DATA MANAGEMENT PLAN
FOR
REMEDIAL INVESTIGATION
AT
STOUGHTON CITY LANDFILL
STOUGHTON, WISCONSIN

REVISION: 2

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PREPARED BY:

ERM-NORTH CENTRAL, INC.
102 WILMOT ROAD, SUITE 300
DEERFIELD, ILLINOIS 60015

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1.0 INTRODUCTION

This plan outlines the data management procedures to be employed during the Stoughton City Landfill RI. These procedures will ensure that the project data quality objectives outlined in the Work Plan are achieved and that data quality and validity for subsequent remedial action decisions are maintained.

Data management procedures outlined in "Guidance For Conducting Remedial Investigations and Feasibility Studies Under CERCLA" dated March, 1988 (Draft RI/FS Guidance) are divided into three categories: field activities, sample management and tracking, and document control and inventory. These categories are discussed in this Data Management Plan relative to the Stoughton City Landfill RI.

2.0 FIELD ACTIVITIES

2.1 Documentation of Field Measurements and Observations

All field measurements and observations will be recorded in both a field log book and on field data forms specific to each sampling media (e.g., soil gas, soil, ground water, etc.). These duplicate entries in the log book and data forms will enable cross-checking and proper tracking of all field events. Field measurements will include: pH, temperature, specific conductance, organic vapor concentrations, and geophysical measurements. Field observations will consist of: weather conditions, physical appearance of samples, all field tasks undertaken, and a list of all personnel at the site.

2.1.1 Field Log Book

Bound field log books will be started for the Stoughton City Landfill RI and will remain dedicated to this project alone. The field books will be labeled with a permanent marker identifying the site name, site location, internal project number, and book number. Phone numbers of key project personnel and safety agencies such as the fire department, hospital, and police will be indicated in each field log book.

Each page in the field log book will be numbered, signed and dated at the time of use. Daily entries will begin with a synopsis of weather conditions, field conditions, personnel present, and projected work tasks for that day. All field tasks completed and the status of tasks in progress will be recorded in

the field log book. No erasing will be allowed, and corrections will be made by drawing a line through the incorrect entry. All corrections of recorded data will be initialed, and an explanation for the change will be provided.

Field activities will be summarized in the field log book to permit cross-checking with the field data forms. Entries will include all field measurements, sampling locations, the type of sample, the names of sampling personnel, and calibration activities.

Photocopies of the field log book will be made on a regular basis and stored in the project files to ensure ease of retrieval by all project personnel.

2.1.2. Field Data Forms

Field measurements and detailed documentation of sampling will be recorded on standardized field data forms specific to each media sampled. Field data forms have been designed for the following sampling activities:

Field Data Form	Figure Number
Geophysical Measurements	2-1
Soil Gas Sampling	2-2
Soil Sampling	2-3
Ground Water Sampling	2-4
Air Sampling	2-5
Surface Water/Sediment Sampling	2-6

FIGURE 2-1

STOUGHTON CITY LANDFILL REMEDIAL INVESTIGATION
PROJECT NUMBER SLWIJP8007

GEOPHYSICAL MEASUREMENTS - DAILY SUMMARY
FIELD DATA FORM

DATE: ______________ START TIME: __________ FINISH TIME: __________

INST. OPERATORS:	AFFILIATION:	OBSERVERS:	AFFILIATION:

TRANSECT LINE	STATION NUMBER	EM-31 (mmhos/m)	RESISTIVITY			INTERFERENCE (yes/no)
			CURRENT READING	MULTIPLIER	$2\pi r \frac{V}{I}$	

FIGURE 2-2

STOUGHTON CITY LANDFILL REMEDIAL INVESTIGATION
PROJECT NUMBER SLWIJP8007

SOIL GAS SAMPLING
FIELD DATA FORM

SAMPLE I.D.: _____ DATE: _____ TIME: _____

SAMPLE LOCATION: _____

SAMPLERS:	AFFILIATION:	OBSERVERS:	AFFILIATION:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

AIR TEMPERATURE: _____

CHARCOAL TUBE LOT NO: _____

PROBE DEPTH: _____ (in)

START TIME: _____

FINISH TIME: _____

ELAPSED TIME: _____ (min)

SAMPLING FLOW RATE: _____ (1pm)

VOLUME SAMPLED: _____ (liters)

HNu READING: _____ (ppm)

OBSERVATIONS: _____

_____

_____

FIGURE 2-3

STOUGHTON CITY LANDFILL REMEDIAL INVESTIGATION
PROJECT NUMBER SLWIJP8007

SOIL SAMPLING
FIELD DATA FORM

SAMPLE I.D.: _____ DATE: _____ TIME: _____

SAMPLE LOCATION: _____

SAMPLERS:	AFFILIATION:	OBSERVERS:	AFFILIATION:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

SAMPLING METHOD: _____

SAMPLE DEPTH: _____ TO _____ (ft)

SAMPLE CONTAINER:	VOLUME:	PRESERVATIVE:
_____	_____	_____
_____	_____	_____
_____	_____	_____

HEADSPACE HNu READING: _____ (ppm)

SOIL DESCRIPTION: _____

(USCS) _____

OBSERVATIONS: _____

_____

FIGURE 2-4

STOUGHTON CITY LANDFILL REMEDIAL INVESTIGATION
PROJECT NUMBER SLWIJP8007

GROUND WATER SAMPLING
FIELD DATA FORM

SAMPLE I.D.: _____ DATE: _____ TIME: _____

SAMPLERS:	AFFILIATION:	OBSERVERS:	AFFILIATION:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

WELL NUMBER: _____ TOTAL DEPTH: _____ (ft) I.D.: _____ (in)

MATERIAL: _____ SCREENED INTERVAL: _____ TO _____ (ft)

WATER LEVEL TO TOP OF CASING (ft)

_____

PRE-PURGE: _____ POST-PURGE: _____ SAMPLING: _____

DEPTH OF WATER COLUMN: _____ (ft) CASING VOLUME: _____ (gal)

PUMPING METHOD: _____ SAMPLING METHOD: _____

STABILIZATION TEST

_____

Time	pH	Conductance (umhos/cm)	Temperature (^{o}F)	Cumulative Volume (gal)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

SAMPLE CONTAINER	VOLUME	PRESERVATIVE/PREP
_____	_____	_____
_____	_____	_____
_____	_____	_____

OBSERVATIONS: _____

FIGURE 2-5

STOUGHTON CITY LANDFILL REMEDIAL INVESTIGATION
PROJECT NUMBER: SLWIJP8007

AIR SAMPLING
FIELD DATA FORM

SAMPLE I.D.: _____ DATE: _____ TIME: _____

SAMPLE LOCATION: _____

SAMPLERS:	AFFILIATION:	OBSERVERS:	AFFILIATION:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

AIR TEMPERATURE: _____

WIND DIRECTION: _____

WIND SPEED: _____

CHARCOAL TUBE LOT NO: _____

START TIME: _____

FINISH TIME: _____

ELAPSED TIME: _____ (min)

SAMPLING FLOW RATE: _____ (ppm)

VOLUME SAMPLED: _____ (liters)

OBSERVATIONS: _____

_____

_____

FIGURE 2-6

STOUGHTON CITY LANDFILL REMEDIAL INVESTIGATION
PROJECT NUMBER: SLWIJP8007

SURFACE WATER/SEDIMENT SAMPLING
FIELD DATA FORM

SAMPLE LOCATION: _____

SAMPLERS:	AFFILIATION:	OBSERVERS:	AFFILIATION:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

STAFF GAGE READING: _____ ELEVATION: _____

SAMPLING METHOD(S): _____

_____

SURFACE WATER I.D.: _____ DATE: _____ TIME: _____

SEDIMENT I.D.: _____ DATE: _____ TIME: _____

pH: _____ SP. COND (UMHOS/CM): _____ TEMP: _____ °F

SEDIMENT DESCRIPTION: _____

SAMPLE CONTAINER	VOLUME	PRESERVATIVE/PREP
_____	_____	_____
_____	_____	_____
_____	_____	_____

OBSERVATIONS: _____

_____

_____

The field data forms will identify sampling personnel, the location of the sample, the type of sample, and field measurements such as temperature, pH, or specific conductance. This sample specific information will be cross-checked with the field log book to ensure accurate documentation of each sample or field measurement.

As with the field log book, any corrections in the field data forms will be made by drawing a single line through the incorrect entry and initialing the correction. An explanation of the correction will be provided. Photocopies of the field data forms will be made on a regular basis and stored in the project files.

2.1.3 Sample Identification and Chain-of-Custody Documentation

All field samples will be identified with sample identification labels, and sample custody information will be recorded on the following forms: (1) chain-of-custody, (2) sample analysis request, and (3) sample tracking.

2.1.3.1 Sample Identification Label

Sample identification labels will consist of gummed paper labels that include the following information:

- Sample Number
- Name of Collector
- Affiliation of Collector

- Date and Time of Collection
- Requested Analysis
- Analysis Code

A unique code number for the analysis of specific parameters will be provided by the analytical laboratory. This code number and a written description of the requested analysis will be recorded on the sample label to minimize the chance of conducting an incorrect analytical test on specific samples. A master copy of analysis code numbers will be kept in the field log book.

Information from the sample identification labels will be recorded in the field log book to document all laboratory samples.

2.1.3.2 Chain-of-Custody Record

To provide documentation necessary to trace sample possession from the time of collection to the time of receipt by the analytical laboratory, a chain-of-custody record will be completed and accompany each shipment of sample(s) to the laboratory. An example of a chain-of-custody record is shown on Figure 2-7. Photocopies of the chain-of-custody records will be stored in the project files.

Custody seals will be placed on shipping containers so that the seal will have to be broken in order to gain access to the samples. These seals will ensure the detection of any tampering with samples during shipment to the analytical laboratory.

FIGURE 2-7

Project Number	Project Name	CHAIN OF CUSTODY RECORD	Record Number

Samplers (Signature)						Number of Containers						
Station No.	Date	Time	Comp.	Grab	Station Location							Remarks

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature)	Remarks		

2.1.3.3 Sample Analysis Request Form

A sample analysis request form will accompany each shipment of samples to the analytical laboratory. This form will specify the requested analyses for all samples listed on the chain-of-custody record. A description of the requested analysis and laboratory analysis code will be included on the sample analysis request form. An example of a sample analysis request form is shown on Figure 2-8.

Photocopies of the sample analysis request forms will be stored in the project files.

2.1.3.4 Sample Tracking Form

A standardized sample tracking form will be completed to establish sample custody prior to shipment to the laboratory and to document specific sample preservation methods. Figure 2-9 is an example of the sample tracking form.

Photocopies of the sample tracking forms will be stored in the project files.

2.2 Documentation for Health and Safety Programs

Data management requirements for the Health and Safety programs of the RI include: (1) documentation of personnel training, (2) safety and monitoring logs, (3) reports of nonconformity with the Health and Safety Plan, and (4) reports of any corrective action taken.

FIGURE 2-8

SAMPLE ANALYSIS REQUEST FORM
STOUGHTON CITY LANDFILL REMEDIAL INVESTIGATION
PROJECT NUMBER SLWIJP8007

ERM-NORTH CENTRAL, INC.
102 WILMOT ROAD, SUITE 300
DEERFIELD, IL 60015
(312) 940-7200

CORRESPONDING CHAIN-OF-CUSTODY RECORD NUMBER: _____

SAMPLERS: _____

SAMPLE NUMBER	DATE	SAMPLE TYPE	REQUESTED ANALYSIS	ANALYSIS CODE

FIGURE 2-9

SAMPLE TRACKING FORM

STOUGHTON CITY LANDFILL REMEDIAL INVESTIGATION
PROJECT NUMBER SLWIJP8007

CORRESPONDING CHAIN-OF-CUSTODY RECORD NUMBER:_____

SAMPLE NUMBER	DATE	SAMPLE TYPE	PRESERVATIVE/PREP	SAMPLER'S INITIALS

A copy of the Health and Safety Plan will be issued to each member of the field team, kept in the field team leader's file, and stored in the project files. All project personnel will be required to attend a safety training program and sign the safety certification form shown in Figure 2-10. Copies of the signed Safety Certification Forms will be stored in the project files.

A site safety meeting will be held at the beginning of field activities for the RI and thereafter when new personnel are assigned to work on the project and/or when field tasks change. A safety meeting log sheet, shown in Figure 2-11, will be completed at each meeting, and copies will be stored in the project files.

The site safety officer will maintain a daily log to record field monitoring for organic vapors and protective equipment utilized by site personnel. Any nonconformities with the Health and Safety Plans and corrective action taken will also be recorded in the site safety officer's daily log. This log will be recorded in a field log book dedicated to Health and Safety issues.

Medical monitoring for field personnel will consist of annual physicals conducted at an occupational and environmental health clinic. Health records for field personnel will be maintained in their respective employee files.

FIGURE 2-10

ERM-NORTH CENTRAL, INC.

PERSONNEL SAFETY CERTIFICATION FORM

Safety Certification

All project personnel are required to make the following certification prior to conducting work at the Stoughton City Landfill site.

I, _____, certify that:

1. [ ] I have read and understand the Project Safety Plan.

2. [ ] I will abide by the provisions of the Project Safety Plan.

3. [ ] I have attended the Project Safety Training Program provided by ERM-North Central.

4. [ ] I have completed the initial training requirements as directed by 29 CFR 1910.120(e)

_____
Signature

_____
Date

FIGURE 2-11

SITE SAFETY MEETING LOG

Facility: _____

Date: _____ Time: _____ Job Number: _____

Customer: _____ Address: _____

Specific Location: _____

Type of Work: _____

Chemicals Used: _____

SAFETY TOPICS PRESENTED

Protective Clothing/Equipment ____ Chemical Hazards _____

Physical Hazards _____ Emergency Procedures _____

Hospital/Clinic _____ Phone ( )_____ Paramedic Phone ( )_____

Hospital Address: _____

Special Equipment: _____

_____

Other: _____

ATTENDEES

NAME PRINTED	SIGNATURE
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Meeting Conducted by: _____ _____
NAME PRINTED SIGNATURE

SUPERVISOR: _____ MANAGER: _____

3.0 SAMPLE AND PROJECT MANAGEMENT AND TRACKING

3.1 Sample Management and Tracking

Information and data generated by the Quality Assurance/Quality Control (QA/QC) program will be organized and managed by a specific QA/QC data management system. Quality Assurance procedures and checks will be used to ensure reliable field measurements, proper collection and integrity of samples, and accurate laboratory analysis of samples.

3.1.1 Field Measurement and Sampling Documentation

Quality Assurance documentation for field measurements and sample collection will consist of instrument calibration and maintenance checklists, and field audits of sampling and decontamination procedures.

Instruments used to obtain field measurements (e.g., pH meter, conductivity meter, HNu photoionization meter, etc.) will be calibrated on a daily basis. Calibration information will be recorded in a specific log book dedicated to the maintenance of field instruments. Preventive maintenance for field instruments will be performed on a weekly basis and documented in the same field instrument log book.

A specific audit checklist will be used to conduct field audits of sampling and decontamination procedures. Audits will be conducted by the field team leader on a weekly basis, with copies of the audit checklist stored in the project files. An example

of the sampling and decontamination audit checklist is shown on Figure 3-1.

3.1.2 Laboratory Quality Assurance/Quality Control Documentation

The analytical laboratories (Compu-Chem Laboratories and Pace Laboratories) will follow all Quality Assurance/Quality Control procedures required by USEPA's Contract Laboratory Program (CLP). All documentation required by the CLP QA/QC program will be submitted with the analytical laboratory reports. This information will be organized and stored under a separate heading for laboratory QA/QC in the project files.

3.2 Project Management and Tracking

3.2.1 Project Management for Institutional Issues

Project management for institutional issues will include the documentation of actions related to site access, correspondence with regulatory agencies, and community relations.

3.2.1.1 Site Access and Security

All activities related to site access and security will be documented and stored in the project files. After a controlled site access point has been established, a visitor log will be maintained to document all personnel entering the site. Photocopies of this log will be made periodically and stored in the project files.

FIGURE 3-1

STOUGHTON CITY LANDFILL REMEDIAL INVESTIGATION
PROJECT NUMBER SLWIJP8007

SAMPLING AND DECONTAMINATION AUDIT CHECKLIST

SAMPLE I.D.: _____ DATE: _____ TIME: _____

SAMPLE LOCATION: _____

SAMPLERS: _____

AUDITOR: _____

SAMPLE TYPE: // SOIL GAS // SOIL // GROUND WATER // SURFACE WATER/SEDIMENT

SAMPLING METHODOLOGY: _____

_____

_____

NONCONFORMITIES WITH SAMPLING PLAN: _____

_____

_____

DECONTAMINATION PROCEDURES: _____

_____

_____

NONCONFORMITIES WITH Q.A.P.P.: _____

_____

_____

CORRECTIVE ACTIONS: _____

_____

_____

3.2.1.2 Correspondence With Regulatory Agencies

Copies of all correspondence with the Wisconsin DNR and USEPA, including monthly project status reports and technical memoranda, will be stored under separate headings in the project files. Additionally, a telephone and verbal conversation log will be maintained to document any contact with regulatory agencies.

3.2.1.3 Community Relations

Any actions taken in accordance with Article XX of the Consent Order (Community Relations) will be documented and stored in the project files. This information will include any actions designed to inform the public about the progress and findings of the RI, as well as the corresponding public comments.

3.2.2 Project Tracking

To manage and evaluate the progress of the RI, the following information and written progress reports will be submitted:

1. Monthly reports of the status of completion of tasks required under Article IX of the Consent Order. At a minimum, these monthly written progress reports shall include the following:

    a. A description of the action that has been taken toward achieving compliance with the Consent Order;

b. A description of results of sampling, tests, and other raw data produced during the month and related to the site;

c. All plans and procedures completed during the past month, as well as such action, data, and plans that are scheduled for the next month; and

d. Target and actual completion dates for each element of activity, including the project completion, and an explanation of any deviation from the schedules in the RI/FS Work Plan schedule.

Monthly reports shall be submitted to the USEPA and WDNR by the tenth business day of each month following the date of commencement of the work detailed in the RI/FS Work Plan. The monthly project status report format is summarized in Figure 3-2.

2. All lab data.

3. A mid-project progress report.

4. Such preliminary and final reports and memoranda as specified in the RI/FS Work Plan according to the schedule contained in the RI/FS Work Plan.

FIGURE 3-2

MONTHLY PROJECT STATUS REPORT FORMAT

STOUGHTON CITY LANDFILL REMEDIAL INVESTIGATION

PROJECT SLWIJP8007

REPORT NUMBER:_____

REPORTING PERIOD (Month, Year): _____

PREPARED BY: _____

DATE: _____

1. Progress Made During This Reporting Period - Description of progress made during the reporting period.

2. Problems Encountered and Recommended Solutions - Problems encountered and recommendations including technical, cost, and scheduling implications for resolution.

3. Deliverables Submitted - Deliverables completed and submitted, dates of anticipated submittals, and reasons if due dates have been (or need to be) revised.

4. Analytical Results - Summary of available analytical data, number of samples submitted, and expected turnaround time.

5. Percent Complete - Level of technical completion achieved, reported as percent complete for each task and as a single percentage of the total RI.

6. Schedule - Agreed upon date that deliverables are due and actual date deliverables were or are planned to be submitted. Explanation of any delays encountered.

4.0 DOCUMENT CONTROL AND FILING SYSTEMS

A data storage and information system will be implemented to prevent the loss or misinterpretation of data collected during the RI. The system will screen data to identify outliers, organize and sort data into appropriate storage files, and provide secure storage of project files.

4.1 Data Screening and Validation

All data received from the analytical laboratory will be screened and validated to eliminate values that are: (1) associated with laboratory or sampling contamination, (2) not significantly different than background values, or (3) not within acceptable quality control limits established by the U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program. Any data covered by these criteria will be assigned quality assurance "labels" that indicate the basis for possible exclusion from the RI data base. Environmental Standards, Inc. will perform the data validation and a summary report that details the usefulness and/or limitations of the data generated will be submitted as an attachment to a technical memorandum. The final determination concerning which data are excluded will be made during the Endangerment Assessment of the RI.

4.2 Data Organization and Storage

All data gathered or generated during the RI will be organized and stored under specific file headings to enable ease of retrieval and to prevent the loss or misinterpretation of data.

File headings will be structured under major project tasks that are identified in the site Work Plan. Information that can be readily tabulated, such as analytical data or field measurements, will be entered into computerized spreadsheets. In addition to these computer files, copies of the original raw data will also be stored in project files. All information stored under each file heading will be sequentially numbered and stored in chronological order.

4.3 Data and Document Security

The permanent file maintained for the project will be stored in the office of the senior project geologist to restrict unauthorized access. No files will be removed from this office without the knowledge of and approval from the senior project geologist.

Any data or information stored in computerized files will be duplicated on back-up disks to prevent the accidental loss of information. The back-up disks will be stored in a separate location from the project files.

Lastly, records will be preserved in accordance with Article XXI of the Consent Order.