivered from the Analytical Services Organization (ASO) in addition to results from sampling done by the RMPE project itself in past years.

Current NPDES sampling at Station 17 is also of interest to RMPE. These data are also being acquired from ASO for loading into the RMPE project database.

1.3 FY 1998 RMPE SAMPLING

As stated in the Mercury Abatement Report for FY 1997 (Y/ER-297), which describes the monitoring plans for FY 1998: Characterization of mercury loading from outfalls and key instream locations will continue to be performed in FY 1998 to (1) provide information on the effectiveness of specific corrective actions to reduce/eliminate mercury loading, (2) identify additional outfalls of Y-12 Plant areas where corrective actions are needed, and (3) provide mercury and mercury speciation data to support interpretation and application of Biological Monitoring and Abatement Program (BMAP) data. Sampling activities will be divided into four categories: monthly, quarterly, and semiannual grabs; quarterly 24-hour composites; semiannual longitudinal sampling of EFPC; and special investigative sampling.

Table 1 summarizes the type of sampling and field measurements that will be done for RMPE in FY 1998.

Table 1. FY 1998 sampling

Type of event	Sample type	Analytes	Field measurements
Monthly sampling	Grab	Mercury (AA-Hg)	Instantaneous water flow pH Temperature Conductivity
Quarterly sampling	24-h composite sampler	Mercury (AA-Hg)	24-h total flow
Special, as needed	Grab	Mercury	Instantaneous with flow

1.4 DATA MANAGEMENT ACTIVITIES

RMPE project data management objectives are:

1. to furnish a complete and comprehensive project environmental database for project team members to consist of all data requested for and/or generated by project activities, as well as data requested by other projects of interest to RMPE
2. to assist project team members with data management issues including obtaining historical data, connecting with and/or retrieving data from the project database, acquiring the hardware, software and accounts required for working with project data, and ensuring regulatory compliance regarding the collection, maintenance, documentation, and archival of project data.

The types of data management activities for the RMPE project are categorized as follows:

1. *Planning for data and data management activities*

This includes developing statements of work for data entry, data loading, Geographic Information System (GIS) activities, and project data coordination work. It also includes maintaining records of data management metrics to track data management activities and identify needs. Developing an initial DMIP is also a planning activity.

2. *Documenting data and associated activities*

This includes revising the DMIP and developing work instructions appropriate for dealing with RMPE data.

3. *Acquiring and loading data*

This includes working with the team scientists, the sampling coordinator, and others to identify data that should be in the RMPE database. It also includes the routine processing of current sampling data: data entry, data entry verification, and loading of analytical results.

4. *Controlling data*

This includes controlling access to database accounts and ensuring that changes to data are made in a controlled, documented process. It also includes adhering to EMEF requirements for acquiring, handling, and maintaining environmental data.

5. *Archiving data*

This involves transmission of the data packages of analytical results to the EMEF Document Management Center (DMC) and transmission of electronic data to the Oak Ridge Environmental Information System (OREIS) on a regular basis.

6. *Accessing data*

This includes responding to data requests; providing database accounts for RMPE team members needing access to data; providing GIS, graphical, or tabular reports as needed; and providing

automated or "canned" procedures or views of the data for team members to access selected data.

1.5 DATA MANAGEMENT INTERACTIONS

Sampling for the RMPE project is performed by Lockheed Martin Energy systems (LMES) Environmental Compliance Organization (ECO), Environmental Sampling Services Department. Laboratory analysis is performed by the LMES Analytical Services Organization (ASO).

Figure 1 shows the flow of information for RMPE data management. Sampling is initiated by a work order for ECO's services. The work order may specify sampling for an entire year, such as monthly sampling; or it may be for a special one-time study. The RMPE Project Manager approves the work order. Changes may be made at the time of sampling at the direction of the Project Scientist or the Field Specialist.

After sampling is done, ECO gives copies of the logbook information, field sampling record sheet, and chain-of-custody (COC) papers to the Field Specialist. The Field Specialist maintains the record copy of these and the work orders in his office (Bldg. 9983-58, Rm. 9). The Field Specialist sends copies of this sampling documentation to the Project Data Coordinator (PDC) to be used for data entry. The samples are delivered to ASO by ECO. Once a month (around the 25th of each month) ASO delivers an electronic file via e-mail containing analytical results for all samples analyzed for the RMPE project in that month. The format of this electronic data deliverable (EDD) is the Project Environmental Measurements System (PEMS) ready-to-load (RTL) format shown in Sect. 3.2.2.

The PDC gives the sampling event documentation to the data entry technician when data entry is to be performed. The data entry technician makes a copy of the event documentation for the data entry verification technician to use during verification. If errors in data entry are discovered during verification, a database change request form is filled out with corrections needed and how they were done noted. The completed database change request forms are filed in the RMPE working project files in Bldg. 9734, Rm. 172.

Fig. 1. Information flow for RMPE data management.

Table 2 identifies the procedures used for RMPE data management.

Table 2. Data management procedures used by RMPE

Procedure	Activity	Issue date	Rev.
ERWM/ER-P2205	Development, Completion and Control of Data Forms and Logbooks	3/23/95	0
ERWM/ER-P2207	Backup and Restoration Processes for Environmental Data Management Systems Within the Environmental Restoration Program	8/2/95	0
EM&EF/EF-P2214	Environmental Data Entry, Transfer, and Transformation Verification	9/6/96	0
EM&EF/ER-P2215	Archival of Environmental Data Within the EMEF Program	9/20/96	0
EM&EF/ER-P2216	Developing, Implementing and Maintaining Data Management Implementation Plans	12/12/96	0
EM&EF/ER-P2701	Transmitting Environmental Data to the Oak Ridge Environmental Information System (OREIS)	10/18/96	3
EM&EF/EM-P2703	Submitting, Reviewing, and Approving changes to the Oak Ridge Environmental Information System (OREIS)	10/18/96	2, PCN 1

2. DATA NEEDS AND SOURCES

RMPE project data come from sampling done by ECO and analysis done by ASO, as described in Sect. 1.5.

2.1 SAMPLING RECORDS

Appendix F contains examples of forms and paperwork RMPE uses to gather sampling information. The record copy of these is maintained by the RMPE Field Specialist, Richard Woods, in his office (9983-58, Rm. 9).

2.2 GIS

AutoCAD drawings showing sampling locations for current RMPE sampling are maintained on a Bernoulli disk labeled "RMPE," located in Bldg. 9734 near the personal computer (PC) in Rm. 164. A depiction of mercury concentration, using ARC/INFO and Arc View, was prepared by Kris Cutshaw.

2.3 ELECTRONIC DATA DELIVERABLES OF ANALYTICAL RESULTS

ASO delivers analytical results by electronic file via e-mail each month. Copies of the files are made and maintained in the office of Virginia Forsberg (Bldg. 9734, Rm. 165).

2.4 CONNECTIVITY TO OTHER RELEVANT DATA

2.4.1 EMMIS

ECO uses the Environmental Monitoring Management System (EMMIS) system to manage its work, and this is a source of information in tracking samples.

EMMIS is maintained in an Rdb database on ocb.ornl.ornl.gov. Appendix A contains instructions for configuring a data source for EMMIS.

2.4.2 ESLIMS/ELIMS

ASO uses Energy Systems Laboratory Information System (ESLIMS) and its predecessor, Environmental Laboratory Information Management System (ELIMS) for managing its work. These systems are also a source of information about analyses.

ESLIMS is maintained in an ORACLE database on eslisl.ctd.ornl.gov. Appendix A contains instructions for configuring a data source for ESLIMS.

3. DATA AND DATA RECORDS TRANSMISSIONS

3.1 OREIS

Transmission of data to OREIS is scheduled to occur once a year in the last quarter of the fiscal year. The FY 1997 delivery was put on hold due to the transition of RMPE data from Bechtel Environmental Integrated Data Management System (BEIDMS) to PEMS. FY 1998 will mark the first transmission of RMPE data to OREIS. Issues concerning the possibility of duplicate data in OREIS because of UEFPC and Compliance data need to be resolved with OREIS and Compliance before that transmittal.

3.2 EMEF DMC

Transmittal of Records to the DMC is scheduled to occur once a year in the first quarter of the fiscal year. As data packages are received, these contents are prepared so that the archival process is expedited. See Appendix A for the appropriate work instructions.

3.2.1 Transmittal Contents

The diskettes being delivered to the EMEF DMC for the RMPE project can be divided into four categories as shown in Table 3.

Table 3. DMC transmittal contents

Description	
A.	Original data received from Y-12 ASO
B.	Diskettes containing the data in an American Standard Code for Information Interchange (ASCII) text file
C.	Diskettes containing tables of contents for individual samples
D.	Diskette containing a directory of the diskettes

Contents of Annual Transmittal to the EMEF Document Management Center:

1. All diskettes sent to EMEF DMC will be labeled RMPE/Xxxxxxx_
X Letter associated with the current series being transmitted
(D for FY 1996, R for FY 1997, N for FY 1998)
xxxxxx_ mo day year (Letter added if more than one disk). For 1998
this should become xxxxxx_ yr mo day.
2. An ASCII DOS-readable file will be included for each set of results received to provide for long-term archival retrieval and to avoid software dependencies.
3. A diskette containing a file listing the directories of all diskettes included in the document transfer package.
4. A diskette containing files that list the Events, Lab Sample ID, Container ID, Analyte Id, Analyte Name, Analysis Date and Analysis Time for each result diskette

All original results received before July 1997 are in BEIDMS RTL format. All results received after that date are in PEMS RTL format.

3.2.2 PEMS RTL Format

Table 4 shows the PEMS RTL Format used for RMPE. Field 19 is usually used by PEMS projects as QC_GROUP. However, the PEMS loader has been modified for RMPE. When loading RMPE data, this field contains the laboratory test code identifier. This is used to distinguish between low-level mercury tests (HGLOWLEVEL) and regular mercury tests (HG2451).

Table 4. PEMS EDD format for RMPE non-radiochemistry results

Field #	Field Name	Maximum Width	Definition
1	Client_Sample_ID	20	The EMMIS-generated sample identification number
2	Lab_Sample_ID	15	The laboratory's sample identification number, generated by ESLIMS
3	Lab_ID	6	Identifier for the laboratory doing this analysis. (ASO)
4	Collected	10	Sample collection date (MM/DD/YYYY)
5	Lab_Receipt	10	Date samples were received by the laboratory (MM/DD/YYYY)
6	Analyzed	10	Analysis date (MM/DD/YYYY)
7	Prepared	10	Preparation date (MM/DD/YYYY). Preparation is used generally to include method specific techniques such as extraction, digestion, and separation.
8	Client_Method_ID	20	Analysis method identification reported as (Proponent Of Method)-[Method Number] where Proponent Of Method and Method Number are specified on the statement of work. (E.g. SW846-8080TPCB)
9	Client_Analyte_ID	11	CAS number or blank if no CAS number of pseudo-CAS number is available.
10	Analyte_Name	30	Chemical name for the analyte. (initial uppercase)
11	Result	8	Reportable result for the analyte.
12	Result_Units	10	Units for result (uppercase)
13	Lab_Qualifiers	6	A string of single letter result qualifiers assigned by the lab.
14	Analytical_Error	8	The estimated 2 sigma error in result due to all effects related to analysis by the lab. Optional unless specifically requested by the client.
15	Dilution	8	The overall dilution of the sample aliquot. A value of one should correspond to nominal conditions for the method. Values less than one correspond to concentrations.
16	Detection_Limit	8	Contract-Required Detection Limit for the analyte being measured. It should be reported in the same units as the result.
17	_Method_Blank	10	Identification number of the method blank associated with sample.

10
Table 4 (cont.)

Field #	Field Name	Maximum Width	Definition												
18	Method_Batch	20	A group of samples with similar matrices, analyzed by one method, and treated as a group for QC purposes. Operationally, this batch associates sample dependent QC such as duplicates and matrix spikes with a group of samples.												
19	Lab_TST_ID	12	Laboratory test code (for mercury, HG2451 or HGLowLEVEL).												
20	_Result_Prefix	4	The "less than" prefix associated with the result, reported as "<".												
21	_Qualifier_Class	1	A code for the type of analyte reported. The code is needed to correctly interpret the Lab_Qualifiers. Valid Values <table><tr><th><u>Class</u></th><th><u>Description</u></th></tr><tr><td>'C'</td><td>Wet Chemistry</td></tr><tr><td>'I'</td><td>Inorganic</td></tr><tr><td>'O'</td><td>Organic</td></tr><tr><td>'P'</td><td>Physical Properties (such as weight, grain size)</td></tr><tr><td>'V'</td><td>Volatile</td></tr></table>	<u>Class</u>	<u>Description</u>	'C'	Wet Chemistry	'I'	Inorganic	'O'	Organic	'P'	Physical Properties (such as weight, grain size)	'V'	Volatile
<u>Class</u>	<u>Description</u>														
'C'	Wet Chemistry														
'I'	Inorganic														
'O'	Organic														
'P'	Physical Properties (such as weight, grain size)														
'V'	Volatile														
22	Matrix_ID	8	A code for the sample matrix. Valid values are: "Water", "Soil".												

4. DATA MANAGEMENT TASKS

These tasks are numbered and grouped according to the categories of data management activity listed in Sect. 1.4

4.1. PLANNING FOR DATA AND DATA MANAGEMENT ACTIVITIES

4.1.1 Prepare SOW for Data Management Activities.

4.1.2 Improve the way water flow is kept in the project database. Provide for type of measurement method and qualifier and comment fields for validation, as well as for a way to link a particular sample to a flow measurement.

4.1.3 Provide for calculated loading to be kept in the project database. This depends on Task 4.1.2 being accomplished first.

- 4.1.4 Determine what data collected for Compliance should be part of the RMPE database.

4.2 DOCUMENTING DATA AND ASSOCIATED ACTIVITIES

- 4.2.1 Revise work instructions for data management activities as needed.
- 4.2.2 Document files and directories where RMPE-related files are, including Access databases, Excel spreadsheets, WordPerfect documentation.
- 4.2.3 Revise DMIP as needed.

4.3. ACQUIRING AND LOADING DATA

- 4.3.1 Acquire Historical Data. Conversion of historical data into the project database: The data are transmitted from the data requestor to the PDC. Historical data are requested from ASO in the format described in Sect. 3.2.2.
- 4.3.2 Develop a process for getting desired compliance data routinely and loading it.
- 4.3.3 Enter sample information and field measurements into the project database. The PDC will oversee data entry staff.
- 4.3.4 Verify correctness and completeness of data entry.
- 4.3.5 Load analytical results into database.
- 4.3.6 Verify loading and resolve any problems with data that wouldn't load. Problem resolution usually involves tracking down missing paperwork. The contacts are the Field Specialist, Richard Woods, the Environmental Sampling Services Department representative, Mike Elliott, and the Analytical Services Project Manager, Dianna Altom.

4.4 CONTROLLING DATA

- 4.4.1 Maintenance of the project database: When changes to the data or data structure are requested by project team members, requests are made through the PDC and carried out under her/his direction. Each requested change and corrective action is documented on a Project Database Change Request form (see Appendix E).
- 4.4.2 Provide for data integrity and protect data and other project files by limiting access. A list of RMPE database user accounts is documented on the RMPE Project Database Access Form. See Appendix E for a sample. The original one is kept in the PDC's office (9734, Rm 172). Limit access to RMPE shared space on the PC network.

4.5 ARCHIVING DATA

- 4.5.1** Transmit project data to OREIS once a year, at the end of the fiscal year. The PDC is responsible for ensuring that the project data are sent to OREIS at the required time with the appropriate documentation according to the procedure *Transmitting Environmental Data to the Oak Ridge Environmental Information System (OREIS)* (EM&EF/ER-P2701, Rev. 3).
- 4.5.2** Maintenance of the project file: The PDC is responsible for maintaining a project file containing all data received during the course of the project. Upon project completion, this file is sent for storage to the EMEF DMC. Annually the electronic data deliverables for the previous fiscal year will be documented and sent to the EMEF DMC.

4.6 ACCESSING DATA

Handle data requests. Project data requests are made to the PDC by 1) filling out a Data Request Form (see Appendix E) for attribute data or a GIS/Mapping Work Request form (see Appendix F) for spatial data and/or maps, 2) submitting an email request, or 3) requesting a user account to connect with the project database and retrieve information as needed, 4) developing and maintaining "canned" on-line data reports

4.7 ROLES

Table 5 shows the personnel involved in RMPE sampling activities; Table 6, those involved in RMPE data management activities; and Table 7, the individuals involved in these activities.

Table 5. Sampling activity roles

Activity	J F H	R C W	M S E	K N F	V M F	L G S	L S H	M A B	L L F	G R S
Scope Project	X							X		
Acquire Existing Data		X								
Plan Data Collection		X	X	X				X		
Prepare for Field Activities		X	X					X		
Collect Field Data		X	X					X		
Process Field Data		X	X	X	X	X	X			
Collect Field Samples		X	X					X		
Submit Samples for Analysis			X							
Review Data		X								
Verify Data					X					
Validate Data										
Consolidate Data Records					X					
Analyze and Use Data		X		X				X	X	X

Table 6. Data management activity roles

	J F H	R C W	M S E	K N F	V M F	K C C	L G S	L S H	M A B	D D A	L L F	G R S	D C B	T C B	D R B	V D S
1.1 Prepare SOW	A			X												
1.2 Improve way flow is kept				X					X							
1.3 Provide for storing Hg loading				X					X							
1.4 Determine Compliance data to get	X	X	X	X					X							
2.1 Revise work instructions				X	X											
2.2 Document files and directories				X	X											
2.3 Revise DMIP as needed	A			X	X											
3.1 Acquire historical data	A	X		X					X							
3.2 Develop a process for getting Compliance data routinely and loading it		X	X	X					X							
3.3 Data entry				X	X		X	X								
3.4 Verify data entry				X	X											
3.5 Load analytical results into database				X	X											
3.6 Verify loading and resolve load problems, including missing paperwork		X	X	X	X					X						
4.1 Maintain database and process change requests				X	X								X			X
4.2 Provide data integrity and control	A			X									X	X	X	X
5.1 Transmit data to OREIS				X	X											
5.2 Maintain project file		X		X	X		X									
6.1 Handle data requests				X	X											

A = Approve; X = participates in work

Table 7. RMPE personnel

Initials	Name	Company/Org.	Phone	UID
DDA	Dianna Altom	LMES/ASO	574-0679	D3A
DRB	Daniel R. Beilke	LMES/DSD&M	574-1611	DJB
MAB	Mary Anna Bogle	LMER/ESD	574-7824	AMB
DCB	Doug C. Bolinger	LMES/DSRD	241-4681	YDZ
TCB	Travis C. Burnette	LMES/DSD&M	574-9390	N3F
KCC	Kris Cutshaw	LMER/CPED	576-5946	KTV
MSE	Mike Elliott	LMES/ECO	576-2815	MVE
LLF	Laura Feldman	LMES/ENG	241-4382	L7T
KNF	Kathe Fischer	LMER/CPED	574-5439	KNF
VMF	Virginia Forsberg	LMER/CPED	574-7000	VMF
LSH	Lisa Hatmaker	LMES/PE	576-5790	HX6
JFH	Janice Hensley	LMES/ENG	574-2930	FJY
LGS	Gay Schaffer	LMES/PE	576-6189	GSQ
GRS	George Southworth	LMER/ESD	576-8153	SGR
RCW	Richard Woods	LMES/WM	576-8814	RW4

5. DATA MANAGEMENT SYSTEMS

5.1 RMPE DATABASE BACKGROUND

In early 1994, an evaluation of commercially available environmental database systems was made by Ed Vazquez and Jackie Williams. They determined that an environmental database system called Bechtel Environmental Integrated Data Management System (BEIDMS), which was developed by Bechtel Corp. for DOE, was the best system on the market for meeting the needs of K-25 and Y-12 EMEF projects. It was acquired and put into use by projects at Y-12 in September 1994.

In February 1995, a team consisting of Kris Cutshaw, Ed Vazquez, Kathe Fischer, and Richard Woods began plans to assemble historical data of interest to the RMPE project. The data consisted of sampling done at selected sites by the UEFPC project in its dry weather sampling of 1993, sump data collected since 1990, data obtained from Environmental Compliance Monitoring, and data from sampling currently being done by the RMPE project itself.

The RMPE project is primarily interested in mercury concentrations and water flow field measurements. To expedite use of this data for trend tracking and reporting, it was decided to automate it on an electronic database. Because BEIDMS had already been determined as the

recommended environmental database system for Y-12 projects and because it had already been installed for use at Y-12, BEIDMS was chosen as the database for RMPE data.

By the end of 1995, over 39,000 analytical results were loaded into RMPE BEIDMS, a large portion of that being historical data. Data entry was performed from sampling record forms and logbook entries to load 986 field measurements into RMPE BEIDMS in that same period.

In the spring of 1996, discussions began with the staff that maintains the Project Environmental Measurements System (PEMS). It was decided that the RMPE data would be moved from BEIDMS to PEMS and that the PEMS staff would develop a graphical user interface (GUI) application tailored to RMPE data entry needs.

The RMPE data was moved into PEMS during the summer of 1997, and the project began using PEMS as its production database by August 1, 1997. The RMPE project used both BEIDMS and PEMS while the data loading and new RMPE user interface were tested and verified. Tests were done to match data in BEIDMS and PEMS to verify that data had been successfully transferred. In November 1997, data entry into BEIDMS was discontinued, and PEMS became the sole project database in use for RMPE data.

5.2 CURRENT PROJECT DATABASE

RMPE data are managed in the PEMS database, an ORACLE database on pems.bechteljacobs.org. The work instructions in Appendix A discuss aspects of use of PEMS for RMPE data management. Appendix B gives specific codes and information about RMPE data contained in PEMS.

General use of PEMS is described in *Project Environment Measurements System (PEMS) User Guide*, PEMS-1-R5.

Microsoft Access 97 is used by the RMPE project to process data for loading into PEMS. It is also used to report data and to query the data as needed.

Forms used in tracking work are kept in Corel WordPerfect and Microsoft Excel. All of the Access, WordPerfect, and Excel files are maintained on NT server _nt2. The NT server _nt2 is maintained by D. R. Beilke and is backed up nightly.

As described in Sect. 3.1, data from the project database is scheduled to be transmitted to OREIS once per year, beginning in FY 1998.

5.3 DATA CONTROL

Access to the project database is controlled through setting PEMS Oracle roles and privileges, as well as by controlling accounts assigned. Access to the RMPE files kept on the _nt2 server is also limited to those to whom permission is granted. The PDC maintains a list of the persons granted access to the RMPE data in PEMS, as well as a list of those granted access to the RMPE files on server _nt2. Appendix E contains a copy of the Project Data Base Access Form.

If changes are made in the database, they are documented on Change Request Forms.

Requests of data or GIS work are initiated by use of GIS Request Forms or Data Request Forms.

All completed forms described in this document are filed in the PDC's RMPE files, Bldg. 9734 Rm. 172.

The *Project Environmental Measurements System (PEMS) Configuration Control Plan*, Rev. 2, August 1996, describes how PEMS access control is maintained, as well as backup, archival, and recovery processes.

6. REFERENCES

Energy Systems (Lockheed Martin Energy Systems, Inc.). April 1996. *Environmental Data Management Implementation Handbook for the Environmental Restoration Program*, ES/ER/TM-88/R1.

Energy Systems(Lockheed Martin Energy Systems, Inc.). November 1996. *Mercury Abatement Report for the U.S. Department of Energy Oak Ridge Y-12 Plant for Fiscal Year 1997, Oak Ridge, Tennessee*, Y/ER-277.

Energy Systems(Lockheed Martin Energy Systems, Inc.). November 1997. *Mercury Abatement Report for the U.S. Department of Energy Oak Ridge Y-12 Plant for Fiscal Year 1997, Oak Ridge, Tennessee*, Y/ER-297.

Energy Systems(Lockheed Martin Energy Systems, Inc.). August 1997. *Project Environmental Measurements System (PEMS) User Guide*, PEMS-1-R5.

**APPENDIX A:
WORK INSTRUCTIONS**

APPENDIX A: WORK INSTRUCTIONS

The following instructions cover the routine data management tasks performed for RMPE.

A.1	ARCHIVING EDDS	A-2
A.2	CONFIGURING MICROSOFT ACCESS DATA SOURCES	A-3
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A.1 ARCHIVING EDDS

1. As EDDs are received (currently via e-mail), make a diskette containing a copy in an ASCII text file.
2. Update diskette containing the table of contents for individual samples in the EDD. The table of contents consists of the following fields.
  - a. Lab_Sample_ID
  - b. Client_Sample_ID
  - c. Client_Analyte_ID
  - d. Analyte_Name
  - e. Lab_Receipt
  - f. Analyzed
  - g. _QC_Group

3. Update a diskette containing a directory of all diskettes made during the year.

The original EDD as received from the lab is stored in Kathe Fischer's office (Bldg 9734, Rm 172).

The copies of the EDD and the working diskettes are stored on the lower shelf above the table in Virginia Forsberg's office (Bldg 9734, Rm 165).

4. At the end of the FY, the original diskettes from Kathe's office and the working ASCII tables of contents, and directory diskettes from Virginia's office are sent to EMEF DMC. A copy of all diskettes sent to EMEF DMC is retained in Virginia's office.

A.2 CONFIGURING MICROSOFT ACCESS DATA SOURCES

The following instructions show how to configure data sources for use with Microsoft Access in order to use data from different databases of interest to RMPE.

1. EMMIS

An ODBC driver for Rdb must already be installed on your PC. Then use the Rdb 32bit

Administrator to configure a data source:

Start button→Programs→ORACLE ODBC driver for Rdb→32bit Administrator.

Click on Add.

Choose ORACLE ODBC driver for Rdb and click on it.

Fill in the Setup Information for Rdb as follows, substituting your User ID for knf.

Oracle ODBC Driver Setup for Rdb [X]	
Data Source Name:	EMMIS Production on OCU
Description:	EMMIS database on OCU cluster
Data Source	
Server:	ocb.ornl.gov
Class:	generic
UserID:	knf
Attach Statement:	attach 'filename db_official'
OK Cancel Help Options>>	

2. ESLIMS

An ODBC driver for ORACLE must already be installed on your PC. Then use the ORACLE for Windows 95 32-bit Administrator to configure a data source.

Start Button→Programs→ORACLE for Windows 95→32-bit Administrator.

Click on Add.

Click on ORACLE73.

Fill in the ORACLE7 ODBC Setup information as follows:

Oracle7 ODBC Setup

Data Source Name:

Description:

SQL*Net Connect String:

OK Cancel Help Options>>

3. PEMS

An ODBC driver for ORACLE must already be installed on your PC. Then use the ORACLE for Windows 95 32-bit Administrator to configure a data source.

Start Button→Programs→ORACLE for Windows 95→32-bit Administrator.

Click on Add.

Click on ORACLE73.

Fill in the ORACLE7 ODBC Setup information as follows:

Oracle7 ODBC Setup

Data Source Name:

Description:

SQL*Net Connect String:

OK Cancel Help Options>>

4. OREIS

An ODBC driver for ORACLE must already be installed on your PC. Then use the ORACLE for Windows 95 32-bit Administrator to configure a data source.

Start Button→Programs→ORACLE for Windows 95→32-bit Administrator.

Click on Add.

Click on ORACLE73.

Fill in the ORACLE7 ODBC Setup information as follows:

Oracle7 ODBC Setup

Data Source Name: oreis

Description: OREIS Oracle Database

SQL*Net Connect String: oreis

User Id:

☐ Enable Asynchronous Support

OK

Cancel

Help

Options>>

A.3 CONFIGURING A REMOTE PRINTER

1. Call Vern Stiver (574-3336) and tell him you want him to set up your PC as a remote printer.
2. Set up a remote 'lpd' server (only do this if you want to print from PEMS).
  - a. Click on 'Start' button.
  - b. Click on 'Programs'.
  - c. Click on 'OnNet 2.0'.
  - d. Click on 'Server Control'.
  - e. Click on 'lpd' server.
  - f. Click on or maximize 'Configure LPD Print Server'.
  - g. Click 'Add'. The information should be:
    1. Queue Name: lpt1
    2. Directory: C:\Onnet (This should be the directory where your PCTCP software resides.)
    3. Check (X) Spooling and Formfeed
    4. Don't check 'Log File' or 'Header Pages'
    5. From the scrollable list of printers, select the one you want to print to. Be sure File Type = Text is set.
  - h. Click on 'OK'.
  - i. Click on 'OK' in LPD print server configuration.
  - j. Under 'Session', click 'New'.
  - k. Put session name: RemoteSpool
  - l. Add both FTP Server and LPD Print Server and click on the active box for each one.
  - m. Click on 'OK'.
  - n. Click on 'Window' to see that both servers should say 'active'.
  - o. Under 'session', click 'SAVE'.
3. Ensure that an LPD server is made active when you boot up your PC: (Don't do this if you will rarely print from PEMS).
  - a. Click on 'Start' button.
  - b. Click on 'Settings'.
  - c. Click on 'Task Bar'.
  - d. Click on 'Start Menu'.
  - e. Click on 'Advanced'.
  - f. Click on the '+' beside 'Programs' on left panel.
  - g. Click on 'OnNet 2.0' folder on right panel to highlight it.
  - h. Right mouse click on 'OnNet 2.0' folder and drag to 'Startup' folder on left.
  - i. Select copy.
  - j. Right mouse click on 'OnNet' in the left panel to view properties.
  - k. Click on 'Shortcut'.
  - l. Add this to 'TARGET' after the ....EXE**b**-s**b**RemoteSpool.
Where **b** means a blank space.

A.4 CONFIGURING XWIN

1. Use XWIN-XUTIL utility to add MS fonts:
  - a. Double click on XWIN icon. It minimizes itself.
  - b. Right click XWIN icon on task bar.
  - c. Left click on XUTIL.
  - d. Left click on fonts.
  - e. Click on 'Modify Font Path'.
  - f. Click on 'Add MS Fonts'.
  - g. Click on 'OK'.
  - h. While still in XWIN, click on 'Edit Sessions'.
  - i. Click on New.
  - j. Fill in the information as shown below. (Example is set for user vmf).

BEWARE: DO NOT PUT YOUR PASSWORD HERE !

Edit New Session

Session Name:

Connect Mode: ☒ rsh ☐ rexec ☐ XDMCP ☒ Auto-Startup

Host Name:

Login:

Command:

Password:

OK Delete

Cancel Help

- k. Click 'OK'.
- l. Click 'Edit Sessions'. The pemspems session should now appear as a session.
- m. Click on 'Exit' to leave the XUTIL utility.

A.5 DATA ENTRY INTO PEMS

Background

- Data was migrated from BEIDMS to PEMS in the summer of 1997.
- A new application was developed by PEMS staff just for data entry for RMPE.
- It is important to take note of anything unusual and report to Kathe Fischer or Virginia Forsberg. If it is a bug in the new application, the developer will need information like: What keystrokes had you just done, etc.?
- You will notice differences from BEIDMS data entry. The biggest difference is that instead of going from one screen to another (BEIDMS), one enters everything on one screen (PEMS).
- Another difference is that PEMS uses a graphical user interface (GUI) approach, so that one can use the mouse to point and click to move around the screen. Because of its GUI, PEMS needs an X-Terminal Emulator (such as XWIN-32) to use it on a PC.

1. Requirements

- a. PC with XWIN-32 software installed and Windows 95.
- b. OnNET software installed.
- c. Icon for XWIN.
- d. Account on PEMS workstation.
- e. Account on PEMS RMPE Oracle database that allows update, delete.
- f. Know the network IP address number of your PC.
It is. _____ : 0.0
- g. A graphics card and monitor that will support 256 colors and 1024 by 768 pixels.

2. Do the following **ONCE ONLY**:

- a. Call Vern Stiver (574-3336) to:
  - i. Get PEMS workstation account.
  - ii. Get RMPE PEMS ORACLE account.
- b. Configure XWIN on your PC (See A.4)
- c. If you plan to print to your PC while on PEMS, you must configure your printer as a remote printer to PEMS.

3. Check the display settings of your PC as follows:

- a. Click 'Start' button.
- b. Select settings and then Control Panel.
- c. Double click on 'Display'.
- d. Click on the settings folder.

- e. Under color palette, choose 256 colors.
- f. Under desktop area, move the slider to choose 1024 by 768 pixels.
- g. Click on 'OK'.
- h. Close the Control Panel window.

4. Bring up RMPE PEMS Data Entry Screens

- a. Start XWIN (double click XWIN icon). A box will appear to enter your password.
- b. Log on to PEMS workstation. Your password is your regular LMES password.
Then `[pems]rmpe./export/home1/uid>` appears. (UID will be your user ID.)
- c. Invoke the data entry application: `rmpe_pems`. A 30-60-second pause will occur before the `rmpe_pems` menu window comes up.

5. Create Sampling Record or Create COC

To enter the sampling information for an RMPE monitoring event requires the paperwork that went with that event. For monthly and quarterly RMPE events, the RMPE Sampling Record Form is used to get the sampling information. Choose "Create Sampling Record" from the `rmpe_pems` menu window choices to begin entering sampling information for an event for which we have the Sampling Record Form.

An RMPE Sampling Form is not used for sampling that is done for Compliance. In this case, the Chain of Custody (COC) forms are used to get the sampling information. Choose "Create COC" from the `rmpe_pems` menu window choices to begin entering sampling information for sampling for which we have only the COC Forms.

Refer to Appendix B.1, "RMPE PEMS Data Entry Reference Guide", for detailed information on the requirements for entering information into each field of the `rmpe_pems` screens used for data entry.

6. Miscellaneous Information

- a. If you accidentally click on the spreadsheet before you fill in the event information at the top, it thinks you have already input a record. To get it straightened out:
Click on **Record** (top menu).
Click on **Remove**.
Enter correct event number.
- b. To **exit**, click **exit** at bottom of screen. If the screen is hung up, go to **Action** in top left of menu and click on **Exit**. When next screen appears, type in **Exit** and press **Enter**. Then another screen will appear. Type in **Exit** and press **Enter**. It then takes you out to the

desktop. Go to lower bar, click on **XWIN32**. Arrow up to and click on **Close** and release. You have now successfully completed a full close down of PEMS operation.

c. Key strokes:

1. **Control and Equal Sign** - to duplicate what was entered in the same field of the record directly above.
2. **Control and L** - brings up list of valid items.
3. To print what is on the screen in **rmpe pems**, hit **Control and Print Screen**. Then bring up Word/WordPad/WordPerfect. Use **Control V** or in above menu, Click on **Edit**, arrow down to **Paste**, and click on it. This should paste into the word processor what you had saved in **PEMS**.

A.6 LOADING AND UNLOADING RMPE LABORATORY EDDs INTO PEMS

LOADING DATA

Step 1 Get PEMS Ready to Receive an EDD

Start XWIN by double clicking XWIN icon.
Enter your password and log onto PEMS workstation. Your password is your regular LMES password.

Then **[pems]rmpe/export/home1/uid>** appears. (uid is your LMER/LMES user ID.)

(See *PEMS User Guide* page 6-1.)

>cld

Enter the Project ID. PROJECT ---> RMPE

Enter the Statement of Work (SOW) number: lyer0152

Enter the Data Receipt Group (DRG) number:

nyymmdd ⇐for RTL received on yymmdd. (This n is because that is the first character for FY1998)

Enter the EDD Filename

nyymmdda.res (This n is for non-rad results) The .res is important be sure to include it in the name.

This should make

/data/prod/rmpe/any/lyer0152/nyymmdd/nyymmdda.res. The filename encoding is as follows: RTL 1 for this EDD is named "a." If a noload table had to be made for this EDD, when the problems are resolved, RTL 2 would be loaded as "b".

Enter "y" to create the directory entry.

Step 2. Export Access table to ASCII delimited files with fixed width.

Open Microsoft Access97 database:

\\Emefy_nt2\erdata\RMPE\$\Load98.mdb

From Database window, click on the table to be exported.

Click on **File** from the menu bar.

Choose **Save As/Export**.

Select **To an external file or database**.

At **save as Type box**, select **Text file**.

Specify the directory where the exported file will reside,

(e.g., \\emefy_nt2\erdata\RMPE\$\Loadfy98)

Name the exported file, for example, nyymmdda.txt

Click on **Export**.

Choose **Delimited**.

Click **Advanced**.

Click on **Specs....**

Choose **PEMS RTL**.

Click on **Open**.

Click on **OK**.

Click **Next** and **Finish**.

Then follow the instructions until the export is finished.
Close Microsoft Access.

Step 3. FTP exported ASCII file to the PEMS workstation

Open an FTP session to PEMS.

Click on **ASCII**

Under left (local system):

    Select the directory _nt2\Erdata\rmpe\$\loadfy98.

    If you do not see RMPE\$ under Erdata, you should type RMPE\$ in the File Name box and hit Enter. Then double click on folder Loadfy98.

On right (remote) panel:

    Double click on .. (double dots) as many times as you need, to get the path to the root (/).

    Scroll down to find 'data' and double click on it.

    Continue this until you have the path set at:

        /data/prod/rmpe/anly/lyer0152/nmmdyy/nyymmdda.res

    (Be sure you are down to .res)

On the left panel:

    Highlight file nmmdyya.txt that you want to load.

Click on **copy**.

When it asks for the name on remote system, **change the extension from .txt to .res**

Then click on **yes** to send the file to the PEMS workstation.

Close FTP

Step 4. Load data into PEMS

(See *PEMS User Guide* page 6-4)

In the Xwindow, type: **sasany&**

    This will bring up the SAS PEMS Loader. You will see the Analytical Lab Data Main Menu.

Click on Project - ID.

Click on RMPE to select it.

Click on lab code.

Click on ASO to select it.

Click on SOW.

Click on ASO - LYER0152 to select it.

Click on DRG.

Click on the Nyymmdd DRG name that you entered in Step 1 to select it. (If that name does not appear, you must type it in down below.)

Click on filename.

Select the nyymmdda.res file you ftp'd in Step 3. (It may put the correct file name in for you.)

Click on NONRAD to select it.

Click on continue.

    This brings us to Analytical Lab Non-Rad Process Screen.

Click on Supply Other filenames.

    It asks to select MS/Dups. Click on Dummy (No files).

It asks to select Lab Control Sample File. Pick Dummy again.
It comes back to Analytical Lab Non-Rad Process Screen.
Click on Prep for DB.
If no errors, then
    Click load DB.
Click review DB load errors. In the listing it will tell you what to look for to
    verify that the data was loaded properly. Hit F3 or click on File and
    End to get out of the listing.
Click on Process Errors.
Look at the errors and determine the problem. Dave Ball (576-3705) can
    help.
Hit F3 or click on File and then click on End to get out.

UNLOADING DATA

To unload data form PEMS, see the instructions in the *PEMS User Guide*.
Follow the instructions in Step 4, above, to get into **sasanyl&**.
Click on project - id and select RMPE.
Click on Lab-code and select ASO.
Click on SOW and select LYER0152.
Click on DRG and select Nyymmdd.
Click on Filename and select nyymmdda.res.
Click on Anly type and select NONRAD.
Click on continue.
Click on Supply Other filenames.
    It asks to select MS/Dups.
        Click on Dummy (No files).
    It asks to select Lab Control Sample File.
        Pick Dummy again.
Click on unload.
    (window with processing statements in submit block comes up)
Click on review DB unload errors. Hit F3 or click on File and End to get out of the
    listing.
Go to main menu.
Click on File and End to get back to the process screen.

To load data go back to Step 1 of the loading instructions.

A.7 NAMING CONVENTIONS FOR TABLES IN THE LOAD & NO LOAD RMPE MICROSOFT ACCESS DATABASES

These rules are for the Microsoft Access databases that are used to process the EDDs received in FY1998, thus the names Loadfy98 and Noload98.

1. Use capitals, spaces, hyphens consistently so that all EDD table names will look and sort the same. This applies to tables in both databases: Load98.mdb and Noload98.mdb.
2. In the Load98 database,

Name the tables into which the EDDs are imported according to the date they are received:

Nyymmddptext

where yymmdd refers to the date we received the EDD from ASO and N is the prefix letter being used for RMPE EDDs received in FY 98. Note that this table contains fields that need to be changed. Sample ID, Result, and Dilution are imported here as text, but they must be changed to numeric before loading into PEMS. The table will be named:

Nyymmddp

when it has the Sample ID, Result, and Dilution fields changed to numeric.

3. Don't leave "NOLOAD" tables in Load98. "NOLOAD" means tables containing results that can't be loaded yet. This usually is because the sample information has not been entered into PEMS yet. Put "NOLOAD" tables in database Noload98.mdb.
4. When you have processed an EDD to remove any results for samples that are not yet in PEMS, name the table that is ready to be loaded into PEMS as:
Nyymmddp RTL n

where n is usually 1, the first RTL for that EDD. RTL 2, 3, etc. come when the problems have been resolved with the NOLOADS for that EDD so that they will (hopefully!) load.

5. After an RTL has been successfully loaded into PEMS, rename the table in Loadfy98.mdb to tell when it was loaded. For example:

N971121 RTL 1 Loaded 12-23-97

This helps us look at Load98 and see how many RTLs are still waiting to be loaded or how many EDDs still need to be processed into RTLs.

6. Only keep tables relevant for loading. If you need to make intermediate tables for queries, get rid of them when you are done. We may use a different database for doing queries, if this becomes a problem.
7. When a group of results from an EDD do not have matching entries in the Sample table in RMPE PEMS, they can't be loaded until the data entry is done for them. They are put in a table in Noload98 and named:

Nyymmddp No Load n

where n is usually 1, the first group of results that won't load yet.

8. After problems are tracked down and data entry done, then results from the "noloads" can be loaded. Access queries are used to find out what will load. What will load is separated into a table and put in Load98 as RTL 2, etc. Then the remaining results that still won't load are put in a table in Noload98 and given another number, such as:

Nyymmdd No Load 2

9. Note that the No Load 1 table for a particular EDD in database Noload98.mdb is not kept when a No Load 2 is made for that EDD. We only want tables in the Noload98 whose entire contents cannot yet be loaded into PEMS.

A.8 PROCESSING EDDs RECEIVED FROM ASO

1. Make a disk copy of the EDD received from ASO via e-mail attachment.
2. Label the diskette with a prefix letter and the date received. 'R' was used for FY 1997 diskettes, and 'N' is being used for FY 1998 EDDs. For example:
N971218 for an EDD received 12/8/97
R121896 for an EDD received 12/18/96.
3. Log receipt of EDD on:
  - a. RMPE Lab EDD Processing Log , stored in:

\\emefy_nt2\Erdata\RMPE\$\eddproc.wpd

Continue to fill in information on this form as you process the EDD.
  - b. RMPE Lab EDDs Processed List

This is kept in the hanging file "EDD Processing" with the RMPE Files in 9734, Room 172. Note that the signature is not added until the work is completed.
4. Make a folder for information about this EDD to be stored in the hanging file "EDD Processing." Use a colored label consistent with the other folders, and label it with the date the EDD was received. This is where information about the EDD processing is kept.
5. Begin recording information about the EDD on a handwritten log that will be filed in the folder made in (4) above. Write the date and your name at the top left, along with the EDD label. (For any processing done at a later time, draw a line at the bottom of this existing log information and write the date and your name before you start more process recording.)

RECORD ALL THAT IS DONE FROM THIS POINT ON IN THE HANDWRITTEN LOG THAT YOU JUST SET UP. The electronic form, "RMPE Lab EDD Processing Log", is a summary of what you have done, but the handwritten log is where you should put details. Be especially careful to record unusual things noted, as well as how queries were done (tables used and fields used to link them, etc.)

6. Check the diskette with a Virus Scanner and record in the Lab EDD Processing Log.
7. Make an electronic folder under:

\\Emefy_nt2\ERDATA\RMPE\$\FY98deliverables\Nyymmdd

with the same name as the diskette label and record it in the electronic Lab EDD Processing Log.

8. Record the files on the diskette in the electronic Lab EDD Processing Log, indicating the files that contain results to be loaded by an asterisk (*).
9. Copy the diskette contents into the directory created in (4) and record in the Lab EDD Processing Log.
10. Make a copy of the diskette's contents on another diskette and record in the Lab EDD Processing Log.
11. At the DOS-prompt, use the FC command to compare the files on the diskette with the files in the new folder. Assuming the original diskette is in the a: drive and the path is set to the appropriate folder in \\Emefy_nt2\ERdata\RMPE\$ on the p: drive, use the following:

fc A:PEMS-NRAD-RES1 P:PEMS-NRAD-RES1

to compare the file PEMS-NRAD-RES1 on the diskette with the one on the p: drive where the new folder was created. After all files are compared and OK, record 'yes' in the Lab EDD Processing Log.

12. Import the contents of the file(s) containing results into a table in the Microsoft Access 7.0 database containing results received in FY 1998:

\\Emefy_nt2\ERDATA\RMPE\$load98.mdb

The import should use the PEMS_RTL field specification in that database. Be sure to choose "no primary key" in importing. Name the table just imported according to the naming conventions, for example:

Nyymmddptext

13. Check the results by opening the imported table and looking at the values in the different fields. Be sure all container_id fields and labsamp_id fields look OK. Be sure no alpha characters appear in the results field. The PEMS loader will check for these, but you want to spot anything that you can ahead of time. If you see things that won't load, then a "NO LOAD" table will have to be created in the "NO LOAD" database. (See below.)
14. Open query Makeqry PEMS RTL- correct sample id in design mode. This query does several things:
  - a. It changes Result and dilution fields to numeric.
  - b. It changes client - sample_id to be the value of lab_sample_id.
15. Click on show tables and add the PEMS table you just imported

On the "table:" line of each cell in the grid:

- a. select the PEMS table you just added

- b. click on that cell and use the down arrow to select
  - c. do this for every field in the query.
16. Don't do this step until you are sure you have changed all the query's "Table:" cells so that they don't use the unneeded table. Then delete the unneeded table from the above (top part of screen).
17. Under query on main menu, pick 'Make Table'. Be sure you click on 'Make Table' and fill in a new table name each time you make a table. If you are not asked 'What table to make', do not continue, or else it will overwrite a previously-made table. Name the table:
Nyymmddp (p means it is suitable to load into PEMS).
18. Click on ! to run the query, which will make the table. Take note of how many records are in the table that is made and record under "# of Recs." in the Lab EDD Processing Log. This tells how many analytical results are in this table. Close the table.
19. Check to be sure sample and lab method and analyte are already in PEMS, to be sure this data can load:
  - a. Open query q_chk_sample_and_method in Design View.
  - b. Add the Nyymmddp table that you made in 12.
  - c. Click on the Table field of: Client_Sample_ID, Lab_ID, Collected, and Client_Method_ID and change each of them to the new table name.
  - d. Establish links:

<u>New Table</u>	<u>[pems_sample] Table</u>
client_sample_id→	smpl-id
	 [pems_analysis_method] Table
client_method_id→	anly_meth_id
	 [pems_parameter] Table
client_analyte_id→	param_code
	 [pems_parameter] Table
analyte_name→	param_std_nam
  - e. Run the query.
You should get as many records as the original text file had.
  - f. Note what monitoring events (me_grp_id) this data covered.
  - g. If you don't get as many records, then a no load RTL needs to be made.
20. Make a table named Nyymmddp RTL 1:
  - a. Use qmakRTLnSampleandMethodinPEMSpems to make table RTL 1
  - b. Under query on main menu, pick 'Make Table'. Be sure you click on 'Make Table' and fill in a new table name each time you make a table. If

you are not asked 'What table to make', do not continue, or else it will overwrite a previously-made table. Give the table the name Nyymmddp RTL 1.

21. Check to be sure this data has not already been loaded into PEMS.
  - a. Open query q_chk_result_not_already_entered in Design View.
  - b. Add Table Nyymmddp to query.
  - c. Click on table field and select the new table in cell.
  - d. Establish links:

New EDD Table	[pems cust_sample_result] Table
client_sample_id→	smpl_id
client_analyte_id→	param_code
client_method_id→	anly_meth_id
  - e. Run the query. If you find 0 records, then these are OK to be loaded (i.e., they haven't already been loaded).
22. Any results that don't match samples already in PEMS or that have some format problem in the EDD are kept in a table in a separate "noload" database until the problems can be resolved. Open the database used to store the results that could not be loaded. It is stored in:

\\Emefy_nt2\ERDATA\RMPE\$\noload98.mdb

Choose "Get external Data, Link Tables" from the main menus to establish links to both the imported table and the ready-to-load tables made above.

To make a copy of the imported data from the load98 database, open a new query and choose the link to the imported table. Select all the fields (*), and change the query to a "MAKE" query. Set the query to make a table in the same noload database, naming it as a "noload", according to the naming conventions. Run the query.

Problems that caused these results not to be able to load will have to be tracked down, but that will be done at another time. For now, you have a table in the noload database that contains all the results that came on the EDD. It's a good idea to check the number of records in that table before continuing, to be sure all records are there.

23. The next step is to remove from this newly-created "noload" table the results that are awaiting loading in the RTL table in the load database. Do this by a query that links to the RTL file in the load database. Do **NOT** do it by linking to PEMS tables. If data entry were going on and any samples relating to these results were added after the RTL was made, linking directly to PEMS would cause results to be removed from the "noload" that had not been included in the RTL in the load database. Choose the newly-created "noload" table in the noload database and the RTL table from the load database. Use the

param_code and the smpl_id fields to link them together. Select all (*) the fields from the "noload" table for the query to display, and run the query. This should produce the same number of records as contained in the RTL table in the load database. Change the query to a "DELETE query and rerun it using (!) to actually delete those results from the "noload" table that are in the RTL table awaiting to be loaded. Be sure to carefully record this processing in the handwritten log, including the number of records in the "noload" table.

24. This marks the end of the original EDD processing. To finish up:
  - a. Be sure the handwritten log is complete. Put it back in the folder dated by the receipt of this EDD, and return the folder to the "RMPE EDDs" hanging file.
  - b. Sign and date the "RMPE Lab EDDs Processed list found in the "RMPE EDDs" hanging file.
  - c. Send an E-mail to the PDC indicating:
    - the name(s) of the RTLs to be loaded and number of records they contain;
    - the name of the "noload" table(s) and number of records they contain.
  - d. Process the EDD for archival. (See work instructions.)

A.9 PROCESSING "NO LOADS"

When Electronic Deliverables (EDDs) are received, part of the processing includes determining if all the results will load into the project database. If data entry has not yet been performed for samples, then results corresponding to those samples won't load. This situation is likely to occur if paperwork from the sampling event is not given to the PDC; there is no way to know that the sampling occurred until results show up for it on an EDD.

When the EDD is initially processed, a folder for it is made. Filed in the folder is a log of what occurred during processing. This will include information on results that could not be loaded. Results received in FY 1998 that could not be loaded without problem resolution are stored in \\Emefy_nt2\ERdata\RMPE\$\noload98.mdb. This is a Microsoft Access 97 database.

Follow these steps to process a table of results from noload98.mdb:

1. Get the folder for this EDD from the EDD Processing files (9734, Rm 172).
2. Find the log of what was last done for this EDD. Record today's date and your initials. Record all that you do on this log.
3. Record the name of the NOLOAD table and how many results were put into it.
4. Verify that the results in the NOLOAD table have not already been loaded into the project database by using an Access query. Refer to A.8, Step 21.
5. Do a query to see if what is in NOLOAD can now be loaded. Link the NOLOAD table to the sample_id field in PEMS table SAMPLE. Compare the number that match with how many are in the NOLOAD table.
6. Make a table in \\Emefy_nt2\ERdata\RMPE\$\load98.mdb that contains the samples from the NOLOAD that match container_ids in CONTAINERS. This can be done by selecting "Make" on the Access Query menu. Name the table made in load98 with RTL n, where n is greater than the existing RTL numbers in load98 for that EDD. (See Naming conventions for LOAD and NOLOAD databases).
7. Remove the results from the NOLOAD table that were just put in the RTL in LOAD. Do this by linking the NOLOAD table to the LOAD table and using the fields labsamp_id and analyte_id to link them. (DO NOT do this by re-executing the "live" query on the project database. If any data entry has occurred since the RTL was made, different results may occur if the delete runs against the project database.) If any results are still remaining in the NOLOAD for this EDD, change the name in the NOLOAD table name to increase the number, such as Nyymmddp NOLOAD 2.

8. Add the name of the RTL now ready to be loaded to an E-mail and send it to the data loading specialist.

A.10 PROCESSING SAMPLING RECORD, COC, AND WO FORMS

The PDC reviews the Work Order (WO) for each sampling event. Immediately following sampling, copies of sample log sheets and chains of custody are sent to the PDC by the Field Specialist. Information from these documents is used to prepopulate the project data base in preparation for receipt of analytical results. Then the documents are put into the RMPE working project files.

The PDC records on the document when it was received and when it is given to the data entry technician to be entered into the project database. When it is received back from the data entry technician, its is put in a folder (9734, Rm 172) to be verified. When the verification is done, it is filed in the RMPE sampling notebooks (9734, Rm 172).

A.11 VERIFYING PEMS DATA ENTRY

1. Login to PEMS.
2. Choose the "Modify Sampling Record" option from the **rmpe pems** main menu.
3. Enter the Sampling Event.
4. Visually compare the Sample Record with what the PEMS screen contains for sample information and field measurements. Any discrepancies are noted on a copy of the Sampling Record.
5. Close out of "Modify Sampling Record" and choose "Modify COC" option.
6. Visually compare the chain of custody forms with what the PEMS screen contains for correct sample ids and chain of custody numbers. Any discrepancies are noted on a copy of the COC.
7. Corrections are made via the PEMS screens and noted in a Database Change Request form R____.
8. If clarification is needed, the PDC contacts the appropriate parties.
9. Completed forms are stored in a folder in the PDC's office (9734, Rm. 172).
10. Any issues to be resolved are put in a correction folder on the PDC's table.
11. Corrections that can be made via the **rmpe pems** screens are done by the PDCs. Other corrections are done by the PEMS DBA after receiving a request by the PDC via E-mail.

A.12 VERIFYING LOADING OF RTLS INTO PEMS

1. Open query qryVerifyDataLoading in
\\Emefy_nt2\Erdata\RMPE\$\Load98.mdb

If this query does not exist, go to Step 7 to recreate it.
2. Position the mouse in the upper part of the query window on the gray area where tables may be placed. Right click the mouse, and select "Show Tables."
3. Select the Nyymmddp RTL n table that contains the results whose loading is to be verified. This will add this table to the query.
4. Change the table referenced for Client_Sample_ID in the query to refer to the newly added table whose results will be verified.
5. Link the new table to PEMS_CUST_SAMPLE_RESULT_VW via:

<u>ASO EDD Table</u>	<u>[PEMS_CUST_SAMPLE_RESULT_VW] Table</u>
client_sample_id →	smpl_id
client_analyte_id →	param_code
client_method_id →	anly_method_id
6. Remove the original EDD table from the query, leaving the EDD to be verified and PEMS Tables CUST_SAMPLE_RESULT_VW, CUST_SAMPLE_RESULT_AUD_VW, SAMPLE_LAB_VW.
7. Steps 8 is needed only if you did not find the query mentioned in step (1) and need to recreate it. Skip to Step 9 if you already did Steps 1 through 6.
8. Make a new query in:

\\Emefy_nt2\ERDATA\RMPE\$\Load98.mdb

to match the RTL table to table CUST_SAMPLE_RESULT_VW in PEMS:

<u>RTL Table</u>	<u>[PEMS_CUST_SAMPLE_RESULT_VW] Table</u>
client_sample_id→	smpl_id
client_analyte_id→	param_code
client_method_id→	anly_method_id

Include the following fields from CUST_SAMPLE_RESULT_VW:

ep_id
 csr_rslt_val
 csr_rslt_unit

and set the criteria as follows: ep_id='RMPE'

Add the following fields from the PEMS table
CUST_SAMPLE_RESULT_AUD_VW to the query:

Audit_date
AuditDB_user
Audit_OS_user
Audit_Action

Add Table Sample_LAB_VW to the query. Link it to table
CUST_SAMPLE_RESULT_VW using the following fields:

Ep_id
Smpl_id
Lab_Code
Smpl_Lab_Seq_no

Add field DRG_NO to the query from table SAMPLE_LAB_VW.

9. Run the query to bring up the results that have been loaded into PEMS for this EDD.
10. Take note of the date in field audit_date. It will be used below. Be sure to document the use of this query on the handwritten log contained in the folder for this EDD. Include what fields were linked in what tables and how many records were found.
11. Document on the handwritten log-who loaded data, the date, drg_no, and mark "Verified by _____ on _____."
12. Rename the RTL Table in the Load98.mdb database to add: Loaded mm-dd-yy (the date it was loaded, which you just determined from the query. See Step 10 above.

A.13 USING PEMS TO LOOK AT RMPE SAMPLE INFORMATION AND ADD FLOW QUALIFIERS

1. Be sure your PC display is set to 256 colors and 1024 X 768 resolution.
2. Double click on the XWIN icon.
3. Fill in your user name and password.
4. Do these two commands at the Unix prompt:

```
rmpe_pems
```

This may take up to a minute, so be patient! When correcting errors at this point, use the Delete Key to erase typing errors. If you use the Backspace Key, you will see ^H on the screen.

5. When the main RMPE screen comes up, click on "Modify Sampling Record". This may take approximately 20 sec.
6. Type the Work Order number in the Sampling Event field. If you want to pick from a list of events, hit CTRL-L (the control key held down while you type the "ell" key). You can click on Find and type the beginning of a work order number, such as 61 to get the 1997 monthly events, since they all began with '61-'. Note that the Find line has a '%' in column one. Begin typing right after it and hit Enter to bring up the list of events, starting with the text you entered. Click on one event in the list and then on 'OK' to select it.
7. Click on the first cell of the grid (below) to cause it to fill in the samples from the event you chose.
8. To add a qualifier, use the tab key or the mouse to click where you want to add it. To see a list of valid qualifiers, click CTRL-L. You can select from the list by highlighting the qualifier and hitting Enter. You may add additional field qualifiers by just typing an additional letter after the qualifier letter already there. For example, to indicate rain and gravel in the flume, you would enter GR.
9. After closing from PEMS, type EXIT at the Unix prompt to end the session on the PEMS workstation. Close the X window to finish.

APPENDIX B:
PEMS REFERENCE

APPENDIX B: PEMS REFERENCE

When the RMPE data was moved from BEIDMS to PEMS, a number of different codes had to be changed to be consistent with PEMS. This Appendix contains listings of codes that are useful for data entry and verification. Where appropriate, the value for BEIDMS is given along with the PEMS value. Also included is a section describing how some fields were stored in PEMS that will aid in doing Microsoft Access queries of the data. There is also a section describing fields that may not be used frequently and conventions used to model the RMPE data in PEMS.

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B.1 RMPE PEMS DATA ENTRY REFERENCE GUIDE

Note that whenever you are entering a field that has a list of valid entries, you will see <List> at the bottom of the window. To bring the list up, hit CTRL-L (the control key held down while the lowercase "ell" key is struck). The screens shown in the following sections are the result of using CTRL-L for each field that has a list available.

1. Sample Data Entry

The following information describes what fields are entered into the PEMS "Create RMPE Sampling Record" screen.

Event Number

The sampling event number is entered at the upper left of the PEMS RMPE data entry screen in the Event Number field. This is usually the Work Order number established for the sampling.

Event Comments

This field is used to give a brief description of the event, such as "FY 1998 Monthly, January." Comments that are written in the comment section of the Sampling Record Form that apply to all the samples are also entered in the Event Comments field.

Event Weather

The Event Weather field is only used for single day sampling events. Comments about weather for sampling events that last several days should be put in the comment field for each individual sample. Note that rainfall is the only weather factor that is of interest to RMPE. There is no need to put the weather condition in for a multi-day event, unless it was raining.

The grid of sample information includes: Sample (ID), Location, Sampling Method, Collection Date, Collection Time, Sample Type, and Sample Comments, which are described below.

Sample ID

This field contains the sample id for each sample. In some historic RMPE data, this is the container id (starts with a prefix such as A1H...). For all current RMPE data, the laboratory sample id is used to identify RMPE data uniquely. This means that the ELIMS (E....) or ESLIMS (A...) numbers are RMPE sample ids.

Location

A list is available that gives all RMPE sampling locations, but the entries are too numerous to list here. All RMPE sampling locations in PEMS begin with the caret symbol (^) to make

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them distinguishable from the locations used by projects other than RMPE. Refer to Appendix C for a way to list all RMPE sampling locations.

Because there is a 10-character limit for location names in PEMS, a scheme for abbreviating locations was developed when the RMPE data was moved from BEIDMS to PEMS. The first character is always ^. The second and third characters may be one of the abbreviated identifiers, shown below.

Abbreviated Identifier	SITE_ID in BEIDMS	Description	Example Use in PEMS Location
OF	Y-12	Outfall	^OF 002
A2	9201-2	Alpha 2 = 9201-2	^A2-P-6
A3	9201-3	Alpha 3 = 9201-3	^A3
A4	9201-4	Alpha 4 = 9201-4	^A4-SU A
A5	9201-5	Alpha 5 = 9201-5	^A5E321
B4	9204-4	Beta 4 = 9204=4	^B4-E3208
T2	9202	9202	^T2C3278E

Sampling Collection Method Codes

Sampling Collection Codes	BEIDMS	PEMS
grab sample	GR	GRA
surface water composite	SWCOMP	SWC
24-hr field composite	24HRFC	24C

Collection Date

Dates are typed in dd-mmm-yyyy format, e.g. 25-APR-1997.

Collection Time

Times are entered in hhmm format, e.g. 1345 for 1:45 p.m.

Sample Types

Sample Types	BEIDMS	PEMS
Regular sample	REG	REG
Field blank	FB	FB
Rinsate	RI	RIN
Field duplicate (same as field replicate)	FDP	FR

Sample Comments

Anything noted on the Sampling Record for this particular sample may be entered here, not to exceed 200 characters . Note that PEMS also has separate comment fields for the field event, the flow measurement, and the analytical result.

2. Flow Data Entry

The fields for flow in RMPE PEMS data entry screens are labeled: Method, Value, Units, Fld Qual, and Vld Qual. Fields that appear gold for any user indicate that the user does not have permission to change that field. The values that are acceptable for each field are shown below.

Flow Method (Field Activity Method Codes)

Method	Description
AREA_VEL	Area-velocity method (also know as cross-sectional velocity method)
BUBBLE_MET	Bubble meter
ULTSON_MET	Ultrasonic meter
VEL_MET	Velocity meter
VIS_EST	Visual Estimate
VOL_TIME	Volume-Time method (also known as bucket guage method)

Flow Value

The value recorded on the Sampling Record Form is typed here. In the case where the value is less than 1.0, a leading 0 should be entered for readability, e.g. 0.1 instead of .1 should be used.

Flow Units (FM_RPT_UNIT) of Measurement and Type (PARAM_CODE)

Care should be taken to ensure that the units indicated on the Sampling Record Form for flow are entered correctly in this field. Note that there are many other choices of units in PEMS for valid units. However, the RMPE project uses just the following units for flow.

PARAM_C	PARAM_STD_NAM	FM_RPT_U	MEAS_UNIT_NAM
NS1854	Flow-instantaneous	GPD	gallon per day
NS1854	Flow-instantaneous	GPM	gallon per minute
NS1854	Flow-instantaneous	MGD	millions of gallons per
NS2227	Flow 24 hour total	GPM	gallon per minute
NS2227	Flow 24 hour total	MGD	millions of gallons per

Flow Field Qualifier Codes

Flow Validation Qualifier Codes

Flow Comments

Anything noted on the Sampling Record for the flow may be entered here, not to exceed 200 characters. Level readings such as Staff 0.312 should include a leading 0 if reading is less than 1, to help with readability. Note that PEMS also has separate comment fields for the field event, the sample, and the analytical result.

3. Non-Flow Field Measurements

The remaining field measurements are entered in the right-most fields on the RMPE Sampling Record screen in PEMS.

pH

The pH at the sample location is entered in this field.

Temp

The temperature in degrees Celsius of the water at the sample location is entered.

Cond

The conductance in μmhos of the water at the sample location is entered here.

Cl2

The amount of total residual chlorine in mg/L in the water at the sample location is entered in this field.

DO

The amount of dissolved oxygen found in the water at the sample location is entered in this field in units of mg/L.

B.2 MICROSOFT ACCESS QUERY AIDS

The following codes may be useful in making queries in Microsoft Access to look at RMPE data in PEMS. After the codes there is a section showing what PEMS tables need to be linked to see particular information, such as analytical results, field measurements, etc.

Comments

There are a number of different tables that contain descriptive comments about the data. The following table shows what table and field contain comments.

Table	Field	Comment Contents
CUST_SAMPLE_RESULT_VW	CSR_COMMENT	May indicate a result that has been filtered in the field. Values are: F - "SAMPLE FILTERED IN THE FIELD" U - "UNFILTERED"
CUST_SAMPLE_RESULT_VW	CSR_REV_COMMENT	For data that was originally in BEIDMS, this is the RESULT_SEQ, which uniquely identified results in BEIDMS.
MONITORING_EVENT_GROUP_VW	ME_GRP_COMMENT	Describes the sampling event. Sampling done by organizations other than RMPE is noted here
MONIT_LOCATION	ML_DESC	Describes RMPE sampling location
SAMPLE_VW	SMPL_COMMENT	Describes any thing special about the sample
SAMPLE_VW	SMPL_GEN_HIST_ID	For data that was originally in BEIDMS, this is the SAMPLE_SEQ, which uniquely identified results in BEIDMS
SW_FIELD_MEAS_VW	FM_COMMENT	Describes field measurement. This field is used to explain qualifiers given to flow data.
TIC_RESULT_VW	TIC_COMMENT	May indicate a result that has been filtered in the field. Values are: F - "SAMPLE FILTERED IN THE FIELD" U - "UNFILTERED"
TIC_RESULT_VW	TIC_REV_COMMENT	For data that was originally in BEIDMS, this is the RESULT_SEQ, which uniquely identified results in BEIDMS

Environmental Project ID

EP_ID = RMPE

For all RMPE data. This field is one way to be sure you are looking at RMPE data only. It is found in PEMS tables:

SAMPLE_VW
 DATA_RECEIPT_GROUP_VW
 ENV_PROJECT_VW
 ENV_PROJECT_LAB_VW
 ENV_PROJECT_TASK_VW
 ENV_PROJECT_UID_VW
 ENV_PROJ_ANLY_GRP_VW
 ENV_PROJ_TASK_LOC_VW
 MONITORING_EVENT_GROUP_VW
 SAMPLE_SW_FIELD_MEAS_VW

Environmental Project task codes (Table ENV_PROJECT_TASK):

EP_ID	ENV_PROJ_TASK_CODE	ENV_PROJ_TASK_DESC
RMPE	DEBBK	Backdoored to both BEIDMS and PEMS
RMPE	DEBSC	BEIDMS Data Entry and backdoored to PEMS
RMPE	DEPEM	PEMS Data Entry

Monitoring Location Types (Table MONIT_LOCATION_TYPE):

ML_TYP	ML_TYP_DESC
BE	Building Exit
CB	Catch Basin
NA	Not Available
OF	Outfall
PS	Sample Port
RV	River/Stream
SU	Sump
TK	Tank

SMPL_ID

This field contains the sample id for each sample. In some historic RMPE data, this is the container id (starts with a prefix such as A1H...). For all current RMPE data, the laboratory sample id is used to uniquely identify RMPE data. This means that the ELIMS (E....) or ESLIMS (A...) numbers are RMPE sample ids.

SMPL_ID appears in tables: CUST_SAMPLE_RESULT_VW, RSLT_PROJ_VW, SAMPLE_VW, SAMPLE_LAB_VW, SAMPLE_ANLY_STAGE_VW, SMPL_ASSOC_FORM_VW

Data that was maintained in BEIDMS had a container id associated with each sample. For older data where manually prepared Chain of Custody forms were used, the container id was of the form 'A1*...' where * was a letter. Newer data for which the EMMIS system was used to generate the Chain of Custody forms has numeric container ids that begin with a date format yyyyjjnnnn, where jjj is the Julian date when the form was prepared. These container ids are stored in PEMS table SAMPLE_VW in field SMPL_HIST_ID.

SOW (Statement of Work Number)

SOW_NO = LYER0152

The SOW_NO field is the RMPE statement of work number for work with ASO, found in PEMS tables SAMPLE_LAB_VW, RSLT_PROJ_VW.

Data Form Types

SR-01	Sampling Record Form
COC-02	RMPE Chain of Custody Form
LOGBOOK	Contains logbook number

There are some RMPE Events that are entered using only the Chain of Custody Forms. There will be no corresponding Sampling Record for these events.

B.3 MISCELLANEOUS

Limitations on loading RMPE data

The PEMS loader was modified for loading RMPE data to use the field in the EDD normally used for QC_GROUP (field 19) to contain the laboratory test code. The loader will load that into PEMS field LAB_TST_ID in PEMS table SAMPLE_ANLY_STAGE_VW. This means that RMPE data with QC group information cannot be loaded by the PEMS loader currently.

The PEMS data model does not include a way to indicate if samples have been filtered in the field before sending to ASO. Although this is not currently being done by the RMPE project, it had been used earlier in the project. The BEIDMS data model handled this. When RMPE data was moved from BEIDMS to PEMS, the field CSR_COMMENT in table CUST_SAMPLE_RESULT_VW in PEMS was used. For samples that had Filtered=F or U in BEIDMS, the appropriate comment was added in PEMS:

F - SAMPLE FILTERED IN THE FIELD, or
U - UNFILTERED

For the samples where this was done, there would be two lab results reported for a given sample id. One result would have the filtered comment, and the other would have the unfiltered comment. In the case of tentatively identified compound results, the PEMS table TIC_RESULT

also has a comment field, TIC_COMMENT, which could have the same filtered or unfiltered comments shown above. The PEMS loader does not currently handle this. If the project resumes this practice of filtering samples in the field and using the same sample id for both filtered and unfiltered, the PEMS loader would have to be modified.

Because the RMPE historic data contained tentatively identified compound (TIC) results, these were put into PEMS. However, the PEMS loader cannot currently handle loading TICs.

How to construct typical queries

1. To find sample information for the samples for a given sampling event, use the following PEMS views and fields to link them:

<u>DATA_FORM_VW</u>		<u>SMPL_ASSOC_FORM_VW</u>		<u>SAMPLE_VW</u>
EP_ID	⇨	EP_ID	⇨	EP_ID
		SMPL_ID	⇨	SMPL_ID
FORM_NO	⇨	FORM_NO		
FORM_TYP	⇨	FORM_TYP		

Use these criteria:

EP_ID = 'RMPE'

FRM_TYP = 'COC-02'

2. To find the analytical results for samples for a given sampling event, use the following PEMS views and fields to link them:

<u>DATA_FORM_VW</u>		<u>SMPL_ASSOC_FORM_VW</u>		<u>SAMPLE_VW</u>	
EP_ID	⇒	EP_ID	⇒	EP_ID	⇒
		SMPL_ID	⇒	SMPL_ID	⇒
FORM_NO	⇒	FORM_NO			
FORM_TYP	⇒	FORM_TYP			

CUST_SAMPLE_RESULT_VWSMPL_RSLT_QUAL_VW

⇐ EP_ID

⇐ SMPL_ID

CSR_ALT_ID

CSR_ALT_ID

Use these criteria:

EP_ID = 'RMPE'

FRM_TYP = 'COC-02'

3. To find the field measurements for a given sampling event, use these fields and criteria:

DATA_FORM_VWSW_FIELD_MEAS_VW

EP_ID ➡

EP_ID

FORM_NO ➡

FORM_NO

FORM_TYP ➡

FORM_TYP

Use these criteria:

EP_ID = 'RMPE'

FRM_TYP = 'SR-01'

4. To find to what event a given sample belongs, use these fields and criteria:

DATA_FORM_VWSMPL_ASSOC_FORM_VWSAMPLE_VW

EP_ID ➡

EP_ID

➡

EP_ID

SMPL_ID

➡

SMPL_ID

FORM_NO ➡

FORM_NO

FORM_TYP ➡

FORM_TYP

Use these criteria:

EP_ID = 'RMPE'

FRM_TYP = 'COC-02'

SMPL_ID = sample_id you are trying to locate.

**APPENDIX C:
RMPE DATA REPORTS**

APPENDIX C: RMPE DATA REPORTS

A Microsoft Access 97 database has been developed that contains reports that are routinely used to view RMPE data in PEMS. The database is stored in:

`\\emefy\_nt2\Erdata\RMPE$\Access97\RMPE Production Reports.mdb`

When the database is opened, a window appears that contains buttons for the reports that are available, as shown below.

IMPORTANT: Some of these reports are very long and are not intended for printing in entirety. Use the >| button at the bottom of the window to advance to the end of the report and determine how long it is. To print a selected range of pages, click on 'File' in the main Access menu. Then fill in the page numbers for the range. **DO NOT USE THE PRINT ICON** if you want to print just a range of pages, because it will immediately print the ENTIRE document without offering the choice of a range.

The menus for choosing reports are shown on the next several pages. These menus reflect the state of the report database as of March 19, 1998.

Microsoft Access - [RMPE Reports]

File Edit View Insert Format Records Tools Window Help

RMPE

Data Reports Locations Statistics Dates ESLIMS

Sampling Events

SUMMARY REPORTS

Hg Reg results - ordered by average

Flow per location - ordered by average

DETAILED REPORTS

Hg Reg Results- Location ordered by average

Flows-Location ordered by average

Form View

Microsoft Access

File Edit View Insert Format Records Tools Window Help

RMPE Reports

RMPE

Data Reports Locations Statistics Dates ESIMS

Sampling Locations By Area Group

Flows ordered by date for one location

Hg Reg Results ordered by date for one location

Form View

NUM

C-4

Microsoft Access

File Edit View Insert Format Records Tools Window Help

RMPE Reports

RMPE

Data Reports Locations Statistics Dates ESLIMS

Data Management

Form View

NOM

Microsoft Access

File Edit View Insert Format Records Tools Window Help

RMPE Reports

RMPE

Data Reports | Locations | Statistics | Dates | ESUMS

Flows for a particular date

Hg Reg Results for one Site over Date Range

Form View

NUM

The remainder of this appendix gives a sample page from each of the reports available, except for the listing of locations, which is included in entirety for reference.

RMPE Sampling Locations by Area Group	C-7
Sample page from "RMPE Sampling Events" report	C-13
Sample page from "RMPE Mercury Results Summary By Location for Sample Type of Reg" report	C-14
Sample page from "RMPE Mercury Results by Location For Sample Type of Reg" report ..	C-15
Sample page from "RMPE Flows by Location Summary" report	C-16
Sample page from "RMPE Flows by Location" report	C-17
Sample page from "Flows Ordered by Date for <u>Location</u> " report	C-18
Sample page from "Mercury Reg Results for <u>Site</u> " report	C-19
Sample page from "Mercury Reg Results for <u>Site</u> " report	C-20
Sample page from "Flows for <u>date</u> " report	C-21
Sample page from "RMPE Data Management Statistics" report	C-22

RMPE Sampling Locations by Area Group

<i>Group</i>	<i>Type</i>	<i>Station Type Description</i>	<i>Code*</i>	<i>Location</i>
8110				
	CB	Catch Basin	^8110 BAS	8110, OPEN CONCRETE BASIN
	CB	Catch Basin	^8110 MAN	8110, MANHOLE
	CB	Catch Basin	^8110 RUN	8110, RUNOFF TO CB
9201-2				
	SU	Sump	^A2-E-13	9201-2 Sump at E-13
	SU	Sump	^A2-E-22	9201-2 Sump at E-22
	SU	Sump	^A2-F-3	9201-2 Sump at F-3
	SU	Sump	^A2-O-12	9201-2 Sump at O-12
	SU	Sump	^A2-O-14	9201-2 Sump at O-14
	PS	Sample Port	^A2-SP 01	9201-2 Sample port 1
	PS	Sample Port	^A2-SP 02	9201-2 Sample port 2
	PS	Sample Port	^A2-SP 03	9201-2 Sample port 3
	PS	Sample Port	^A2-SP 07	9201-2 Sample port 7
	PS	Sample Port	^A2-SP 08	9201-2 Sample port 8
	PS	Sample Port	^A2-SP 10	9201-2 Sample port 10
	PS	Sample Port	^A2-SP 11	9201-2 Sample port 11
	PS	Sample Port	^A2-SP 15	9201-2 Sample port 15
	PS	Sample Port	^A2-SP 17	9201-2 Sample port 17
	PS	Sample Port	^A2-SP 18	9201-2 Sample port 18
	PS	Sample Port	^A2-SP 19	9201-2 Sample port 19
	PS	Sample Port	^A2-SP 20	9201-2 Sample port 20
	PS	Sample Port	^A2-SP 21	9201-2 Sample port 21
	PS	Sample Port	^A2-SP 21A	9201-2 Sample port 21A
	PS	Sample Port	^A2-SP 22	9201-2 Sample port 22
	PS	Sample Port	^A2-SP 23	9201-2 Sample port 23
	PS	Sample Port	^A2-SP 23A	9201-2 Sample port 23A
	PS	Sample Port	^A2-SP 24	9201-2 Sample port 24
	PS	Sample Port	^A2-SP 25	9201-2 Sample port 25
	PS	Sample Port	^A2-SP 27	9201-2 Sample port 27
	PS	Sample Port	^A2-SP 28	9201-2 Sample port 28
	PS	Sample Port	^A2-SP 29	9201-2 Sample port 29
	PS	Sample Port	^A2-SP 29A	9201-2 Sample port 29A
	PS	Sample Port	^A2-SP 30	9201-2 Sample port 30
	PS	Sample Port	^A2-SP 31	9201-2 Sample port 31
	PS	Sample Port	^A2-SP 34	9201-2 Sample port 34
	CB	Catch Basin	^A2B4001N	9201-2 B4001 north pipe
	CB	Catch Basin	^A2B4001W	9201-2 B-4001 west pipe
	CB	Catch Basin	^A2B4004N	9201-2 B-4004 north pipe
	CB	Catch Basin	^A2B4004NW	9201-2 B-4004 northwest pipe

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* Location code used in PEMS

Report: rptSamLocsByGroup in
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 RMPE_reports_Access97.mdb

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<i>Group</i>	<i>Type</i>	<i>Station Type Description</i>	<i>Code*</i>	<i>Location</i>
	CB	Catch Basin	^A2B4004W	9201-2 B-4004 west pipe
	CB	Catch Basin	^A2C3502N	9201-2 C-3502 north pipe
	CB	Catch Basin	^A2C3502NW	9201-2 C-3502 northwest pipe
	PS	Sample Port	^A2RM263SK	9201-2, sink in room 263 of 9201-2
	NA	Not Available	^FLD BLNK	Field Blanks (not tied to a location)
	NA	Not Available	^RINSATE	Rinsate (not tied to a location)
9201-3				
	SU	Sump	^A3	9201-3
9201-4				
	TK	Tank	^A4-2100U	9201-4 WEIR AT OUTLET OF TANK 2100-U
	SU	Sump	^A4-SU A	9201-4 Sump A
	SU	Sump	^A4-SU B	9201-4 Sump B
	SU	Sump	^A4-SU C	9201-4 Sump C
	SU	Sump	^A4-SU D	9201-4 Sump D
	SU	Sump	^A4-SU E	9201-4 Sump E
	SU	Sump	^A4-SU F	9201-4 Sump F
	SU	Sump	^A4-SU G	9201-4 Sump G
	SU	Sump	^A4-SU H	9201-4 Sump H
	SU	Sump	^A4-SUAB	9201-4 sump A & B, composites from samples (E943400088-89)
	CB	Catch Basin	^A4D3005	9201-4 D-3005
	CB	Catch Basin	^A4D3100N	9201-4 D-3100 NORTH PIPE at 3x4 ft. grading n/w of 9201-4 at the chain link fence.
	CB	Catch Basin	^A4D3100W	9201-4 D-3100 WEST PIPE at 3x4 grading n/w of 9201-4 at the chain link fence.
	CB	Catch Basin	^A4D3101E	9201-4 D-3101 EAST PIPE
	CB	Catch Basin	^A4D3226	9201-4 D-3226
	CB	Catch Basin	^A4D3231P	9201-4 D-3231P under large de-mineralized tanks
	CB	Catch Basin	^A4D3232E	9201-4 D-3232 EAST PIPE
	CB	Catch Basin	^A4D3232N	9201-4 D-3232 NORTH PIPE
	CB	Catch Basin	^A4D3232NE	9201-4 D-3232 NORTH EAST PIPE
	CB	Catch Basin	^A4D3232W	9201-4 D-3232 WEST PIPE
	CB	Catch Basin	^A4D3234	9201-4 D-3234
	CB	Catch Basin	^A4D3234N	9201-4 D-3234 NORTH PIPE
	CB	Catch Basin	^A4D3311E	9201-4 D-3311E 100 gal/min steam plant process water
	CB	Catch Basin	^A4D3311N	9201-4 D-3311 NORTH PIPE
	CB	Catch Basin	^A4D3320	9201-4 D-3320. Flows into D-3321
	CB	Catch Basin	^A4D3321	9201-4 D-3321
	CB	Catch Basin	^A4D3322	9201-4 D-3322
	CB	Catch Basin	^A4D3324	9201-4 D-3324
	CB	Catch Basin	^A4D3871	9201-4 D-3871
	CB	Catch Basin	^A4D4004	9201-4 D-4004
	NA	Not Available	^FLD BLNK	Field Blanks (not tied to a location)
	NA	Not Available	^RINSATE	Rinsate (not tied to a location)

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* Location code used in PEMS

Report: rptSampLocsByGroup in
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<i>Group</i>	<i>Type</i>	<i>Station Type Description</i>	<i>Code*</i>	<i>Location</i>
9201-5				
	PS	Sample Port	^A5-SP 101	9201-5 Sample port 101
	PS	Sample Port	^A5-SP 102	9201-5 Sample port 102
	PS	Sample Port	^A5-SP 103	9201-5 Sample port 103
	PS	Sample Port	^A5-SP 111	9201-5 Sample port 111
	PS	Sample Port	^A5-SP 112	9201-5 Sample port 112
	PS	Sample Port	^A5-SP 114	9201-5 Sample port 114
	PS	Sample Port	^A5-SP 115	9201-5 Sample port 115
	PS	Sample Port	^A5-SP 116	9201-5 Sample port 116
	PS	Sample Port	^A5-SP 117	9201-5 Sample port 117
	PS	Sample Port	^A5-SP 118	9201-5 Sample port 118
	PS	Sample Port	^A5-SP 119	9201-5 Sample port 119
	PS	Sample Port	^A5-SP 120	9201-5 Sample port 120
	PS	Sample Port	^A5-SP 121	9201-5 Sample port 121
	PS	Sample Port	^A5-SP 122	9201-5 Sample port 122
	PS	Sample Port	^A5-SP 124	9201-5 Sample port 124
	SU	Sump	^A5-SU A	9201-5 Sump A
	SU	Sump	^A5-SU B	9201-5 Sump B
	SU	Sump	^A5-SU C	9201-5 Sump C
	SU	Sump	^A5-SU D	9201-5 Sump D
	SU	Sump	^A5-SU E	9201-5 Sump E
	SU	Sump	^A5-SU F	9201-5 Sump F
	SU	Sump	^A5-SU G	9201-5 Sump G
	SU	Sump	^A5-SU H	9201-5 Sump H
	CB	Catch Basin	^A5E321	9201-5 E-321 MANHOLE TELEPHONE VAULT
	CB	Catch Basin	^A5E3215E	9201-5 E-3215 EAST PIPE
	CB	Catch Basin	^A5E3231	9201-5 E-3231MAIN DRAIN 9201-5
	CB	Catch Basin	^A5E3234E	9201-5 E-3234E. 12" pipe that enters E-3234 and drains to E-3247
	CB	Catch Basin	^A5E3234W	9201-5 E-3234. 15" pipe that enters E-3234 and drains to E-3247
	CB	Catch Basin	^A5E3238E	9201-5 E-3238 EAST PIPE
	CB	Catch Basin	^A5E3238W	9201-5 E-3238 WEST PIPE
	CB	Catch Basin	^A5E3247	9201-5 E-3247 BASIN
	CB	Catch Basin	^A5E3247N	9201-5 E-3247 NORTH PIPE
	CB	Catch Basin	^A5E3247NW	9201-5 E-3247 10" NORTH WEST PIPE
	CB	Catch Basin	^A5E3247W	9201-5 E3247 2" WEST PIPE
	CB	Catch Basin	^A5E3248N	9201-5 E3248 NORTH PIPE
	CB	Catch Basin	^A5E3249E	9201-5 E-3249 EAST PIPE
	CB	Catch Basin	^A5E3249SE	9201-5 E3249 South East Pipe
	CB	Catch Basin	^A5E3250E	9201-5 E-3250 EAST PIPE
	CB	Catch Basin	^A5E3250N	9201-5 E-3250 NORTH PIPE
	CB	Catch Basin	^A5E3320	9201-5 E-3320
	CB	Catch Basin	^A5E3321	9201-5 E3321

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* Location code used in PEMS

Report: rptSampLocsByGroup in
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 RMPE_reports_Access97.mdb

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Group	Type	Station Type Description	Code*	Location
	CB	Catch Basin	^A5E3324NE	9201-5 E-3324 NORTH EAST PIPE
	CB	Catch Basin	^A5E3324NW	9201-5 E-3324 NORTH WEST PIPE
	NA	Not Available	^FLD BLNK	Field Blanks (not tied to a location)
	NA	Not Available	^RINSATE	Rinsate (not tied to a location)
	NA	Not Available	^TRIP BLNK	TRIP BLANK (Not tied to a location)
9202				
	CB	Catch Basin	^T2B-3400	9202 B-3400
	CB	Catch Basin	^T2B-3410	9202 B-3410
	CB	Catch Basin	^T2C3278E	9202 C-3278 EAST PIPE
	CB	Catch Basin	^T2C3279E	9202 C-3279 EAST PIPE
	CB	Catch Basin	^T2C3391N	9202 C-3391 NORTH PIPE
	CB	Catch Basin	^T2C3397N	9202 C-3397 NORTH PIPE
	CB	Catch Basin	^T2C3496N	9202 C-3496 NORTH PIPE
	CB	Catch Basin	^T2C3507E	9202 C-3507 EAST PIPE
	CB	Catch Basin	^T2C3509N	9202 C-3509 NORTH PIPE
	CB	Catch Basin	^T2C3509NW	9202 C-3509 NORTH WEST PIPE
	CB	Catch Basin	^T2C3512N	9202 C-3512 NORTH PIPE
9204-4				
	BE	Building Exit	^B4-BE03	9204-4 BE-03
	BE	Building Exit	^B4-BE15	9204-4 BE-15
	CB	Catch Basin	^B4-E3004S	9204-4 E-3004 SOUTH PIPE
	CB	Catch Basin	^B4-E3007S	9204-4 E-3007 SOUTH PIPE
	CB	Catch Basin	^B4-E3009W	9204-4 E-3009 WEST PIPE
	CB	Catch Basin	^B4-E3109E	9204-4 E-3109 EAST PIPE
	CB	Catch Basin	^B4-E3118	9204-4 E-3118 BASIN
	CB	Catch Basin	^B4-E3120	9204-4 E-3120
	CB	Catch Basin	^B4-E3121	9204-4 E-3121
	CB	Catch Basin	^B4-E3124	9204-4 E-3124
	CB	Catch Basin	^B4-E3210	9204-4 E-3210
	PS	Sample Port	^B4-SP 301	9204-4 SP 301
	PS	Sample Port	^B4-SP 302	9204-4 SP 302
	PS	Sample Port	^B4-SP 303	9204-4 SP 303
	PS	Sample Port	^B4-SP 305	9204-4 SP 305
	SU	Sump	^B4-SUEL	9204-4 Elevator Sump
	NA	Not Available	^RINSATE	Rinsate (not tied to a location)
9422-15				
	CB	Catch Basin	^9422-15	SWHISS Station 15
	NA	Not Available	^FLD BLNK	Field Blanks (not tied to a location)
	NA	Not Available	^RINSATE	Rinsate (not tied to a location)
9422-16				
	CB	Catch Basin	^9422-16	SWHISS Station 16
	CB	Catch Basin	^9422-16N	16" north pipe (from 9204-4?)
	OF	Outfall	^9422-16WL	Western Line

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* Location code used in PEMS

Report: rptSampLocsByGroup in
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 RMPE_reports_Access97.mdb

Group	Type	Station Type Description	Code*	Location
<i>CREEK</i>				
	RV	River/Stream	^9422-1	9422-1 Same as Station 17
	RV	River/Stream	^9422-3	9422-3 Same as Station 8
	RV	River/Stream	^E-WEIR	
	NA	Not Available	^FLD BLNK	Field Blanks (not tied to a location)
	RV	River/Stream	^INL OILSK	Inlet Oil Skimmer
	RV	River/Stream	^LRIN	Lake Reality Inlet. Formerly known as INLT LAKE in BEIDMS.
	RV	River/Stream	^LRINST	Where storm sampling is done near Lake Reality Inlet - slightly upstream from where grab samples at LRIN are taken.
	RV	River/Stream	^LROUT	Lake Reality Outlet.
	RV	River/Stream	^LROUTE	
	SU	Sump	^LRSUMP	Lake Reality Sump
	RV	River/Stream	^LRTD	Lake Reality trench drain. 2" PVC pipe at end of overflow of the diversion ditch.
	NA	Not Available	^MYSTERY1	From Event RR Turner 1, location unknown
	RV	River/Stream	^OF 200	Outfall 200 was formerly called NS PIPE, for North/South Pipe.
	RV	River/Stream	^OF 201	Outfall 201
	RV	River/Stream	^OLD CRBED	Old Creek Bed
	RV	River/Stream	^RAW WATER	Near Outfall 200 (near N/S Pipe)
	NA	Not Available	^RINSATE	Rinsate (not tied to a location)
	NA	Not Available	^TRIP BLNK	TRIP BLANK (Not tied to a location)
<i>Y-12</i>				
	NA	Not Available	^FLD BLNK	Field Blanks (not tied to a location)
	NA	Not Available	^MYSTERY2	From Event RR Turner 1, location #2 unknown
	NA	Not Available	^MYSTERY3	From Event RR Turner 1, location #3 unknown
	OF	Outfall	^OF 002	Outfall 2.
	OF	Outfall	^OF 004	Outfall 4.
	OF	Outfall	^OF 010	Outfall 10.
	OF	Outfall	^OF 014	Outfall 14.
	OF	Outfall	^OF 017	Outfall 17.
	OF	Outfall	^OF 021	Outfall 21.
	OF	Outfall	^OF 033	Outfall 33.
	OF	Outfall	^OF 034	Outfall 34.
	OF	Outfall	^OF 042	Outfall 42.
	OF	Outfall	^OF 047	Outfall 47. Receives Outfall 48 water also since 2-16-96.
	OF	Outfall	^OF 048	Outfall 48. Sandbagged to flow to Outfall 47 on 2-16-96.
	OF	Outfall	^OF 049	Outfall 49.
	OF	Outfall	^OF 051	Outfall 51..
	OF	Outfall	^OF 054	Outfall 54.
	OF	Outfall	^OF 055	Outfall 55.
	OF	Outfall	^OF 055 MP	Manhole pockets at outfall 55 A.

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* Location code used in PEMS

Report: rpt(SampLocsByGroup in
 \\comefy\nt2\erdata\rmpe\$Access97\RMPE_reports_Access97.mdb

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<i>Group</i>	<i>Type</i>	<i>Station Type Description</i>	<i>Code*</i>	<i>Location</i>
OF	Outfall		^OF 067	Outfall 67.
OF	Outfall		^OF 071	Outfall 71.
OF	Outfall		^OF 073	Outfall 73.
OF	Outfall		^OF 087	Outfall 87.
OF	Outfall		^OF 088	Outfall 88.
OF	Outfall		^OF 099	Outfall 99.
OF	Outfall		^OF 109	Outfall 109
OF	Outfall		^OF 113	Outfall 113
OF	Outfall		^OF 122	Outfall 122
OF	Outfall		^OF 125	Outfall 125
OF	Outfall		^OF 128	Outfall 128
OF	Outfall		^OF 133	Outfall 133
OF	Outfall		^OF 135	Outfall 135
OF	Outfall		^OF 141	Outfall 141. East of OF 200A and west of OF 200 (NSPIPE), this pipe discharges into OF 200 approx. 20 ft. before OF 200 flow emerges above ground.
OF	Outfall		^OF 150	Outfall 150
OF	Outfall		^OF 160	Outfall 160. 2 inch 45 degree WSC flume installed on 1-26-96.
OF	Outfall		^OF 163	Outfall 163. Better flow with adjusted XL 60 degree flume on 1-26-96.
OF	Outfall		^OF 169	Outfall 169. Better flow with new XL 60 degree flume installed on 1-26-96.
OF	Outfall		^OF 169W	Outfall 169W. West line feeding from 9422-16
OF	Outfall		^OF 189	Outfall 189
OF	Outfall		^OF 190	Outfall 190
OF	Outfall		^OF 200A	Outfall 200A. Behind 9204-3, 75 feet west of Outfall 200 (NS Pipe), inside the North/South pipe basin.
RV	River/Stream		^ONSPIEL	Leak from 2 abandoned NS Pipes. The leak enters the North/South pipe near OF 200A
NA	Not Available		^RINSATE	Rinsate (not tied to a location)
NA	Not Available		^RT2-UEFPC	Ralph Turner's Site 2: upstream of outfall 109, near the bridge that crosses the creek
NA	Not Available		^RT4-UEFPC	Ralph Turner's Site 4: EF Poplar Creek km 24.8, also called "the snake hole"
NA	Not Available		^RT5-UEFPC	Ralph Turner's Site 5: downstream of outfall 14, just upstream of where creek goes under pavement
NA	Not Available		^TRIP BLNK	TRIP BLANK (Not tied to a location)

Wednesday, March 25, 1998

* Location code used in PEMS

Report: rptSampLocsByGroup in
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 RMPE_reports_Access97.mdb

RMPE Sampling Events

EVENT	BEGIN DATE	END DATE	WEATHER	COMMENT
0	7/8/93	4/6/94		Combination of many Sampling Events
0004	5/10/95	5/10/95		Alpha-2 Sumps
0024	4/26/95	4/26/95		Baseline verification - Alpha-2,Alpha-5,Beta-4
0025	4/19/95	4/19/95		Various Outfalls from OF 169 to Lake Reality Inlet
0026-00	5/1/95	5/2/95	Rain	Station 8 Rain Event - Samples Filtered
0026-01	3/14/96	3/16/96	Stormy	Storm Event - Station 8, Station 17, Outfall 201 and Diversion Ditch
0026-02	9/27/96	9/29/96	Stormy	Storm Event - Station 17, Station 8, North/South Pipe, Diversion Ditch
0026-03	11/29/96	12/2/96	Stormy	Storm Event - Station 17, Station 8, Diversion Ditch, North/South Pipe
0027	5/9/95	5/9/95		9202
0028	4/28/95	4/28/95		Manhole pockets of Outfall 55A
0030	5/18/95	5/19/95		Station 8
0031	6/20/95	6/20/95		Outfalls from Lake Reality Inlet to 9422-16
0032	6/19/95	6/19/95		8110
0033	7/18/95	7/18/95		Various Outfalls from OF 014 to 9422-16
0034	7/27/95	7/27/95		Alpha-5 Pipes
0035	8/15/95	8/15/95		Various Outfalls from OF 021 to 9422-16
0036	9/26/95	9/26/95		Various Outfalls from Lake Reality Inlet to 9422-16
0037	9/20/95	9/20/95		Alpha-4 NE Pipe inside tank 2100U
0038	10/10/95	10/10/95		Various Outfalls from Lake Reality Inlet to 9422-16
0039	10/17/95	10/17/95		Alpha-4 and Outfall 180
0040	11/14/95	11/14/95		Outfalls from Lake Reality Inlet to 9422-16
0042-01	2/25/96	3/2/96		1996 Quarterly, 1 sampling
0042-02	4/29/96	5/3/96		1996 Quarterly, 2 sampling
0042-03	7/14/96	7/20/96		1996 Quarterly, 3 sampling
0042-04	10/20/96	10/25/96		1996 Quarterly, 4 sampling
0043	12/12/95	12/12/95		Various Outfalls from Lake Reality Inlet to 9422-16
0045	1/11/96	1/11/96		Alpha-5, Old Creek Bed and E-Weir
0046-01	1/16/96	1/16/96		1996 Monthly, January
0046-02	2/13/96	2/13/96		1996 Monthly, February
0046-03	3/12/96	3/12/96		1996 Monthly, March
0046-04	4/10/96	4/10/96		1996 Monthly, April

Thursday, February 19, 1998

Report: rptSamplingEvents in

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RMPE Mercury Results Summary

By Location for Sample Type of Reg

<i>Number of Results</i>	<i>a,b Max</i>	<i>a,b Min</i>	<i>a,b Avg</i>	<i>Units</i>	<i>Number < a detection limit:</i>	<i>Code c</i>	<i>Location</i>
2	250000.0	0.2	125000.10	UG/L	1	*A2-SP 21A	9201-2 Sample port 21A
3	180000.0	840.0	110280.00	UG/L	0	*A2-SP 23	9201-2 Sample port 23
1	3300.0	3300.0	3300.00	UG/L	0	*A5-SP 112	9201-5 Sample port 112
1	2200.0	2200.0	2200.00	UG/L	0	*A2-SP 15	9201-2 Sample port 15
2	3200.0	620.0	1910.00	UG/L	0	*A5-SP 111	9201-5 Sample port 111
2	2300.0	1100.0	1700.00	UG/L	0	*A2-SP 21	9201-2 Sample port 21
1	1600.0	1600.0	1600.00	UG/L	0	*A4D3226	9201-4 D-3226
1	910.0	910.0	910.00	UG/L	0	*A5-SP 103	9201-5 Sample port 103
1	870.0	870.0	870.00	UG/L	0	*A5-SP 118	9201-5 Sample port 118
8	1000.0	210.0	472.50	UG/L	0	*A5-SU F	9201-5 Sump F
1	410.0	410.0	410.00	UG/L	0	*A2-SP 30	9201-2 Sample port 30
2	560.0	180.0	370.00	UG/L	0	*A5-SP 117	9201-5 Sample port 117
8	440.0	160.0	318.75	UG/L	0	*A4-SU B	9201-4 Sump B
2	600.0	26.0	313.00	UG/L	0	*A2-SP 17	9201-2 Sample port 17
1	280.0	280.0	280.00	UG/L	0	*A5E3234W	9201-5 E-3234. 15" pipe that enters E-3234 and drains to E-3247
1	280.0	280.0	280.00	UG/L	0	*B4-SP 302	9204-4 SP 302
1	270.0	270.0	270.00	UG/L	0	*A5E3247N	9201-5 E-3247 NORTH PIPE
8	2000.0	0.4	257.69	UG/L	0	*A2-E-13	9201-2 Sump at E-13
8	260.0	150.0	218.25	UG/L	0	*A4-SU E	9201-4 Sump E
8	370.0	81.0	199.50	UG/L	0	*A4-SU F	9201-4 Sump F
1	180.0	180.0	180.00	UG/L	0	*A2-SP 07	9201-2 Sample port 7
1	170.0	170.0	170.00	UG/L	0	*A5E3238W	9201-5 E-3238 WEST PIPE
1	150.0	150.0	150.00	UG/L	0	*A5-SP 101	9201-5 Sample port 101
1	140.0	140.0	140.00	UG/L	0	*A4D3871	9201-4 D-3871
1	130.0	130.0	130.00	UG/L	0	*A5-SP 114	9201-5 Sample port 114
1	130.0	130.0	130.00	UG/L	0	*B4-SP 303	9204-4 SP 303
1	120.0	120.0	120.00	UG/L	0	*A5E3234E	9201-5 E-3234E. 12" pipe that enters E-3234 and drains to E-3247
4	190.0	83.0	114.50	UG/L	0	*A5E3248N	9201-5 E3248 NORTH PIPE
8	140.0	81.0	107.00	UG/L	0	*A5-SU C	9201-5 Sump C
2	210.0	2.9	106.45	UG/L	0	*A5-SP 116	9201-5 Sample port 116
51	340.0	31.0	90.43	UG/L	0	*A5E3250N	9201-5 E-3250 NORTH PIPE

Thursday, February 19, 1998 Report: rsumHgRegResultsByLocmax In

a Only results from REG samples \\nemefj\nt2herdata\RMPE\Access97\RMPE_Reports_Access97.mdb

b Does not include any results that have qualifiers other than under detection limit.

c Location code Used in PEMS

RMPE Mercury Results by Location **For Sample Type of REG**

<i>Location^a</i>	<i>Sample</i>	<i>Date Taken</i>	<i>Mercury Result^{b,c}</i>	<i>Unit</i>	<i>Qualifier</i>	<i>Sample Type</i>	<i>Event</i>
*A2-SP 21A 9201-2 Sample port 21A							
	A1G531005	7/12/94	250000	UG/L		REG	9
	A1G530003	7/11/94	0.2	UG/L	<	REG	9
	<i>No. of results: 2 HI 250000 Lo: 0.2 Avg: 125000.10 UG/L Count<detection limit 1</i>						
*A2-SP 23 9201-2 Sample port 23							
	E933440088	12/10/93	180000	UG/L		REG	0
	A11709009	11/8/93	150000	UG/L		REG	0
	A11882002	1/20/94	840	UG/L		REG	0
	<i>No. of results: 3 HI 180000 Lo: 840 Avg: 110280.00 UG/L Count<detection limit 0</i>						
*A5-SP 112 9201-5 Sample port 112							
	A11883001	1/25/94	3300	UG/L		REG	0
	<i>No. of results: 1 HI 3300 Lo: 3300 Avg: 3300.00 UG/L Count<detection limit 0</i>						
*A2-SP 15 9201-2 Sample port 15							
	A11709007	11/8/93	2200	UG/L		REG	0
	<i>No. of results: 1 HI 2200 Lo: 2200 Avg: 2200.00 UG/L Count<detection limit 0</i>						
*A5-SP 111 9201-5 Sample port 111							
	A1G533003	7/26/94	3200	UG/L		REG	14
	A11897001	4/6/94	620	UG/L		REG	3
	<i>No. of results: 2 HI 3200 Lo: 620 Avg: 1910.00 UG/L Count<detection limit 0</i>						
*A2-SP 21 9201-2 Sample port 21							
	A11882001	1/20/94	2300	UG/L		REG	0
	A11709005	11/8/93	1100	UG/L		REG	0
	<i>No. of results: 2 HI 2300 Lo: 1100 Avg: 1700.00 UG/L Count<detection limit 0</i>						
*A4D3226 9201-4 D-3226							
	E952910008	10/17/95	1600	UG/L		REG	0039
	<i>No. of results: 1 HI 1600 Lo: 1600 Avg: 1600.00 UG/L Count<detection limit 0</i>						
*A5-SP 103 9201-5 Sample port 103							
	A11877007	12/9/93	910	UG/L		REG	0
	<i>No. of results: 1 HI 910 Lo: 910 Avg: 910.00 UG/L Count<detection limit 0</i>						
*A5-SP 118 9201-5 Sample port 118							
	A11883005	1/25/94	870	UG/L		REG	0
	<i>No. of results: 1 HI 870 Lo: 870 Avg: 870.00 UG/L Count<detection limit 0</i>						

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Report: rdetPemsHgRegResultsByLocmax in
\\nemefy\nt2\erdata\rmpe\$Access97\ RMPE_Reports_Access97.mdb*a Location code Used in PEMS**b Only results from REG samples**c Does not include any results that have qualifiers other than under detection limit*

RMPE Flows* by Location Summary

No. of flows:	Max:	Min:	Avg:	units	Code**	Location
6	28.0	3.8	13.20	MGD	*LRINST	Where storm sampling is done near Lake Reality Inlet - slightly upstream from where grab samples at LRIN are taken.
35	36.4	3.5	9.41	MGD	*9422-1	9422-1 Same as Station 17
43	23.5	2.2	6.46	MGD	*9422-3	9422-3 Same as Station 8
1	6.2	6.2	6.20	MGD	*LRIN	Lake Reality Inlet. Formerly known as INLT LAKE in BEIDMS.
13	4.7	1.1	3.90	MGD	*RAW WATER	Near Outfall 200 (near N/S Pipe)
43	20.0	1.2	2.46	MGD	*OF 200A	Outfall 200A. Behind 9204-3, 75 feet west of Outfall 200 (NS Pipe).
3	2.2	1.7	1.90	MGD	*OF 201	Outfall 201
21	2.9	1.0	1.80	MGD	*OF 200	Outfall 200 was formerly called NS PIPE, for North/South Pips.
1	0.5	0.5	0.50	MGD	*LROUT	Lake Reality Outlet.
13	502.0	300.0	377.00	GPM	*OF 150	Outfall 150
69	628.0	30.0	251.99	GPM	*OF 163	Outfall 163. Better flow with adjusted XL 60 degree flume on 1-26-96.
68	896.0	70.0	204.43	GPM	*OF 169	Outfall 169. Better flow with new XL 60 degree flume installed on 1-26-96.
8	224.0	132.0	194.63	GPM	*OF 021	Outfall 21.
3	198.0	178.0	187.97	GPM	*OF 125	Outfall 125
67	355.0	66.0	105.13	GPM	*9422-15	SWHISS Station 15
9	136.4	85.0	104.27	GPM	*OF 135	Outfall 135
1	100.0	100.0	100.00	GPM	*A5E3324NW	9201-5 E-3324 NORTH WEST PIPE
1	100.0	100.0	100.00	GPM	*OF 169W	Outfall 169W.
14	191.0	14.5	86.32	GPM	*OF 051	Outfall 51..
4	100.0	51.1	77.28	GPM	*OF 109	Outfall 109
17	250.0	44.9	73.83	GPM	*OF 055	Outfall 55.
3	88.0	59.8	73.27	GPM	*OF 034	Outfall 34.
3	85.0	40.0	58.33	GPM	*A4D3311N	9201-4 D-3311 NORTH PIPE
1	56.8	56.8	56.82	GPM	*A5-SP 116	9201-5 Sample port 116
24	120.0	20.0	55.92	GPM	*9422-16	SWHISS Station 16
3	61.5	45.0	55.51	GPM	*A2-SP 03	9201-2 Sample port 3
1	50.0	50.0	50.00	GPM	*A5E3250E	9201-5 E-3250 EAST PIPE
1	50.0	50.0	50.00	GPM	*A5E3324NE	9201-5 E-3324 NORTH EAST PIPE
50	1500.0	2.0	35.01	GPM	*A5E3250N	9201-5 E-3250 NORTH PIPE
2	56.8	8.4	32.60	GPM	*A5-SP 117	9201-5 Sample port 117
67	59.0	6.0	25.40	GPM	*OF 160	Outfall 160. 2 inch 45 degree WSC flume installed on 1-26-96.
3	42.0	4.5	22.17	GPM	*A4D3234N	9201-4 D-3234 NORTH PIPE
25	52.0	5.0	21.98	GPM	*OF 047	Outfall 47. Receives Outfall 48 water also since 2-16-96.
6	63.4	0.0	20.82	GPM	*A5E3231	9201-5 E-3231MAIN DRAIN 9201-5

Thursday, February 19, 1998

* Does not include flows qualified by "?".

** Location Code used in PEMS

Report: rsum_ns1854_ns2227_stat_flow in
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RMPE_Reports_Access97.mdb

RMPE Flows by Location*

<i>Location**</i>	<i>Flow code</i>	<i>Flow description</i>	<i>Date collected</i>	<i>Qualifier</i>	<i>Flow*</i>	<i>Flow units</i>

^LRINST

Where storm sampling is done near Lake Reallity Inlet - slightly upstream from where grab samples at LRIN are taken.

NS2227	Flow 24 hour total	11/30/96		28.0 MGD
NS1854	Flow-instantaneous	12/2/96		18.0 MGD
NS2227	Flow 24 hour total	12/1/96		18.0 MGD
NS1854	Flow-instantaneous	11/29/96		7.3 MGD
NS2227	Flow 24 hour total	3/18/96		4.1 MGD
NS1854	Flow-instantaneous	3/14/96		3.8 MGD
<i>No. of flows</i>	6	<i>Max:</i>	28.0	<i>Min:</i>
				3.8
		<i>Avg:</i>	13.20	MGD

^9422-1

9422-1 Same as Station 17

NS1854	Flow-instantaneous	12/1/96		36.4 MGD
NS1854	Flow-instantaneous	11/30/96		30.2 MGD
NS1854	Flow-instantaneous	7/23/97		20.5 MGD
NS1854	Flow-instantaneous	10/31/97		11.9 MGD
NS1854	Flow-instantaneous	10/30/97		11.9 MGD
NS2227	Flow 24 hour total	1/23/98		11.0 MGD
NS1854	Flow-instantaneous	1/19/98		8.6 MGD
NS1854	Flow-instantaneous	3/12/97		8.6 MGD
NS1854	Flow-instantaneous	1/29/98		8.5 MGD
NS1854	Flow-instantaneous	5/5/97		8.4 MGD
NS1854	Flow-instantaneous	10/28/97		8.3 MGD
NS1854	Flow-instantaneous	11/12/96		8.1 MGD
NS1854	Flow-instantaneous	4/25/97		8.0 MGD
NS1854	Flow-instantaneous	10/29/97		8.0 MGD
NS1854	Flow-instantaneous	11/10/97		8.0 MGD
NS1854	Flow-instantaneous	1/20/98		8.0 MGD
NS1854	Flow-instantaneous	1/21/98		7.8 MGD
NS1854	Flow-instantaneous	8/19/97		7.8 MGD
NS2227	Flow 24 hour total	1/22/98		7.8 MGD
NS1854	Flow-instantaneous	11/29/96		7.6 MGD
NS1854	Flow-instantaneous	9/18/96		7.6 MGD
NS1854	Flow-instantaneous	7/21/97		7.5 MGD
NS1854	Flow-instantaneous	10/22/96		7.5 MGD
NS1854	Flow-instantaneous	2/18/97		7.5 MGD
NS1854	Flow-instantaneous	5/20/97		7.3 MGD
NS1854	Flow-instantaneous	10/21/97		7.3 MGD

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Report: _rdet_ns1854_ns2227_stat_flow in
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RMPE_Reports_Access97.mdb

* Does not include questionable flows.

** Location Code used in PEMS

Flows Ordered by Date for

^OF 169

Outfall 169. Better flow
with new XL 60 degree
flume installed on 1-26-96

<i>Type of Flow</i>	<i>Description</i>	<i>Flow</i>	<i>Units</i>	<i>Event</i>	<i>Date Collected</i>	<i>Result Qualifier</i>
NS1854	Flow-Instantaneous	210.0	GPM	0031	6/20/95	
NS1854	Flow-Instantaneous	250.0	GPM	0033	7/18/95	
NS1854	Flow-Instantaneous	110.0	GPM	0034	7/27/95	
NS1854	Flow-Instantaneous	70.0	GPM	0035	8/15/95	
NS1854	Flow-Instantaneous	140.0	GPM	0036	9/26/95	
NS1854	Flow-Instantaneous	140.0	GPM	0038	10/10/95	
NS1854	Flow-Instantaneous	190.0	GPM	0040	11/14/95	
NS1854	Flow-Instantaneous	270.0	GPM	0046-01	1/16/96	
NS1854	Flow-Instantaneous	199.0	GPM	0046-02	2/13/96	
NS1854	Flow-Instantaneous	150.0	GPM	0042-01	2/25/96	
NS1854	Flow-Instantaneous	150.0	GPM	0042-01	2/26/96	
NS2227	Flow 24 hour total	155.0	GPM	0042-01	2/27/96	
NS1854	Flow-Instantaneous	270.0	GPM	0042-01	2/28/96	
NS1854	Flow-Instantaneous	253.0	GPM	0042-01	2/29/96	
NS1854	Flow-Instantaneous	247.0	GPM	0042-01	3/1/96	
NS1854	Flow-Instantaneous	240.0	GPM	0046-03	3/12/96	
NS1854	Flow-Instantaneous	150.0	GPM	0046-04	4/10/96	
NS1854	Flow-Instantaneous	190.0	GPM	0046-05	5/14/96	
NS1854	Flow-Instantaneous	129.0	GPM	0046-06	6/18/96	
NS1854	Flow-Instantaneous	112.0	GPM	0042-03	7/15/96	
NS1854	Flow-Instantaneous	129.0	GPM	0042-03	7/16/96	
NS1854	Flow-Instantaneous	159.0	GPM	0046-07	7/17/96	
NS1854	Flow-Instantaneous	108.0	GPM	0042-03	7/18/96	
NS1854	Flow-Instantaneous	145.0	GPM	0042-03	7/19/96	
NS1854	Flow-Instantaneous	150.0	GPM	0046-08	8/15/96	
NS1854	Flow-Instantaneous	158.0	GPM	0046-09	9/18/96	

Thursday, March 19, 1998

Report: rptSiteFlowConvGPD in

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Mercury Reg Results for Site

^OF 169

Outfall 169. Better flow with
new XL 60 degree flume
installed on 1-26-96.

<i>Event</i>	<i>Mercury Result Units</i>	<i>Sample</i>	<i>Sample Type</i>	<i>Qualifier</i>	<i>Date Taken</i>
UEFPC 1.2	4.4 UG/L	A1H597	REG		8/14/93
UEFPC 2.2	2 UG/L	A1I218	REG		10/4/93
UEFPC 3.2	2.6 UG/L	199311040009	REG		11/11/93
UEFPC 4.2	3.5 UG/L	199312090039	REG		12/16/93
0031	3.4 UG/L	E951710118	REG		6/20/95
0033	3.7 UG/L	E951940031	REG		7/18/95
0034	3 UG/L	E952080018	REG		7/27/95
0035	3.9 UG/L	E952230005	REG		8/15/95
0036	3.6 UG/L	E952540015	REG		9/28/95
0038	5.7 UG/L	E952820089	REG		10/10/95
0040	3.7 UG/L	E953120078	REG		11/14/95
0043	4 UG/L	E953390087	REG		12/12/95
0046-01	6.8 UG/L	E960040086	REG		1/16/96
0046-02	2.4 UG/L	E960440006	REG		2/13/96
0042-01	1.6 UG/L	E960560005	REG		2/26/96
0042-01	1.9 UG/L	E960560012	REG		2/27/96
0042-01	40 UG/L	E960580017	REG		2/28/96
0042-01	2.2 UG/L	E960580031	REG		2/29/96
0042-01	2.9 UG/L	E960580023	REG		3/1/96
0046-03	2.2 UG/L	E960710038	REG		3/12/96
0046-04	3.6 UG/L	E960930011	REG		4/10/96
0042-02	2.5 UG/L	E961170076	REG		4/29/96
0042-02	2.4 UG/L	E961170087	REG		4/30/96
0042-02	2.8 UG/L	E961170099	REG		5/1/96
0042-02	2.5 UG/L	E961170109	REG		5/2/96
0042-02	2.6 UG/L	E961170116	REG		5/3/96
0046-05	2.2 UG/L	E961340061	REG		5/14/96
0046-06	2 UG/L	E961700016	REG		6/18/96
0042-03	1 UG/L	E961980030	REG		7/15/96

Friday, March 20, 1998

Report: rptSitePemsHgRegResults in
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Mercury Reg Results for ^A5E3250N 9201-5 E-3250 1/14/97 to 12/8/97
 NORTH PIPE

<i>Event</i>	<i>Hg Result</i>	<i>Units</i>	<i>Sample Id</i>	<i>Type</i>	<i>Result Qualifier</i>	<i>Date Collected</i>
0061-01	130	UG/L	E970130026	REG		1/14/97
0063	120	UG/L	E970360022	REG		2/5/97
0062-01	88	UG/L	E970290060	REG		2/17/97
0061-02	91	UG/L	E970290006	REG		2/18/97
0062-01	97	UG/L	E970290061	REG		2/18/97
0062-01	79	UG/L	E970290062	REG		2/19/97
0062-01	63	UG/L	E970290063	REG		2/20/97
0062-01	64	UG/L	E970290064	REG		2/21/97
0062-01	190	UG/L	E970510030	REG		2/22/97
0061-03	68	UG/L	E970700045	REG		3/12/97
0061-04	92	UG/L	E971050020	REG		4/25/97
0062-02	140	UG/L	E971190020	REG		5/5/97
0062-02	110	UG/L	E971190021	REG		5/6/97
0062-02	95	UG/L	E971190022	REG		5/7/97
0062-02	82	UG/L	E971190023	REG		5/8/97
0062-02	50	UG/L	E971190024	REG		5/9/97
0061-05	48	UG/L	E971390016	REG		5/20/97
0061-06	100	UG/L	A971570129	REG		6/11/97
0061-07	72	UG/L	A971900092	REG		7/14/97
0062-03	46	UG/L	A971970030	REG		7/21/97
0062-03	37	UG/L	A971970046	REG		7/22/97
0062-03	100	UG/L	A971970052	REG		7/23/97
0062-03	120	UG/L	A971970060	REG		7/24/97
0062-03	97	UG/L	A971970066	REG		7/25/97
0061-08	67	UG/L	A972260017	REG		8/19/97
0061-09	34	UG/L	A972470148	REG		9/8/97
0061-10	31	UG/L	A972800027	REG		10/21/97
FY1998QT1	140	UG/L	A972820196	REG		10/27/97
FY1998QT1	100	UG/L	A972820204	REG		10/28/97
FY1998QT1	85	UG/L	A972820211	REG		10/29/97

Thursday, March 19, 1998

 Report: rptSitePemsDateRangeHgRegResults in
 \\emefv\m2herdata\rmpe\Access97\RMPE_Reports_Access97.mdb

Flows for 2/13/96

<i>Type of Flow</i>	<i>Description</i>	<i>Flow Units</i>	<i>Event</i>	<i>Site</i>	<i>Description</i>	<i>Result</i>	<i>Qualifier</i>
NS1854	Flow-Instantaneous	245.0 GPM	0046-02	^OF 163	Outfall 163. Better flow with adjusted XL 60 degree flume on 1-26-96.		
NS1854	Flow-Instantaneous	199.0 GPM	0046-02	^OF 169	Outfall 169. Better flow with new XL 60 degree flume installed on 1-26-96.		
NS1854	Flow-Instantaneous	114.0 GPM	0046-02	^9422-15	SWHISS Station 15		
NS1854	Flow-Instantaneous	78.0 GPM	0046-02	^9422-16	SWHISS Station 16		
NS1854	Flow-Instantaneous	46.0 GPM	0046-02	^OF 160	Outfall 160. 2 inch 45 degree WSC flume installed on 1-26-96.		
NS1854	Flow-Instantaneous	45.0 GPM	0046-02	^OF 047	Outfall 47. Receives Outfall 48 water also since 2-16-96.		
NS1854	Flow-Instantaneous	16.0 GPM	0046-02	^A4-2100U	9201-4 WEIR AT OUTLET OF TANK 2100-U		
NS1854	Flow-Instantaneous	1.0 GPM	0046-02	^OF 113	Outfall 113		

Thursday, March 19, 1998 Report: rptDateFlowConvGPD in

\\emefy\nt2\erdata\rmpe\$\Access97\RMPE_Reports_Access97.mdb

RMPE Data* Management Statistics

<i>Month</i>	<i>Samples Entered</i>	<i>Field Measurements</i>	<i>Results Loaded</i>
Aug-97	15	106	0
Sep-97	59	86	46
Oct-97	11	48	22
Nov-97	13	56	0
Dec-97	72	188	37
Jan-98	0	24	56
Feb-98	64	91	0

Thursday, February 19, 1998

Report: rptDataMgmtStats in
\\emefy_nt2\erdata\rmpe5\Access97\RMPE_Reports_Access97.md
b

*RMPE data is stored in Project Environmental Measurements System (PEMS)

**APPENDIX D:
FILE LOCATIONS**

APPENDIX D: FILE LOCATIONS

1. Refer to:

\\emefy_nt2\Erdata\RMPE\$

for all files associated with RMPE data that are not stored in PEMS. This includes Access databases, WordPerfect files, and Excel spreadsheets.

2. A choice of reports is available in:

\\emefy_nt2\Erdata\RMPE\$\Access97\RMPE Production Reports.mdb

Sample pages of the reports appear at the end of Appendix C.

3. Documentation on queries and tables used to generate these reports is in:

\\emefy_nt2\Erdata\RMPE\$\Frmdoc1.wpd

4. Databases used to contain the EDDs received from ASO and process them for loading into PEMS are found in:

\\emefy_nt2\Erdata\RMPE\$\load98.mdb

\\emefy_nt2\Erdata\RMPE\$\noload98.mdb

APPENDIX E:
RMPE DATA MANAGEMENT FORMS

APPENDIX E: RMPE DATA MANAGEMENT FORMS

FY 1998 RMPE PAPER WORK TRACKING LOG - RECEIVED by KNF

[illegible]

FY 1998 RMPE PAPER WORK TRACKING LOG - SENDING to KNF

[illegible]

SAMPLE EDD LOG

[illegible]

RMPE WORK TRACKING LOG

PAPER WORK		DATA ENTRY			DATA VERIFICATION			CORRECTIONS	
Event	Date KNF Received	Given to Whom	Date Given	Date Done	Given to Whom	Date Given	Date Done	Date Done	Change Req. #

TRACK RMPE DATA PROCESSING

1. EVENT: _____ (15 character maximum)
  2. Sampling done on: _____ (date)
  3. Paperwork received by KNF: _____ (date)
  4. Paperwork checked for completeness and marked for any special data entry instructions
needed: _____ (initial) _____ (date)
-

BEIDMS

5. Paperwork received for data entry into BEIDMS _____ (initial) _____ (date)
  6. Data entry into BEIDMS completed _____ (initial) _____ (date)
  7. Copy of paperwork given to VMF for verification _____ (initial) _____ (date)
  8. Data entry into BEIDMS verified _____ (initial) _____ (date)
  9. Corrections recorded on Database Change Request: _____
  10. Corrections on Database Change Request: _____ finished: _____ (initial) _____ (date)
  11. KNF received notification that this event done for BEIDMS data entry _____ (date)
-

PEMS

12. Paperwork received for data entry into PEMS _____ (initial) _____ (date)
  13. Data entry into PEMS completed _____ (initial) _____ (date)
  14. Copy of paperwork given to VMF for verification _____ (initial) _____ (date)
  15. Data entry into PEMS verified _____ (initial) _____ (date)
  16. Corrections recorded on Database Change Request: _____
  17. Corrections on Database Change Request: _____ finished: _____ (initial) _____ (date)
  18. KNF received notification that this event done for PEMS data entry _____ (date)
-

Y-12 ENVIRONMENTAL RESTORATION
DATA BASE CHANGE REQUEST FORM

Project Name: RMPE CR#: _____

Requestor/Phone: _____ Date: _____

Description of Problem: _____

_____
_____
_____
_____

Recommended Action: _____

_____
_____
_____
_____

Signature: _____

_____

Action Taken: _____

_____
_____
_____

DBA Signature: _____ Date: _____

**Y-12 ENVIRONMENTAL RESTORATION
GIS/MAPPING WORK REQUEST**

Request # _____

Date : _____

Project Name : _____

Requestor/Phone : _____

Date needed : _____

Description of request : (Please be specific; attach example if possible.)

Project title : _____	
Name of requestor : _____	
Date of request : _____	Date required : _____
Organization requested from : _____	
Contact name : _____	
INFORMATION REQUESTED (list materials provided and end product goals): _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	
Format requested : _____	
Processed by : _____	Date : _____

**APPENDIX F:
SAMPLING FORM**

RMPE Phase II Mercury Study : Sampling Record

Page ____ of ____

Sampling Event		PJN 1072	C/C #		Date		Site Conditions																
HSE&A Charge #		Lab Charge #		Logbook ID		Page #		Raining past 48 hours? Yes ☐ No ☐															
Instruments		Model	Instrument #		Inspection Due		Personnel on Site: _____																
Temp / pH							Requested analyses: _____																
Conductance																							
Chlorine																							
Samples																							
Lab ID (ELIMS#)	Location	Sample* Type Code	Time	pH	Temp (°C)	Cond. (µ mhos)	Cl2 (mg / L)	Flow Value	Units	Check if visible Hg Oil	Comments (if any)												
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										☐ ☐													
										☐ ☐													
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										☐ ☐													
										☐ ☐													
	QC	TB	Time / Temp							Rec. at Lab /													
	QC	TB	Time / Temp							Rec. at Lab /													
	QC	TB	Time / Temp							Rec. at Lab /													
Remarks: _____										* Sample Types <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Code</th> <th>Description</th> </tr> <tr> <td>FDP</td> <td>Field Duplicate</td> </tr> <tr> <td>REG</td> <td>Regular Sample</td> </tr> <tr> <td>TB</td> <td>Trip Blank</td> </tr> <tr> <td>RE</td> <td>QC Equipment Rinse</td> </tr> <tr> <td>FB</td> <td>Field Blank</td> </tr> </table>		Code	Description	FDP	Field Duplicate	REG	Regular Sample	TB	Trip Blank	RE	QC Equipment Rinse	FB	Field Blank
Code	Description																						
FDP	Field Duplicate																						
REG	Regular Sample																						
TB	Trip Blank																						
RE	QC Equipment Rinse																						
FB	Field Blank																						
Recorded By _____ Organization _____ Date _____																							
Checked and Reviewed By _____ Organization _____ Date _____																							

Y12 ER RA/RMPE-1 Rev4

\\emefy_n2\erdata\RMPE\DMIP\Forms\Blank\RMPE dialog.wpd

F-1

APPENDIX F: SAMPLING FORM

DISTRIBUTION

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11. R. C. Woods
12. File—EMEF DMC—RC

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DOE