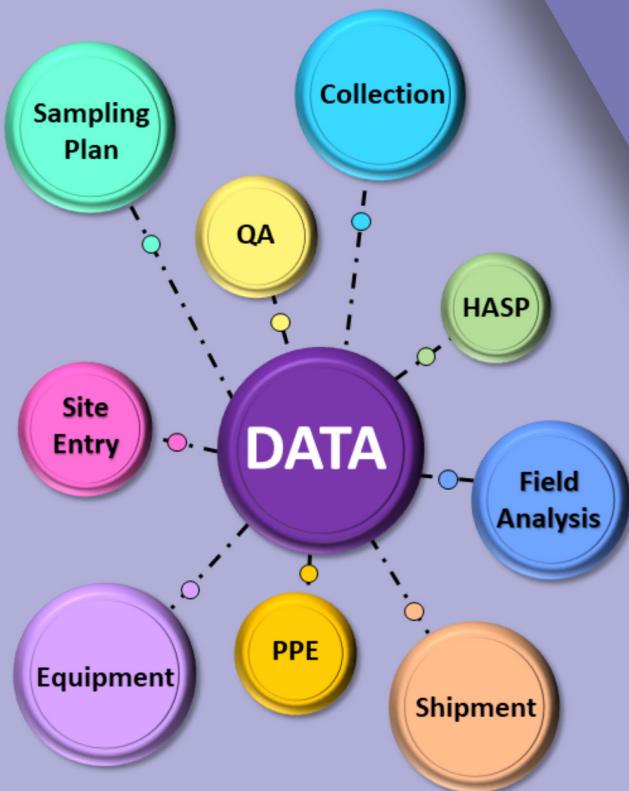




New Jersey Department of Environmental Protection

Field Sampling Procedures Manual



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Introduction

Intended Use of Guidance Document

This Field Sampling Procedures Manual (FSPM) is designed to help parties responsible for conducting environmental sampling as part of requirements established by the New Jersey Department of Environmental Protection (NJDEP). This guidance will be used by many different parties including, but not limited to, Licensed Site Remediation Professionals (LSRPs), environmental consultants, and other environmental professionals. Therefore, the generic term “investigator” will be used throughout this document to refer to any person using this technical guidance.

The procedures to vary from the Technical Requirements for Site Remediation (TRSR) are detailed at N.J.A.C. 7:26E-1.7. Variances from a technical requirement or deviation from guidance must be documented and adequately supported with data or other information. In applying technical guidance, the NJDEP recognizes that professional judgment may result in a range of interpretations on the application of the technical guidance to site conditions.

This document supersedes previous NJDEP guidance issued on this topic. Technical guidance may be used immediately upon issuance. However, the NJDEP recognizes the challenge of using newly issued technical guidance when a remediation affected by the guidance may have already been conducted or is currently in progress. To provide for the reasonable implementation of new technical guidance, the NJDEP will allow a six-month “phase-in” period between the date the technical guidance is issued final (or the revision date) and the time it should be used.

This guidance document was prepared with stakeholder input. The following people participated on the committee that prepared this technical guidance:

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Purpose

The primary intent of this manual is to promote accuracy and consistency when environmental samples are collected and prepared for chemical analysis by public and private entities. The validity of analytical data is directly dependent upon the integrity of the field procedures employed to obtain a sample. The methods and procedures described herein are intended for use by those State of New Jersey regulatory agencies that require chemical, physical, and certain biological analysis of samples for remedial evaluation and monitoring purposes.

Furnishing guidance for a broad range of field activities is meant to improve the planning, implementation, and documentation of most field-sampling activities. Said guidance may often suggest several ways to collect a sample, all of which may be scientifically correct under site or matrix specific circumstances. Hyperlinks that direct the reader to a variety of websites are intended to enhance specific information with the emphasis on “enhance,” not necessarily “replace.” Maintaining a balance between the evolving nature of environmental sampling and well-established regulatory oversight means that care should be taken when preparing documents based on the procedures outlined herein. All methodologies presented in this manual may not be applicable to specific site situations; a certain procedure, though included in the text of the manual or by hyperlink reference, may be disallowed at the discretion of NJDEP program personnel if determined inappropriate in a particular situation.

This manual has been prepared in an effort to represent the best available technology for field sampling activities associated with hazardous site investigations and remedial actions. It is also an appropriate reference for certain aspects of water data acquisition, water allocation, wastewater treatment operations, radiological assessment, geophysical investigations, and other regulated programs that require field sampling. Procedures outlined herein have been developed through internal peer review, extensive literature research, practical field application, and analysis of data from a quality assurance perspective.

Environmental sampling inherently may present extraneous variables, which may ultimately affect the outcome of analytical results. Since the nature of environmental media sampling warrants the analysis of a small aliquot relative to the bulk material, proper sampling techniques must be employed to obtain a sample that retains its scientific integrity and is legally defensible. To meet these conditions, a sample must be collected and handled so as to keep its original physical form and chemical composition to as great an extent as possible. For a sample to be “representative” of a larger body of material in question, it is imperative to ensure sample integrity and maintain quality assurance standards in the field. The sampling procedures put forth in the text of this manual, or by direct reference, are designed to minimize any possibility of altering the sample’s integrity.

The achievement of consistency in sampling procedures and techniques helps to ensure the provision of data having acceptable quality, comparability, and usability. The importance of data quality has been recognized through stringent laboratory quality control programs. This manual is intended to compliment these processes by establishing appropriate quality control during sampling collection. Quality assurance measures, coupled with a comprehensive site-specific sampling plan, will improve the chance of collecting representative samples. This is important to ensure that public and private monetary resources are utilized in an effective manner.

NJDEP’s *Field Sampling Procedures Manual (FSPM)* details the scope of field sampling protocol for site investigation and monitoring activities. From sampling plan preparation through chain of custody procedures, the

manual details the handling requirements and offers a variety of collection techniques for sample collection of various matrices. Related concerns such as personnel protection, geophysical investigation techniques, use of portable instrumentation, etc. are also included.

The reader is cautioned to be aware of the differences between materials presented in this manual as guidance, and specific requirements contained within control documents (e.g., promulgated regulations, permits, or Administrative Consent Orders). Control documents have legal precedence over this manual and may prescribe certain sampling activities or methods unique to a particular program, site, or matrix. In all cases, and when sampling within specific conditions set forth by any control documents, this manual should be utilized as a technical guidance document only.

The NJDEP will be updating this manual as needed to keep the most current and accepted sampling methods available to the public. Also, inquiries related to obtaining certification for certain analyze-immediately parameters related to environmental sampling should be made directly to the NJDEP Office of Quality Assurance. These include Laboratory Certification pursuant to N.J.A.C. 7:18, certification related to the Triad initiative, and certification associated with the Private Well Testing Act.

It is important to note that this technical guidance does not replace, supersede, or alleviate the responsible party's obligations to complete an investigation and remediation pursuant to the Administrative Requirements for the Remediation of Contaminated Sites (ARRCS) N.J.A.C. 7:26C, Remediation Standards N.J.A.C. 7:26D and the TRSR N.J.A.C. 7:26E. In all instances, the investigator and PRCR shall (N.J.S.A. 58:10C-16) ensure that the protection of public health and the environment is maintained.

Document Overview

This manual focuses on collecting and analyzing environmental samples. The document discusses, but is not limited to, analysis of the samples, health and safety, equipment used for different types of samples, procedures to properly sample and store for laboratory use, geophysical surveys, and personal protection. The manual also discusses different types of media that may be sampled. Other useful technical guidance documents may be accessed and downloaded from the NJDEP's SRP Guidance Library (<http://www.nj.gov/dep/srp/guidance/>).

Disclaimers

The use of any trade names, products, or materials in this manual does not constitute an endorsement by the State of New Jersey or the NJDEP.

The information in the NJDEP's *Field Sampling Procedures Manual (FSPM)* is provided free of charge to the public. The State of New Jersey, its agencies, and its employees assume no responsibility to any person or entity for the use of this information, and there are no representations or warranties, expressed or implied, of any kind regarding this information. Any use of this information is at the user's own risk.

Many of the web links and web addresses mentioned in the *FSPM* are to websites maintained by neither NJDEP, nor the State of New Jersey. Accordingly, the NJDEP makes no special endorsement for the content of these web links, web addresses, websites, or the views expressed by the websites' publishers.

Websites may change or remove their content at any time. Therefore, the NJDEP does not guarantee that the material on the referenced websites is the same as when the *FSPM* was developed, or that the web links are still available.